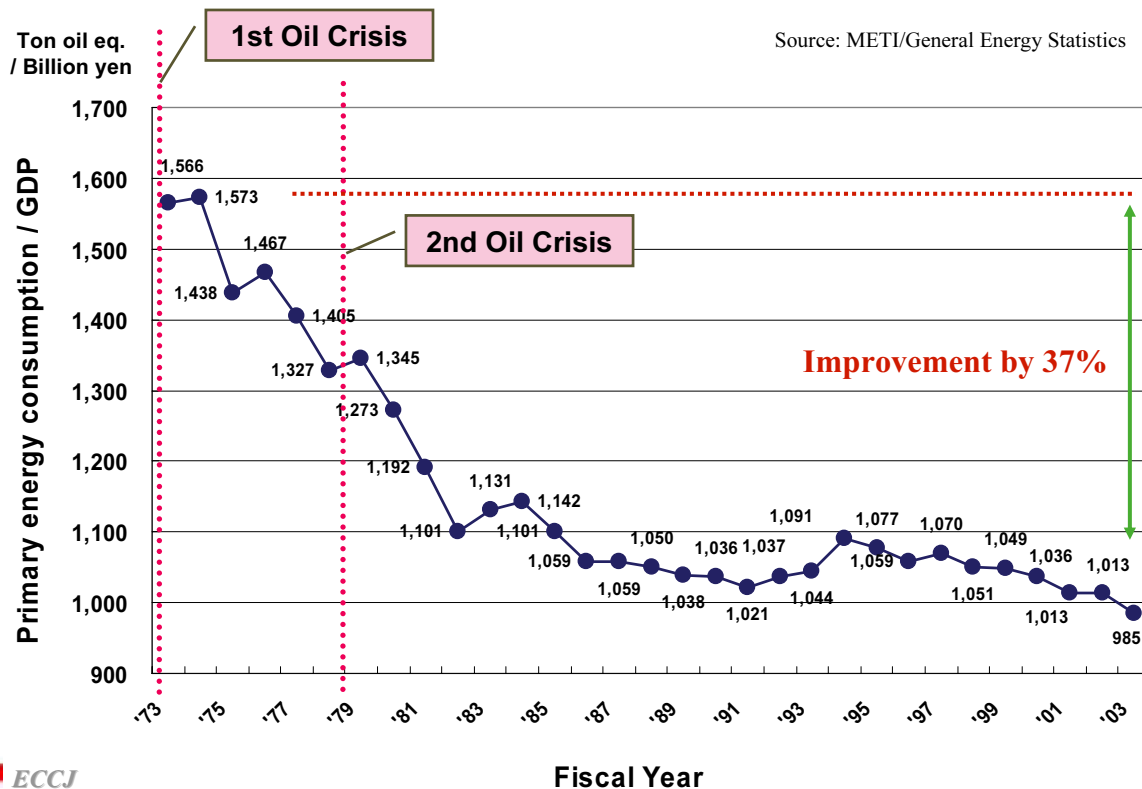


# Energy Consumption and Conservation Effort in Japan



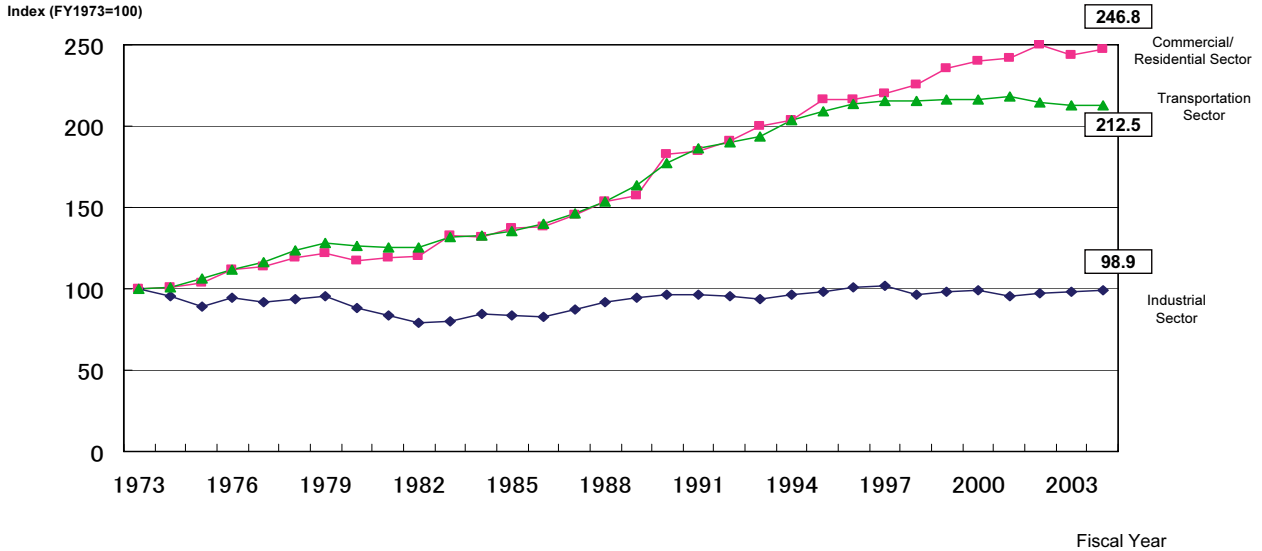
Japan International Cooperation Agency (JICA)

## Changes in Primary Energy Intensity per GDP in Japan



## Transition of Final Energy Consumption by Sector

- Final energy consumption in the industrial sector has remained generally steady since the oil crisis.
- On the other hand, those of the commercial/residential and transportation sectors have increased significantly.

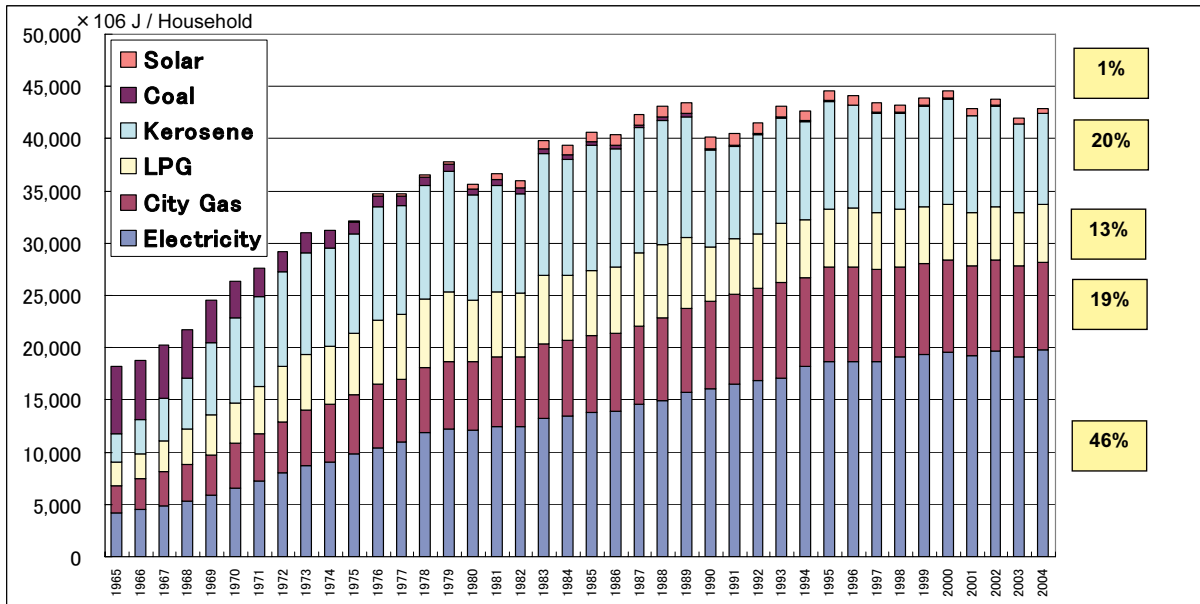


Source: Compiled by the Agency for National Resources and Energy based on Energy Balance Tables in Japan data  
 (Note) Note that, due to revision of the aggregation method in Energy Balance Tables in Japan, values for FY1990 onwards and values for preceding years are the results of utilizing different methods.

