


**Realized Activities and
Outstanding Improvement Through
PROMEEC Project**


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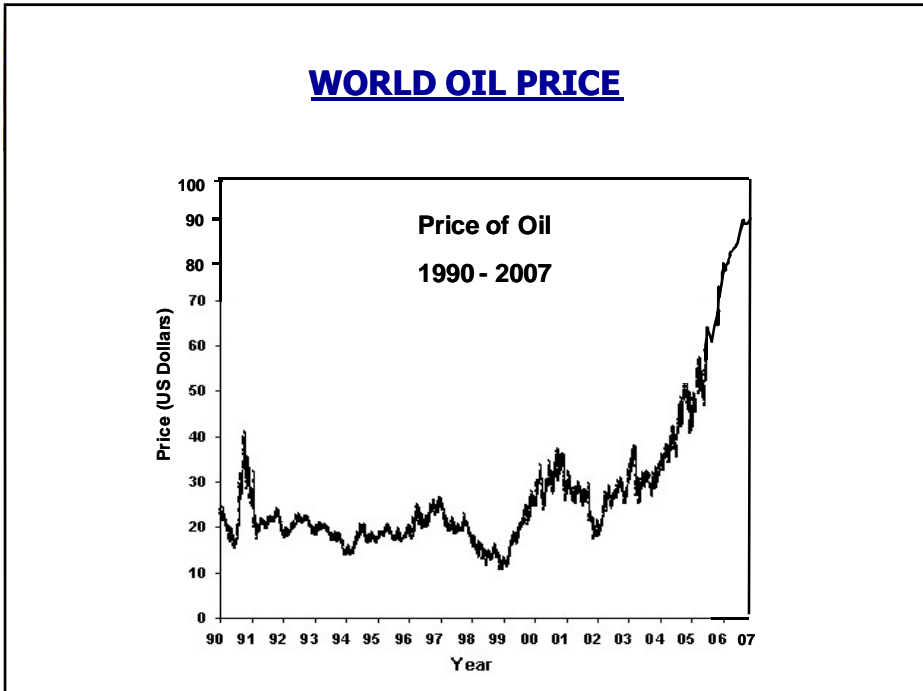


OUTLINE

- Background
- Energy Conservation Policies
- Energy Conservation Program and Implementation
- Barrier
- Conclusion



BACKGROUND





ENERGY CONSERVATION POTENTIAL IN EVERY SECTOR IS RELATIVELY HIGH, AROUND 10% – 30%

2002

Sector	Total Consumption 2006 (Thousand BOE)	Energy Conservation Potential	
		(Thousand BOE)	(%)
Industry	194.356	29.153 – 58.307	15 – 30
Transport	169.730	42.432	25
Household & Commercial	134.630	13.463 – 40.389	10 – 30



ENERGY CONSERVATION POLICIES



ENERGY CONSERVATION POLICIES

- Presidential Instruction No. 10/2005 on Energy Efficiency
- Ministerial of Energy and Mineral Resources Regulation No. 0031/2005 on Procedure of Energy Efficiency Implementation
- Presidential Regulation No. 5/2006 on National Energy Policy
- Energy Law No. 30/2007, issued on August 2007



PRESIDENTIAL INSTRUCTION NO. 10/2005

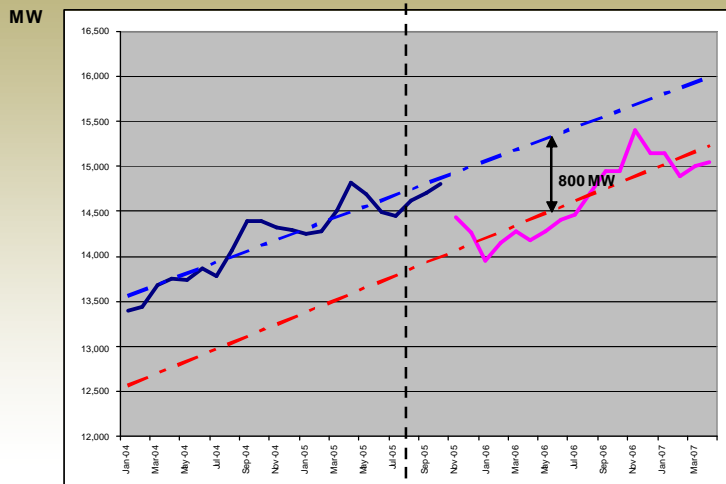
Instructs to head of central and regional governments :