3

## Transition of Household Energy Consumption by Source

- Major energy source has been shifted from coal to kerosene, and electricity now.
- Energy consumption in residential sector has increased due to the following reasons;
  - (1) Total Number of home appliances owned has increased,
  - (2) Newly developed home appliances have widely been introduced.

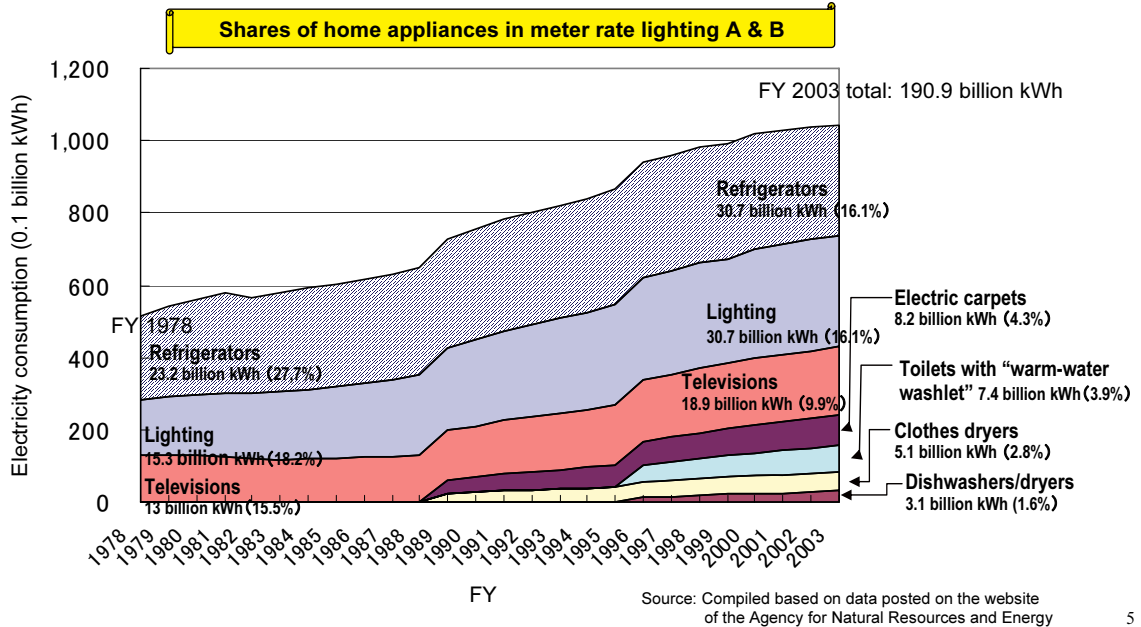


Source: Compiled by the Agency for National Resources and Energy based on Energy Balance Tables in METI

4

## Transition of Energy Consumption for Home Appliances

- Refrigerators, lighting and televisions account for a large portion of electricity consumption in the residential sector.
- Consumption for new equipment, such as toilets with “warm-water washlet” and dishwashers/dryers, has increased, although the percentage in total electricity consumption is not large at present.



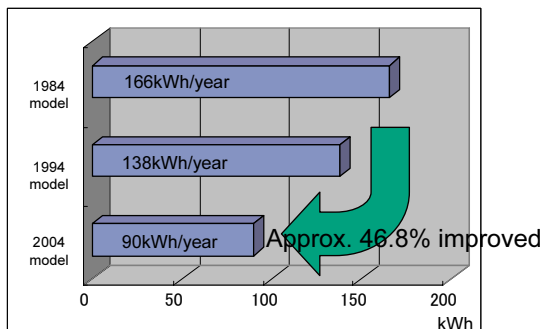
5

## Example of Energy Efficiency Improvement

- Energy efficiency of home appliances has been improved due to the introduction of Top-Runner Program and continuous effort by manufacturers.

- Transition of the energy-saving performance of CRT television

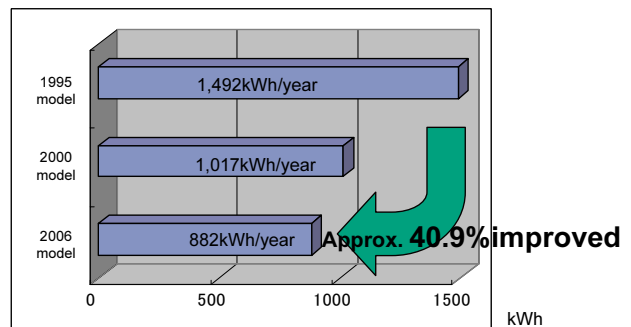
Transition of the performance of 21 inch CRT television



Source: Japan Electronics and Information Technology Industries Association

- Transition of the energy-saving performance of air conditioner

Transition of the performance of heating-and-cooling type wall-mounted air conditioner with a cooling capacity of 2.8 kW (for a 10 tatami-mat room)



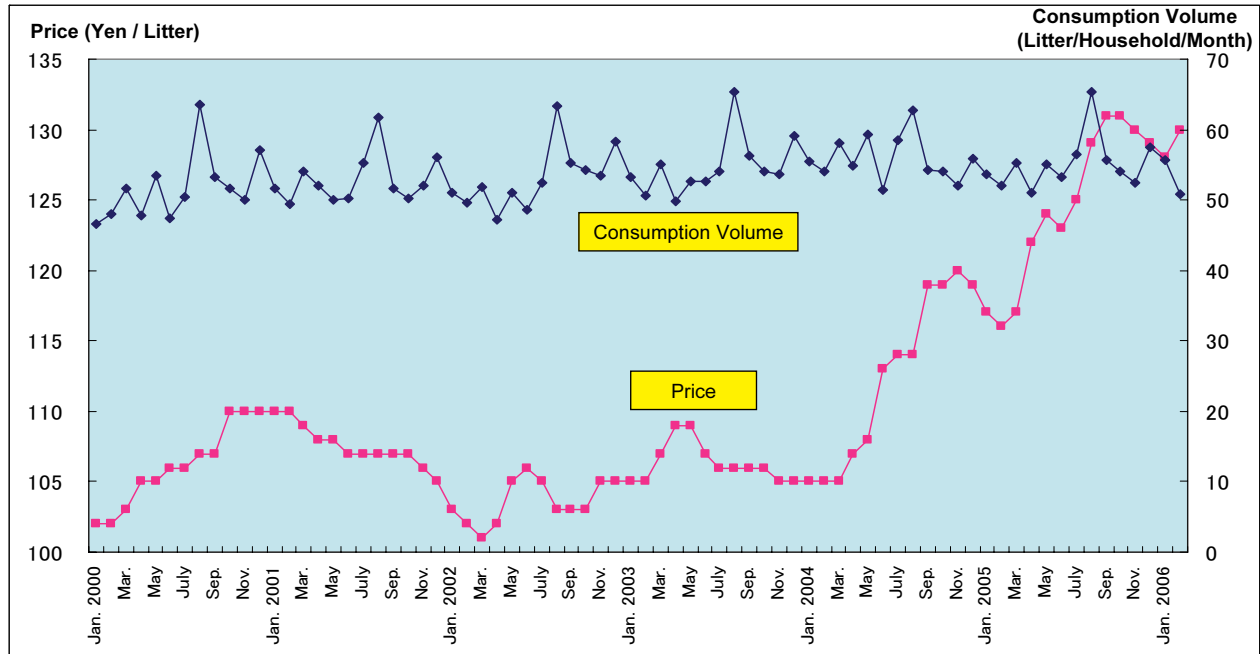
Standard of Japan Refrigeration and Air Conditioning Industry Association

Source: JRA4046 (Standard for the calculation of periodic power consumption of room air conditioners)

6

# Gasoline Price and Consumption Volume

- Consumption volume of gasoline has been steady regardless of the price hike.
- Although fuel efficiency has been improved, total number of registered vehicle has been increasing in Japan.



Source: The Oil Information Center, and Ministry of Internal Affairs and Communications, Japan

7

## Why did the manufacturing industry of Japan succeed in the energy conservation after the Oil Crisis?

1. Cost reduction incentive (enforcement of international competitiveness) and **self-help efforts by enterprises**  
 --- Energy management, investment and technological innovation.  
*QC activity, Kaizen by small group activities, TQC and TQM.*
2. Regulation measures by Government (**Energy Conservation Law**)
3. Support and subsidy system by Government (**finance, tax, subsidiary aid**)

*Mutual effect, synergy effect*

Japan became the first class country in **energy conservation technology.**

### < Energy Conservation Philosophy >

- Energy Conservation should be **achieved at site.**
- Energy Conservation is **practical** and **steady** activities.
- Base of Energy Conservation is "**Energy Management**"

# Major Amendment of Energy Conservation Law (Enforced in April 2006)

## ◆ Civil and Commercial Sector



- Strengthening energy conservation measures for large-scaled **retrofits** of the existing residence and buildings, as well as new buildings (in cooperation with Ministry of Land, Infrastructure and Transport)
- **Information** offering from energy suppliers and appliance-retailers

## ◆ Transportation Sector



- < Additional regulation for the transportation sector > for **cargo owners** and **carrier companies**:  
Submission of **Periodical Reports**  
Submission of **mid- and long-term plans** (in cooperation with Ministry of Land, Infrastructure and Transport)

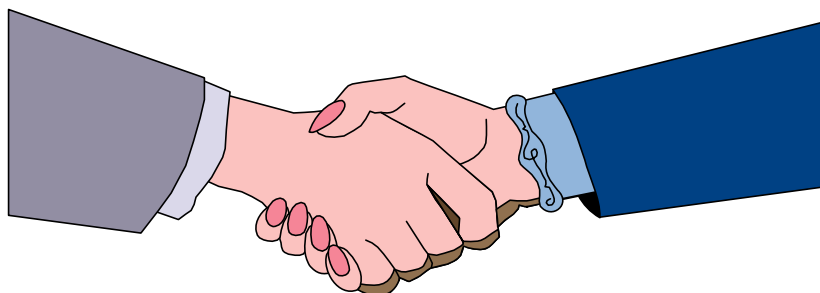
## ◆ Industrial Sector



- Strengthening energy conservation measures in factories and workplaces by managing the **combined** annual consumption of **heat and electricity** (the number of designated factories and workplaces will increase from 10,000 to 13,000)

EC Law has been amended 5 times to adjust to the latest requirements and enforce more stringent EC measures. **(Step by Step approach)**

# Thank you very much!



# Salamat mula sa puso!

Presentation materials are kindly provided by  
Ministry of Economy, Trade and Industry, and Energy Conservation Center, Japan.

# Energy Conservation: Asian Experiences



Hiroaki Nagayama  
Japan International Cooperation Agency (JICA)

1

## This presentation

1. Current Status of Energy Efficiency in the Philippines and Asia
2. Energy Conservation Measures in Asia
3. Summary of Lessons Learned from Other Asian Countries' Experiences

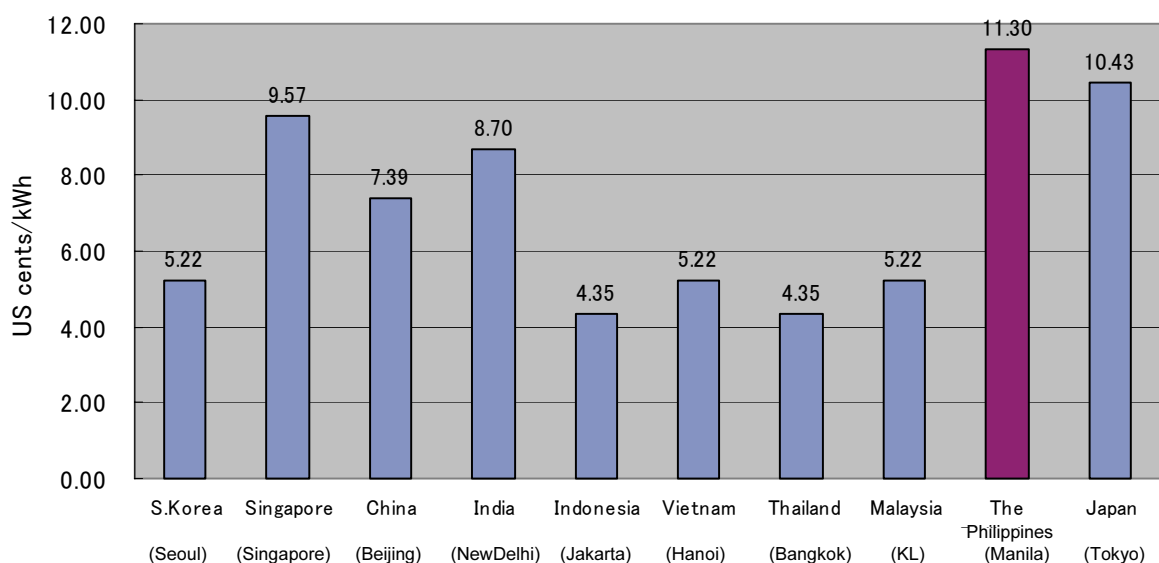
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# 1. Current Status of Energy Efficiency in the Philippines and Asia

Why is Energy Conservation so important?- The cost of electricity in the Philippines is the highest in Asia.

Figure: Electricity Price



Note1:1US\$=115Yen

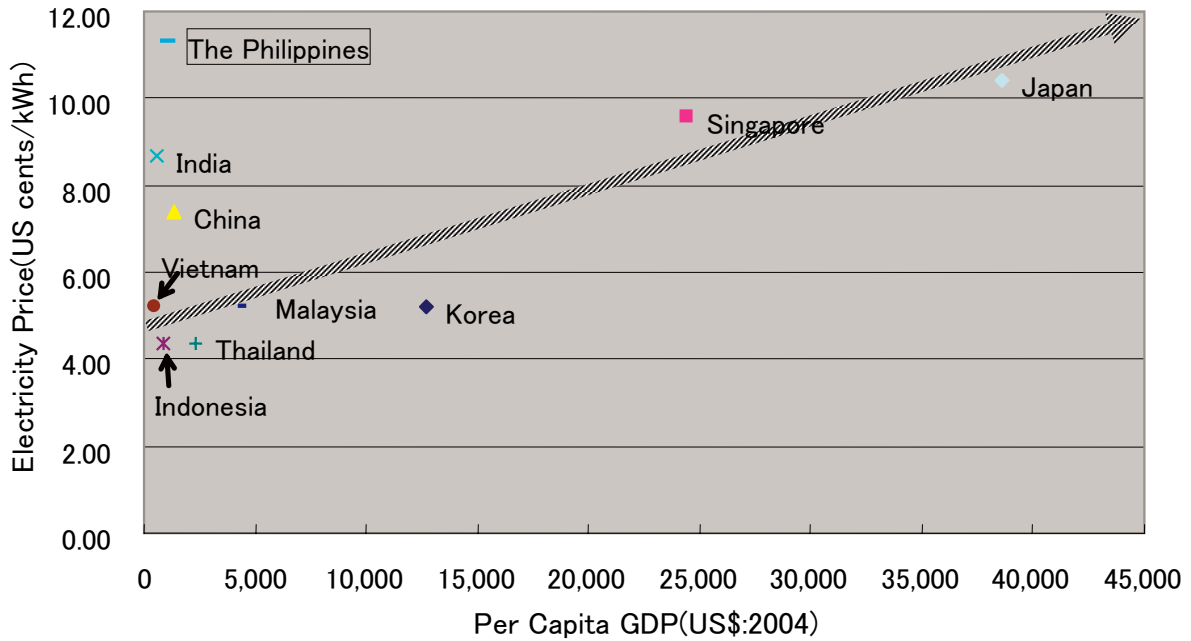
Note2:China:average price of rang 3~14Yen/kWh

Note3:prices of Indonesia, China, Vietnam, India are subsidized price

Source:JETRO(March 2006)

The prices of electricity in the Philippines in relation to per capita GDP is the highest in Asia.