- To implement the energy efficiency measures in its institutions including lighting, air conditioning, electrical appliances, and vehicles' office
- To urge and socialize energy efficiency implementation to the people
- To monitor the implementation of energy efficiency measures and make report to President through Ministry of Energy and Mineral Resources

MINISTERIAL REGULATION NO. 0031/2005

- To guide procedure of energy efficiency implementation in government office, commercial building, industry, transportation, household and others

PEAK LOAD IN JAWA-BALI SYSTEM 2004 - 2007

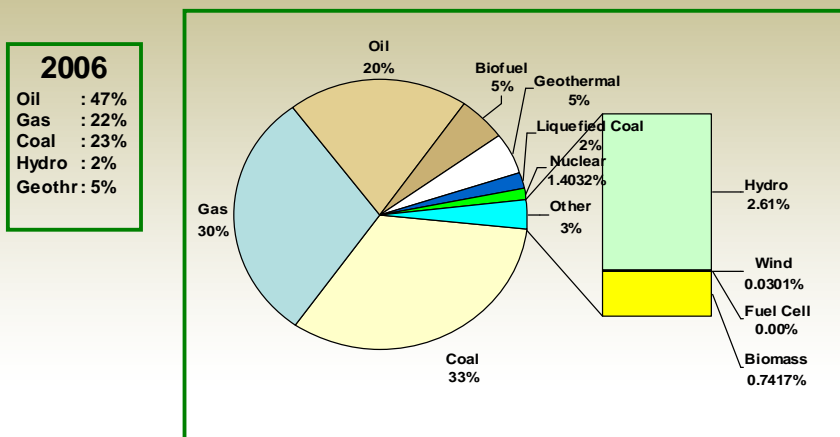


Source : PT. PLN (Persero)

Presidential Instruction 10/2005

PRESIDENTIAL REGULATION NO. 5/2006 ON NATIONAL ENERGY POLICY

- Energy Elasticity < 1 in 2025
- Optimum shares of primary energy mix in 2025





ENERGY LAW NO. 30/2007

Energy Conservation

- ✓ Central and regional government as well as people should be responsible for the implementation of energy conservation program
- ✓ Energy conservation is conducted from up to down stream
- ✓ Government will provide incentive and disincentive for the energy efficiency and conservation implementation of energy consumer and producer of energy efficient equipment



ENERGY CONSERVATION PROGRAM AND IMPLEMENTATION



ENERGY CONSERVATION PROGRAM

- Regulation
- Public Awareness Creation
- Education and Training
- Demand Side Management (DSM)
- Standardization
- Energy Efficiency Labeling
- Partnership Program on Energy Conservation
- International Cooperation



REGULATION

Preparing The Draft of Governmental Regulation on Energy Conservation

- ✓ To obligate intensive energy consumers to conduct energy audit
- ✓ To obligate intensive energy consumers to have energy manager.
- ✓ To obligate manufacture of household appliances to have energy efficiency labeling at their product.



PUBLIC AWARENESS CREATION

- Socialization on energy conservation in cooperation with stakeholder, such as Ministry of Education, Regional Government, Yayasan Pelangi, etc)
- National Energy Conservation Awards for building in 2007 and ASEAN Energy Award 2007 ‘Best Practices Building Competition’ and “Energy Management for Buildings and Industry Competition”.
- Creating public awareness through newspaper, electronics media, brochures, leaflet and billboard.