Figure: Electricity price and per Capita GDP

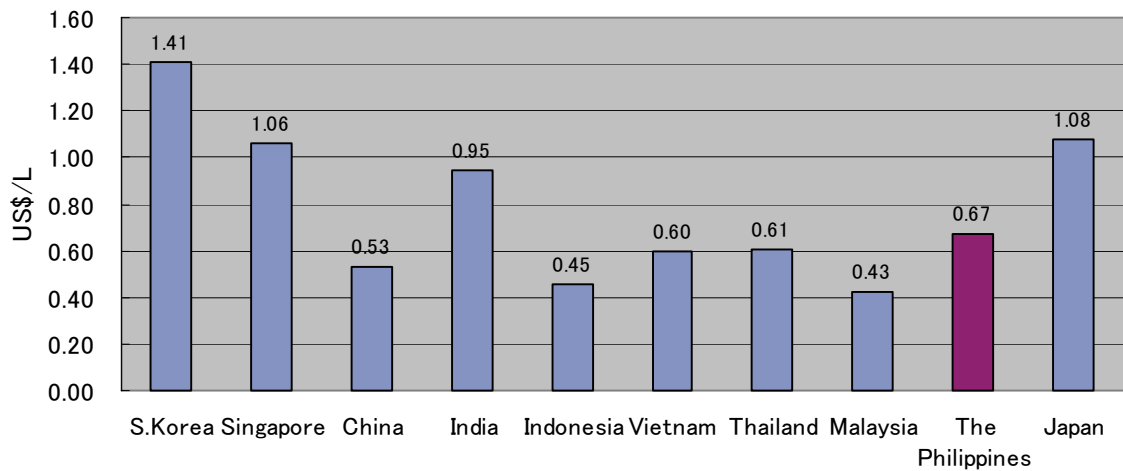


Source: JETRO (March 2006), WDI

5

The regular gasoline price in the Philippines is at the Asian average.

Figure: Regular gasoline price



(Soeul) (Singapore) (Beijin) (NewDelhi) (Jakarta) (Hanoi) (Bangkok) (KL) (Manila) (Tokyo)

Note1: 1US\$=115Yen

Note2: Prices of Indonesia, Vietnam, India, China are subsidized price

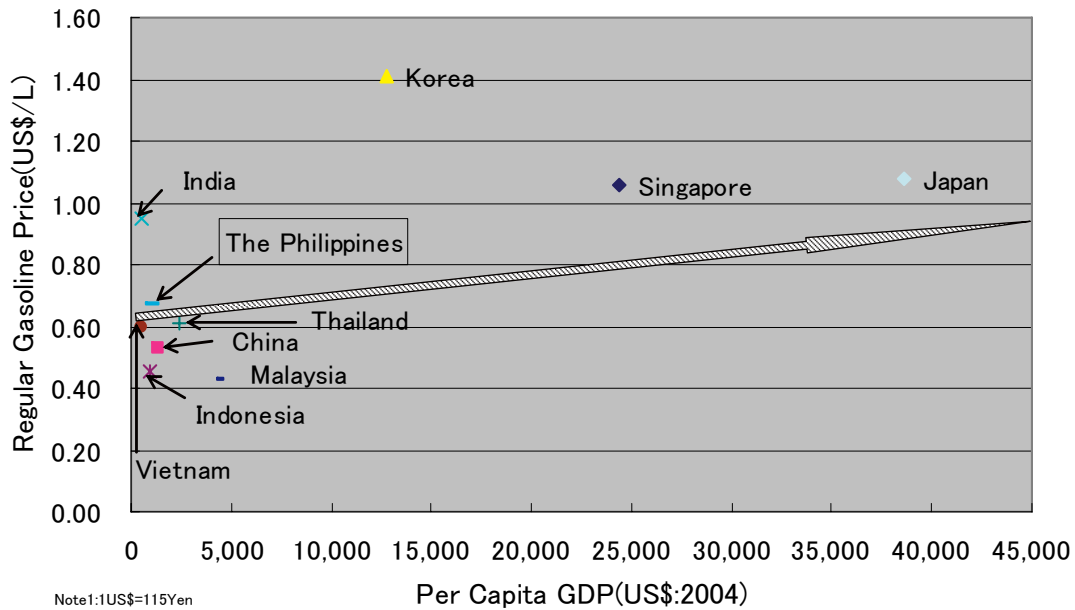
Source: JETRO (March 2006)

6



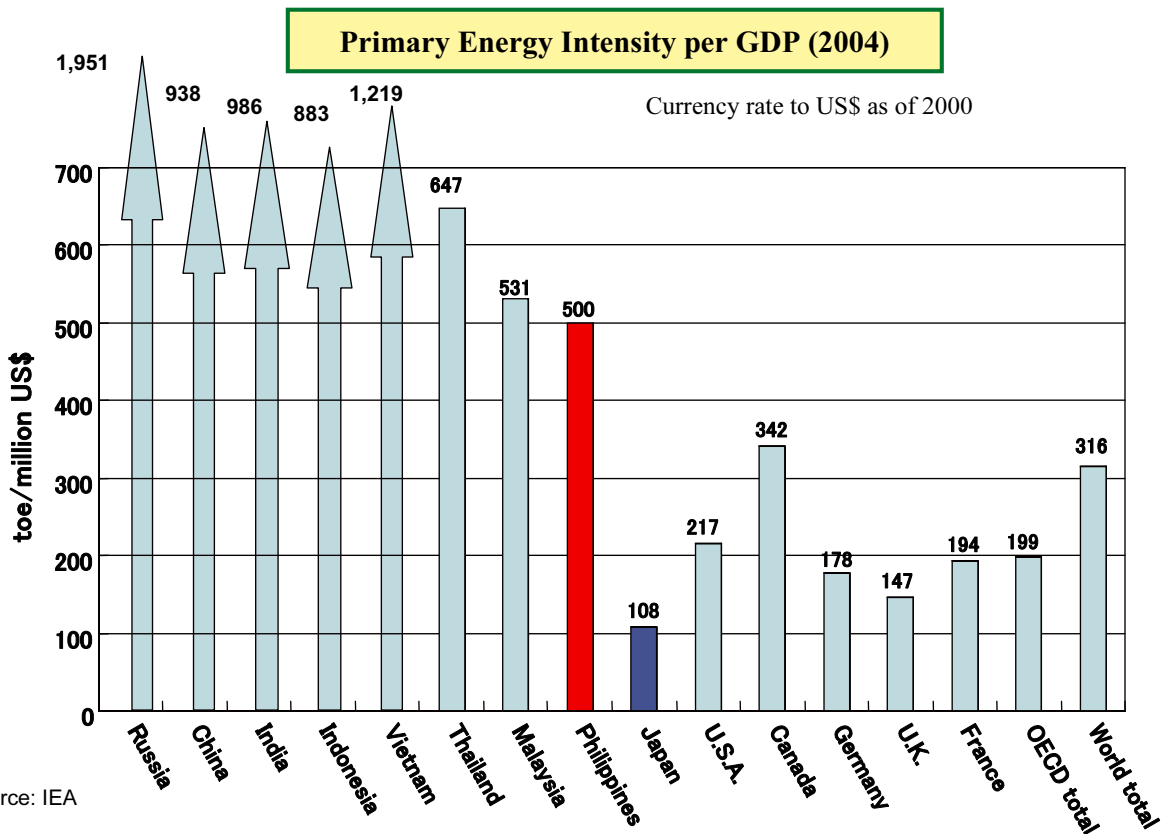
The regular gasoline price in the Philippines in relation to per capita GDP is relatively high and among the highest in Asia.

Figure : Regular gasoline price and per capita GDP



Note1: 1US\$=115Yen  
 Note2: Prices of Indonesia, Vietnam, India, China are subsidized price  
 Note3: Constant 1995 Price: 2004 figures  
 Source: JETRO (March 2006), WDI

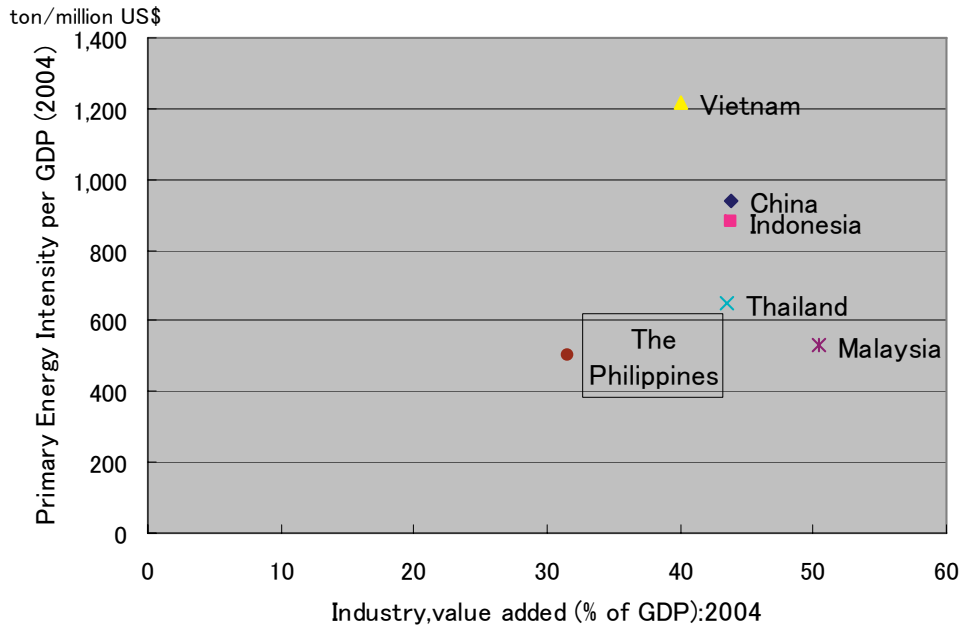
The energy intensity of the Philippines is one-fifth that of Japan. Compared with other Asian countries, The Energy intensity of the Philippines is better than the neighboring Asian countries.



Source: IEA

The energy intensity of the Philippines is better than other Asian countries. However, the industry sector occupies a lower share of the GDP.

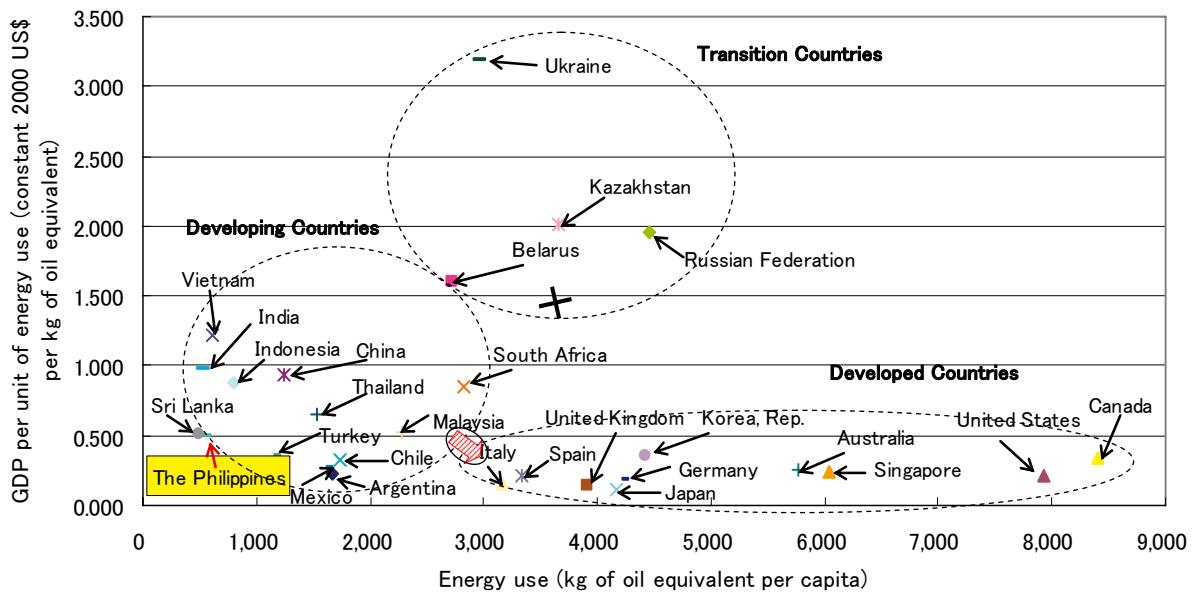
Figure: Primary Energy Intensity and Industry value added (% of GDP)



Source :IEA for Primary Energy Intensity, :Currency rate to US\$ 2004 figures as of 2000  
WDI for Industry value added (% of GDP) 2004 figures

In order to realize low energy intensity (per GDP) while maintaining economic growth, more efforts toward energy conservation will be required in the Philippines.

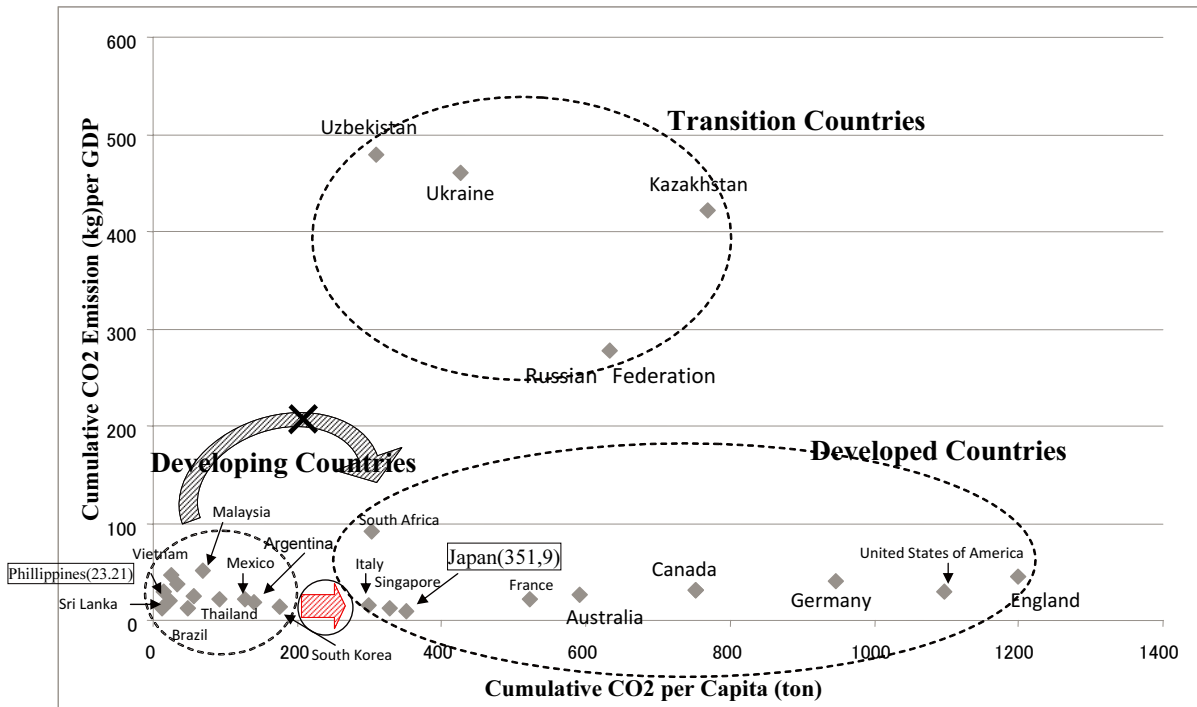
Figure :Energy use per capita vs GDP unit of energy use



Source: World Development Indicators (WDI)

In order to realize low CO<sub>2</sub> emission intensity (per GDP) while maintaining economic growth, adopting new technology for energy conservation will be necessary in the Philippines.