INDONESIA’S PARTICIPATION ON ASEAN ENERGY AWARD

YEAR	BUILDING	CATEGORY	RESULT
2000	Grand Preanger Hotel, Bandung	<i>Retrofitted</i>	Energy Efficient Building (Plaque)
2001	BII Tower, Jakarta	<i>Retrofitted</i>	Energy Efficient Building (Plaque)
2002	Graha Pangeran, Surabaya	<i>New and Existing</i>	Energy Efficient Building (Plaque)
2003	Gran Melia Hotel, Jakarta	<i>Retrofitted</i>	Runner Up I
2004	Natura Resort and Spa, Bali	<i>Tropical</i>	Winner
2004	PT.Metropolitan Bayu Industri, Jakarta	<i>Special Submission</i>	Winner <i>(AC Equipped with Heat Pipe for Tropical Climate)</i>
2005	BII Tower	<i>Retrofitted</i>	Winner
2006	Grha Wonokoyo, Surabaya	<i>New and Existing</i>	Runner Up II
2006	Unika Atmajaya, Jakarta,	<i>Special Submission</i>	Winner <i>(Water Jet Nozzle to Reduce The Operation Cost in Air Conditioning Unit)</i>
2007	Novotel Lombok, Lombok	<i>Tropical</i>	Runner Up I
	PT.Metropolitan Bayutama, Jakarta	<i>Special Submission</i>	Winner (Active Heat Pipe)



TRAINING AND EDUCATION

- Training on energy efficiency and conservation by Centre for Training and Education - Ministry of Energy and Mineral Resources and other institution (Ministry of Education)
- Participated in the training on energy conservation in Japan, Korea, China, etc



DSM ACTIVITIES

- ***Terang Program (2002)***, replacing incandescent light (40 Watt) with energy saving lamp (8 Watt) with the way monthly instalment payment for a year period, which the targets are poor households (<900 VA)
- ***Peduli program (2003)*** replacing incandescent light (40 Watt) with energy saving lamp (8 Watt) with the way subsidized price of Rp 3.000 per lamp if poor household buy 3 lamps.
- ***Public Street Lighting Program (2002 and 2003)***, aimed at reducing electricity consumption by installing the efficient lamps in the public streets
- ***Public campaign by several institution (government, PLN, etc) such as Switch off on 17.00-22.00 (2005 until now)***, advertisement in newspaper and electronic media with target households that aimed at reduce electricity consumption in peak hour (17.00-22.00)

For 2003-2004, DSM Program achieved reduction load peak = 200 MW



THE CALCULATION OF ELECTRICITY SAVING THROUGH DSM - 2006

Asumptions:

- Total household consumers 35 million
- Total R1 consumers (≤ 900 VA) 30 million
- Total R1 consumers in Java-Bali 20 million
(75% of total household)
- Replacement of 1 incandescent bulb (40 watt) with CFL (8 watt), will save 32 watt

Skenario	High (4 lamps)	Low (2 Lamps)
National Electricity Saving: if 10% of total R1 consumers implement DSM	384 MW	192 MW
Java-Bali Electricity Saving: if 10% of R1 consumers implement DSM	256 MW	128 MW



STANDARDIZATION

- **Indonesia National Standard (SNI) on Energy Conservation in Building :**

- ✓ SNI 03-6389-2000 : Energy Conservation in Building Envelope
- ✓ SNI 03-6390-2000 : Energy Conservation of Air Condition System in Building
- ✓ SNI 03-6196-2000 : Energy Audit Procedure in Building
- ✓ SNI 03-6197-2000 : Energy Conservation of Lighting System in Building

At this moment, the standard will be implemented in Jakarta through Jakarta Province Government Regulation for building construction license (IMB)



ENERGY EFFICIENCY STANDARD AND LABELING

- Energy Efficiency Labeling Program is aimed to inform the consumers about the energy efficiency level of electrical appliances in the market



- Assignment of LSPRO (Product Certification Institution) and Equipment Testing Laboratory:

LSPRO

- PT. TUV NORD Indonesia
- PT. KONEBA (Persero)
- PT. Sucofindo

Testing Laboratory

- P3TKEBT, DESDM
- B2TE, BPPT
- PT. Sucofindo

- The procedure of equipment testing and certification of labelling is being formulated. The first stage is energy efficient lamp.



DRAFT OF ENERGY EFFICIENCY LEVEL FOR ENERGY SAVING LAMP (CFL)

POWER (Watt)	Effication Value (Lumen/Watt)			
	★	★★	★★★	★★★★
5 – 9	45 – 49	> 49 – 52	> 52 – 55	> 55
10 – 15	46 – 51	> 51 – 54	> 54 – 57	> 57
16 – 25	47 – 53	> 53 – 56	> 56 – 59	> 59
26 – 30	48 – 55	> 55 – 58	> 58 – 61	> 61