Figure: Cumulative CO<sub>2</sub> per capita and per GDP



Source: Carbon Dioxide Analysis Center (CDIAC)  
World Development Indicators (WDI)

11

Major observations from the energy efficiency figures are:

In the Philippines

- 1) There is much room for promotion of energy conservation efforts, especially in the Commercial Sector.  
→ Promote such measures as  
Loss reduction in T&D, energy efficient building design for new buildings, energy efficient vehicle engine.
- 2) Due to fewer energy-intensive industries, the energy intensity of the industrial sector in the Philippines is low.  
→ A bench mark on energy efficiency by sectors, and by industries should be collected for further analysis.
- 3) To address global warming issues, energy conservation efforts, including adopting new technologies, obtaining financial support will become important.

12

## 2. Energy Conservation in Asia

13

### Energy Conservation Laws in Asian Countries

- **India, China, Vietnam and Thailand have the energy conservation laws.**

#### **【India】**

- Energy Conservation Act was enacted in 2002.

#### **【China】**

- Energy Conservation Law was enacted in 1997(in effective 1998 ).

#### **【Vietnam】**

- Energy Conservation Decree was enacted in 2003.
- Supportive measures such as tax incentive, periodical reporting, energy audit system was introduced.

#### **【Thailand】**

- Energy Conservation and Promotion Act E.E 2535 was enacted in 1992.

14

## Progress of Energy Conservation in Thailand (1)

### 1. Goal of Energy Conservation under 10th National Economic and Social Development Plan

- (1) Consumption of alternative energy shall be increased from 0.5% to 8%.
- (2) Ensuring energy security for coming 50 years
- (3) GDP elasticity shall be improved from 1.4 (1985-2001) to 1.0 in 2011.
- (4) Energy intensity in transportation sector shall be reduced.

15

## Progress of Energy Conservation in Thailand (2)

### 2 Schemes

2-1 Energy Conservation Center of Thailand (ECCT) was established in 1985.

2-2 Energy Conservation and Promotion Act E.E 2535 was enacted in 1992.

Chapter	Title	Description
1	Energy management in designated factories, and appointment of energy manager	-Submission of periodical report and mid-term plan -Energy manager can be accredited after graduation of advanced training course with 3 year working experience, or bachelors degree.
2	Same as above for designated buildings	ditto
3	Promotion of EC Products and equipment	Designation of EC equipment and supportive measures
4	ENCON Fund	Financial support and subsidy program for implementation of EC measures

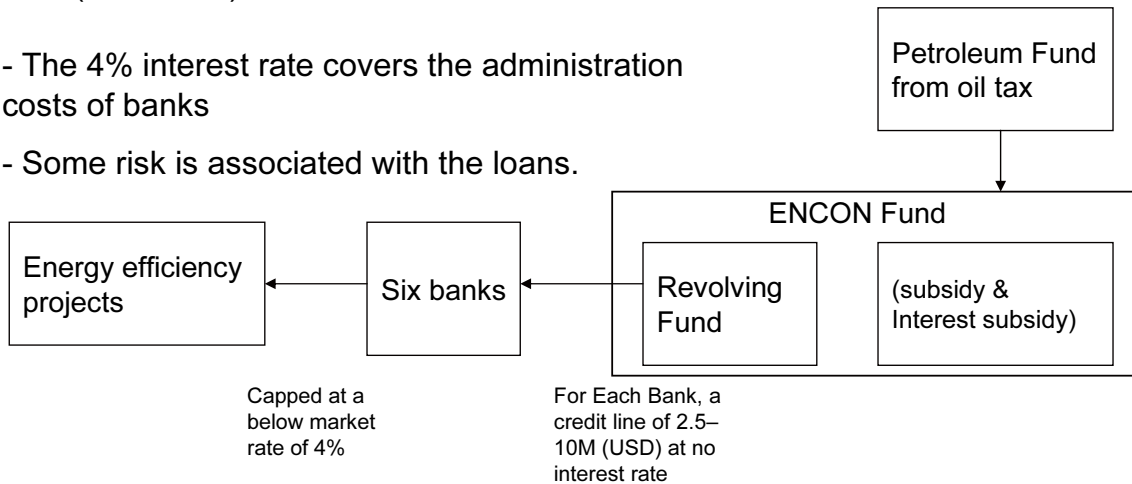
16

## ENCON Fund

Thailand:(Energy Efficiency Revolving Funds)

(1st Phase):2003~2006

- The 4% interest rate covers the administration costs of banks
- Some risk is associated with the loans.



(2nd Phase):2006~

A low interest rate of 0.5 percent is to be charged to the banks instead of no interest rate.

Source:UNEP(2006)

17

## Progress of Energy Conservation in Thailand (3)

### 2-3 DSM Pilot Project by EGAT (Electricity Generating Authority of Thailand)

- (1) Energy Label Products
- (2) Peak Cut Project
- (3) Energy Conservation Consultant Program
- (4) ESCO Pilot Project

### 2-4 A compulsory program for large energy users' designated facilities \* must

- (1) Appoint an energy manager
- (2) Collected and submit energy data
- (3) Conduct energy efficiency audits
- (4) Develop energy use reduction targets
- (5) Develop and submit plans for energy efficiency improvements

\* Designed facilities are companies with over 1MW peak energy demand or which consume more than 20TJ of energy annually.

18

## Progress of Energy Conservation in Thailand (4)

**Government policy and regulations in combination with EGAT DSM Project lead the success of energy conservation in general.**

**→JICA/ECCJ contributed through technical cooperation titled “The Project on the Practical Energy Management Training Center”.**

19

### Energy Conservation Laws in Asia (1)

	The Philippines	Malaysia	Indonesia	Thailand	Vietnam	China	India
Energy Conservation Law	“House Bill No. 4839. An Act Institutionalizing Energy Conservation” yet to be in effect	Energy Efficiency Regulation on Electricity is in the process.	Energy Law (Preparation for draft since 1999)	Energy Conservation Promotion Act (1992)	Energy Conservation Decree is in effective (2003/09)	Energy Conservation Law(1998)	Energy Conservation Law (2002/3)
Presidential Decree	<ul style="list-style-type: none"> <li>• E0123 (1993) “Institutionalizes the Committee on Power Conservation”</li> <li>• E0472 (1998) “Fuel Conservation and Efficiency in Road Transport”</li> </ul>		<ul style="list-style-type: none"> <li>• Presidential Regulation No. 5 / 2006 Energy elasticity &lt;1 by 2025</li> <li>• Presidential Instruction No. 10 / 2005 Instruction on Central and Regional Government on EE&amp;C</li> </ul>				
Ministerial Decree	<ul style="list-style-type: none"> <li>• A0110 (2004) Institutionalization of a Government Energy Management Program</li> <li>• A0126 (2005) Enhanced Implementation of the Government’s Energy Conservation Program</li> <li>• A02013 (2004) “Adoption of Austerity Measures in Government”</li> <li>• A0183(2005) “Lighting System in the Government Facilities”</li> <li>• DT: Department Order No39</li> <li>• DOE : Memorandum Circular No 93-03-05: Energy Conservation Monitoring</li> </ul>		<ul style="list-style-type: none"> <li>• Ministerial Regulation No. 0031 / 2005 Procedure of EE&amp;C in government offices, etc.</li> <li>• Ministerial Regulation No. 100.k / 48 / M.PE / 1995 Obligations for energy users</li> </ul>		MOI Circular (Guideline) 2004/07		
Energy conservation	NEECP(2004)	MIEEIP 1999~2006 (UN/GEF)	<ul style="list-style-type: none"> <li>• Green Energy Policy</li> <li>1) Conservation Program</li> <li>2)Public Awareness Creation</li> <li>3)Education and Training</li> <li>4)DSM Activities</li> <li>5)Standardization</li> <li>6)Energy Efficiency Labeling</li> <li>7)Partnership Program</li> </ul>		Vietnam Energy Conservation Program (VECP) (2006/04 Authorized)	Long-term Energy Conservation Plan(2004/11) 11 <sup>th</sup> 5year Plan (2006-2010) 10 Energy Conservation programs at national level	
Inter-governmental Organization for EE&C		Energy Commission (EC) PTM, CE TREE	BAKOREN organize Energy Resource Committee				<ul style="list-style-type: none"> <li>•Bureau of Energy Efficiency</li> <li>•State Designed Agency plus ESCO</li> </ul>

Note1: Administrative Order, RA: Republic Act, EO: Executive Order, EE&C (Energy Efficiency and Conservation)

Note2: In the Philippines, hierarchy of laws are RA→EO→AO→DOE Circular

Source: Various sources made by the author

20



# Lessons Learned from Energy Conservation Laws in Asia

- **India, China, Vietnam and Thailand have the energy conservation laws.**
- **Even in the country where law has not been enacted yet (ex. Malaysia, Indonesia), the inter-government committee has been organized.**

21

## Energy Conservation Measures in Asia (1)

### 1. Energy Conservation Center

An Energy Conservation Center was established in Malaysia, Thailand, and Vietnam.