PARTNERSHIP PROGRAM ON ENERGY CONSERVATION

- Partnership program is the government program on energy conservation that focused on energy efficiency improvement for energy intensive industries and buildings
- Activities on Partnership program :
 - ✓ Free of charge energy audit in industries and buildings
 - ✓ Monitoring of energy conservation implementation in industries and buildings



RESULT OF PARTNERSHIP PROGRAM ON ENERGY CONSERVATION 2003 - 2007

Sektor	2003		2004		2006		2007	
Industries								
Number of Participants	5 industries		3 industries		21 industries		138 industries	
Saving potential per year	74,5 GWh	USD 4,8 Million	11,7 GWh	USD 0,51 Million	34,2 GWh	USD 3,20 Million	On going	On going
Saving acquired per year	32,1G Wh	USD 2,10 Million	4,0 GWh	USD 0,17 Million	On going	On going	-	-
Building								
Number of Participants	6 Building		6 Building		11 Building		62 Building	
Saving potential per year	3,9 GWh	USD 0,20 Million	3,1 GWh	USD 0,18 Million	6,5 GWh	USD 0,83 Milyar	On going	On going
Saving acquired per year	2,3 GWh	USD 0,12 Million	1,1 GWh	USD 0,03 Million	On going	On going	-	-



INTERNATIONAL COOPERATION

On-going Cooperation :

- **ASEAN - PROMEEC**
- **Japan International Cooperation Agency (JICA) – 2007-2009**
“Study on Energy Conservation and Efficiency Improvement in the Republic of Indonesia”
Focus : the development of energy manager system, labeling system and Demand Side Management (DSM) for electricity.
- **Netherland (2007)**
Training and Workshop on Energy Scanning in Industrial Sector

Under the Process of MOU :

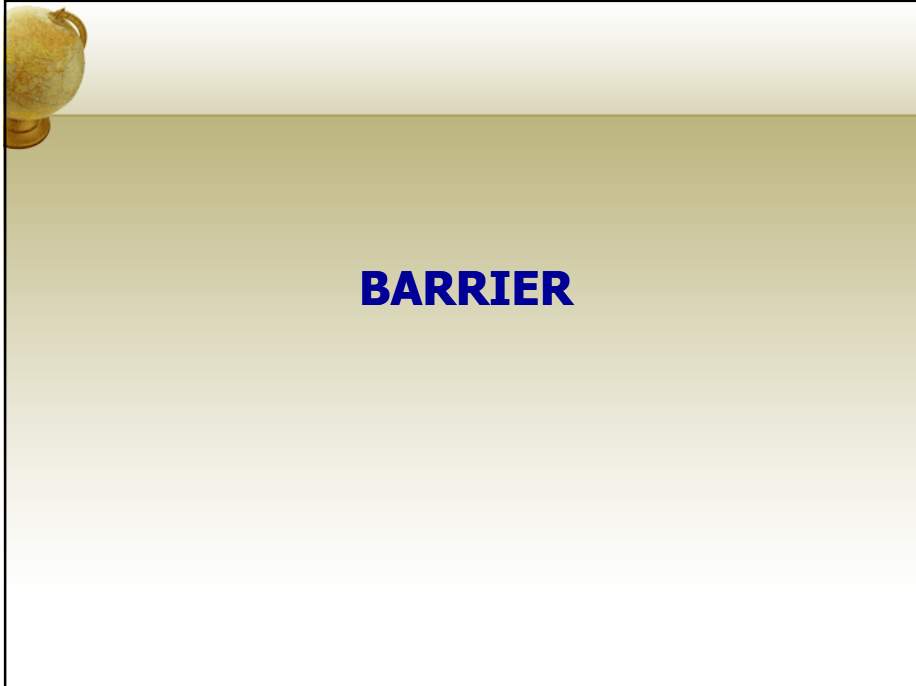
- **Denmark (2008-2012)**
Focus: the development of Clearing House on Energy Conservation



INTERNATIONAL COOPERATION (2)

Under the Process of Proposal Preparation:

- **UNDP-GEF**
Regional Cooperation on Barrier Removal for Energy Efficient Standard and Labeling (BRESL)
- **UNIDO-GEF**
Promoting Energy Efficiency in the Industries through System Optimaization and Energy Management Standard



BARRIER



BARRIERS

- Lack of awareness
- Lack of human capacity
- Lack of supporting policies
- Lack of local industries capacity
- Lack of incentive
- Lack of funding access