	The Philippines	Malaysia	Indonesia	Thailand	Vietnam
Energy Conservation Center		PTM		Energy Conservation Center of Thailand (ECCT)	Energy Efficiency & Conservation Office (ECCO)

22

## Energy Conservation Measures in Asia (2)

### 2. Financial Incentives

In Thailand, comprehensive financial incentives are provided.

	The Philippines	Malaysia	Indonesia	Thailand	Vietnam
Energy Conservation Fund		Green Energy Business Fund		Energy Conservation Fund (ENCON)	
Subsidy	(TTEM-DLF funded by USAID)*			ENCON	
Interests subsidy or Low interest loans	(Existed in the past)	Malaysia Development Bank SME Bank	PT PNM (National Investment Productivity) to SME	ENCON	

Note: \*TTEM-DLF (Technology Transfer for Energy Management Demonstration Loan Fund)

Source: Various sources made by the author

23

## Energy Conservation Measures in Asia (3)

### 3. Utility companies

DSM Measures have been implemented in public utilities in Indonesia, Thailand, and Vietnam

	The Philippines	Malaysia	Indonesia	Thailand	Vietnam
DSM	1996 Regulation framework 2001 Amendment by ERC		PLN Energy-Intensive Industries (Steel, Cement, Textiles)	EGAT supported by WB/GEF	(The WB/GEF sponsored) Vietnam Efficiency Project
CFL	PELMATP and individual activities by the users		PLN	EGAT	EVN

24

## Energy Conservation Measures in Asia (4)

### 4. Energy management system

Energy management guidelines, Labeling, and Energy Audits have been done in the respective countries.

	The Philippines	Malaysia	Indonesia	Thailand	Vietnam
Energy Management Guidelines	Government Energy Management Program (GEMP)	MIEEIP Program	MEMR	PRE (Person Responsible for Energy)	
Energy Audit	DOE, DOST, ENPAP etc	Energy Audit Program under MIEEIP	KONEBA, registered companies	Training of PRE	
Labeling	Labels for window type air-conditioner, refrigerator freezer, and CFL		Labeling on electric appliances by Product Certificate Institution	Labeling of consumer products	EE standard labeling accreditation

25

Table Benchmark Figures of Energy Conservation & ESCO in Asia

	Population	ESCO Market (2004)	ESCO Association	Electricity Rate (2004)	Energy Conservation Laws	Laws relating ESCO	Training	Loan Guarantee	ESCO Market	Main Responsible Agency	International; Institution Involved	CDM
Unit	(Millions)	(Million USD)	—	US cents/kWh	—	—	—	—	—	—	—	—
Japan	120	27-36	○	16.4	○	◎	◎	×	○	—	—	—
China	1,300	18	○	9.1	○	△	△	○	○	NDRC	GEF/WB	◎
India	1,100	Few	○	10.0	○	○	○	×	○	FICCI, BEE or PCRA	USAID, GEF/WB	◎
Thailand	60	2	×	8.2 or above	○	◎	○	Under preparation	○	DEDE	GEF	△
Philippines	90	0	○	18.2 or above	×	×	△	×	×	DOE	—	○
Malaysia	30	2 (Biomass)	○	5.8 ~ 6.4	×	△	△	×	×	PTM	GEF	○
Sri Lanka	20	Few	×	14.5 or above	×	△	△	○	○	ECF	UNDP/WB/JBIC	○
Kenya	30	0	×	6.4(1999) or above	×	○	○	×	×	MTI	GEF/UNDP	△
Cambodia	13	0	×	16.4 or above	×	△	△	×	×	MIME	JETRO	○

Note 1: Training of EESC ◎ Frequent, ○ Existing, △ Few  
 Note 2: NBRC ( National Development and Reform Commission )  
 Note 3: 1USD=110yen

Source: JICA / J-Power (2006)

26

### 3. Lessons Learned from Other Asian Countries' Experiences

27

#### Key Lessons from Experiences of other Asian Countries (1)

- **Enactment of Energy Conservation Law (or Act) is one of the most essential elements required for the effective promotion of energy conservation**  
→ Without clear enforcement from government, other supportive measures face difficulties in realization.
- **Energy Conservation Fund is the vehicle for facilitating other financial incentives**  
→ For example: in Thailand, the ENCON Fund has played an important role in providing interest subsidies.
- **Bench mark on energy efficiency by sectors, and by industries should be collected for analysis. (ex., Malaysia-MIEEIP)**  
→ Energy data should be collected and submitted by the government.

28

## Key Lessons from Experiences of other Asian Countries (2)

- **Eventually, EC (Energy Conservation) will be promoted by private companies and general consumers.**
  - Awareness and cultural background to accept EC shall be raised. (Ex., Thailand)
  - Support for initial investment for EC will facilitate and motivate private companies and general consumers (especially in developing countries) to introduce energy-efficient equipment.
  - Revolving funds (Ex., Thailand) is worth considering.
- **Others**
  - Adopt low carbon technologies
  - Capacity building

29

# Thank you very much!



30

# Outputs of Energy Summit: Strategic Workshop on EE&C

1

SECTOR	Immediate (Aug '08)	Short Term (1 year)	Medium Term (2 to 5 yrs)	Long Term (above 5 years)	Responsible Agency
Government	<ul style="list-style-type: none"> <li>- <b><u>Establish Legal Framework for EE thru an appropriate policy (including policy studies on EE)</u></b></li> <li>- Higher taxes for inefficient technologies</li> <li>- Support implementation of AO 183</li> <li>- <b><u>Reinstate DSM Practice among DU's</u></b></li> <li>- Develop a Lamp Waste Management Policy</li> <li>- Policy Study on the Calibrated Phase out of inefficient Technologies (initially IBs,..)</li> </ul>	<ul style="list-style-type: none"> <li>- Creation of EE&amp;C Center</li> <li>- Review and Amend Procurement Law</li> <li>- /Guidelines for EE related procurement</li> <li>- for EE program implementation</li> <li>- Provide additional Fiscal and Non-Fiscal Incentives for EE Technologies</li> <li>- Develop/Update EE Standard &amp; Labeling for GHG Contributors e.g. appliances, motor vehicle, etc.</li> <li>- Provide incentives to investors of Lamp</li> </ul>	<ul style="list-style-type: none"> <li>-Extension of EE Lighting, in and Roadways,</li> <li>-Develop E/E guidelines for residential buildings.</li> </ul>		<ul style="list-style-type: none"> <li>-OP</li> <li>-HOR/CPBD</li> <li>- Senate/SEP O</li> <li>-DOE</li> <li>-ERC</li> <li>- DUs</li> <li>-DOF</li> <li>-DTI</li> <li>-DENR</li> <li>- DOTC</li> <li>- DOST</li> <li>- DPWH</li> <li>-DILG/LGU</li> </ul>
					Waste Management

2

SECTOR	Immediate (Aug '08)	Short Term (1 year)	Medium Term (2 to 5 yrs)	Long Term (above 5 years)	Responsible Agency
Transport	<ul style="list-style-type: none"> <li>- Introduction of Fleet Management Program for P/T Operators.</li> </ul>	<ul style="list-style-type: none"> <li>- Public Transport Leasing Program</li> <li>- Aviation Fuel Efficiency</li> <li>- Enhancement Program</li> <li>- Retrofitting Program for Land Transport</li> </ul>	<ul style="list-style-type: none"> <li>- Public Transport Reform – Mass Transit</li> </ul>		<ul style="list-style-type: none"> <li>- DOTC</li> <li>- Transport Operators and Associations</li> <li>- Air Carriers</li> </ul>
Cross Sector	<ul style="list-style-type: none"> <li>- Establish baseline data &amp; benchmark</li> <li>- <b>Scale-up IEC on EE (All media)</b></li> <li>- Curriculum Integration and Instructional Materials Development</li> <li>- Social Mobilization Program for Market Monitoring</li> </ul>				<ul style="list-style-type: none"> <li>- DOE</li> <li>- PIA</li> <li>- Academe</li> <li>- CHED</li> <li>- DepEd</li> <li>- NGOs</li> <li>- Industry Ass.</li> <li>- Professional Societies</li> <li>- Private Sector</li> <li>- Media</li> <li>- DOTC/NTC</li> <li>- DTI</li> </ul>

3

SECTOR	Immediate (Aug '08)	Short Term (1 year)	Medium Term (2 to 5 yrs)	Long Term (above 5 years)	Responsible Agency
Civil Society	<ul style="list-style-type: none"> <li>- Promote Green Technologies (awareness support services, adoption)</li> </ul>				<ul style="list-style-type: none"> <li>- NGOs</li> <li>- Academe</li> </ul>
Private Sector	<ul style="list-style-type: none"> <li>- <b>Major Retrofit Program for Commercial and Indust'l Sector (including Guidelines)</b></li> <li>- Implement and Monitor implementation of the revised Energy Efficiency Guidelines for Buildings</li> <li>- Mandate Energy Manager/Auditors</li> </ul>				<ul style="list-style-type: none"> <li>- DOE</li> <li>- DPWH</li> <li>- LGU/OBO</li> <li>- Energy Associations</li> <li>- C&amp;I Establishments</li> <li>- PCCI/Foreign Chambers</li> <li>- PEZA</li> </ul>
Financing Institutions	<ul style="list-style-type: none"> <li>- <b>Create comprehensive and innovative Financial Facilities e.g. Loan Guarantees, EE&amp;C Fund</b></li> </ul>				<ul style="list-style-type: none"> <li>- GFIs</li> <li>- PFIs</li> <li>- IFIs/MDBs</li> </ul>

4



SECTOR	Immediate (Aug '08)	Short Term (1 year)	Medium Term (2 to 5 yrs)	Long Term (above 5 years)	Responsible Agency
Power	<ul style="list-style-type: none"> <li>- <b><u>Develop National Strategy for System Loss Reduction from Generation, Transmission and Distribution Sectors</u></b></li> <li>- <b><u>DU - led rapid and massive switch to CFL</u></b></li> </ul>				<ul style="list-style-type: none"> <li>-DOE and attached agencies</li> <li>-ERC</li> <li>-DU's</li> <li>- IPPs</li> <li>-</li> </ul>
LGU's	<ul style="list-style-type: none"> <li>- Study and where appropriate, promote Non-Motorized Transport</li> <li>- Rationalize the Operation of Tricycles</li> </ul>				<ul style="list-style-type: none"> <li>-ULAP</li> <li>-MDC</li> </ul>

# DOE Project Proposal on EE&C

PROJECT PROPOSAL	Current Situation, Issues to be solved	Organization In-Charge	Necessary/ Type of Measures	Schedule
1) Technical Assistance in the Development of an Effective and Sustainable Information, Education and Communication (IEC) Campaign on Energy Efficiency and Conservation	<ul style="list-style-type: none"> <li>•Reproduction of EE&amp;C brochures, flyers, leaflets, tips is done through photocopy in black &amp; white.</li> <li>•EE&amp;C publications are old and need to be upgraded.</li> <li>•The EECD Division need to upgrade existing audio/video equipment (Overhead projector) for use in program launching and seminar-workshops conducted in cities and regions.</li> <li>•The National Energy Efficiency and Conservation Program (NEECP) of the government need to be strengthened.</li> <li>•The existing IEC campaign program activity does not reach the entire target sectors due to inadequate IEC campaign materials and other logistical supports to promote the following, such as: (a) New EE&amp;C Technology (b) ESCO service as new industry market (c) Financing EE&amp;C Projects (d) Values formation for Students, among others.</li> </ul>	DOE-EUMB/EECD	<ul style="list-style-type: none"> <li>•Information-Education-Communication</li> <li>•Capability-building</li> <li>•Technology Promotion for Market Development</li> <li>•Values Formation</li> </ul>	

7

PROJECT PROPOSAL	Current Situation, Issues to be solved	Organization In-Charge	Necessary/ Type of Measures	Schedule
2.) Technical Assistance in the Development of a Comprehensive Legal Framework on Energy Efficiency and Conservation (e.g. Enercon Bill)	<ul style="list-style-type: none"> <li>•Currently, there is no long term EE&amp;C road map that is progressive, continuous and sustaining.</li> <li>•The government has limited policies to integrate, monitor and assess impacts of energy efficiency and conservation plans and programs in the supply- and demand-side of the energy market sector.</li> <li>•DOE can not capture the cooperation of large energy intensive consuming establishments to submit enercon report to DOE due to absence of penalty provision.</li> <li>•A government own Energy Conservation Center has its link to the enabling law that will allow its establishment - construction cost, personnel, sustainable budgetary requirements are but some of the major issues that will be address by the law.</li> </ul>	DOE-EUMB/EECD	<ul style="list-style-type: none"> <li>•Policy &amp; Legislation</li> <li>•Regulation, Enforcement, &amp; Compliance</li> </ul>	

8

PROJECT PROPOSAL	Current Situation, Issues to be solved	Organization In-Charge	Necessary/ Type of Measures	Schedule
3.) Technical Assistance in the Development of a Full Scale National Energy Consumption Database System including software model/tool for data analysis	<ul style="list-style-type: none"> <li>Existing energy consumption database program (Dbase 4 program) is obsolete due to its limited capability to do data processing. It can not even use in parallel with the web base internet to transfer, upload and download information.</li> <li>The data processing can be done by using other software program tool (e.g. excel), thus the processing procedures is regarded to be laborious, time consuming and not user friendly.</li> <li>The existing database was designed to handle energy consumption data information in the industrial sector only.</li> </ul>	DOE-EUMB/E ECD	<ul style="list-style-type: none"> <li>Capability building</li> <li>Technology development</li> </ul>	

9

PROJECT PROPOSAL	Current Situation, Issues to be solved	Organization In-Charge	Necessary/ Type of Measures	Schedule
4.) Technical Assistance in the Development of a Certification Training Program for Energy Auditor and Energy Manager	<ul style="list-style-type: none"> <li>The DOE has no existing Certification Program that would accredit Energy Auditors and Energy Manager.</li> <li>Energy Auditors and Energy Managers may be built in a company or establishment as part of an engineering support service, however, none of them undergo formal training in an institutions duly recognized by the government/ DOE.</li> <li>There is no institution that provides formal training for Energy Auditors and Energy Manager accredited by any government office.</li> </ul>	DOE/EU MB-EECD	<ul style="list-style-type: none"> <li>Capability-building</li> <li>Regulation, Enforcement, &amp; Compliance</li> </ul>	

10

PROJECT PROPOSAL	FY 2008				FY 2009				FY 2010			
	1Qtr.	2Qtr.	3Qtr.	4Qtr.	1Qtr.	2Qtr.	3Qtr.	4Qtr.	1Qtr.	2Qtr.	3Qtr.	4Qtr.
1. Technical assistance in the development of a comprehensive legal framework on energy efficiency and conservation (Enercon Bill)												
(a) Draft Enercon Bill for in-house consultation	→											
(b) Draft Enercon Bill for Public Consultation			→									
(c) Endorsement to Congress				→								
(d) JICA Technical Assistance							→					
2. Technical Assistance in the development of an effective and sustainable IEC campaign on EE&C							→					
3. Technical assistance in the development of a full scale National Energy Consumption Database System including software model/tool for data analysis								→				
4. Technical assistance in the certification training program for Energy Auditor and Energy Manager									→			

THANK YOU