

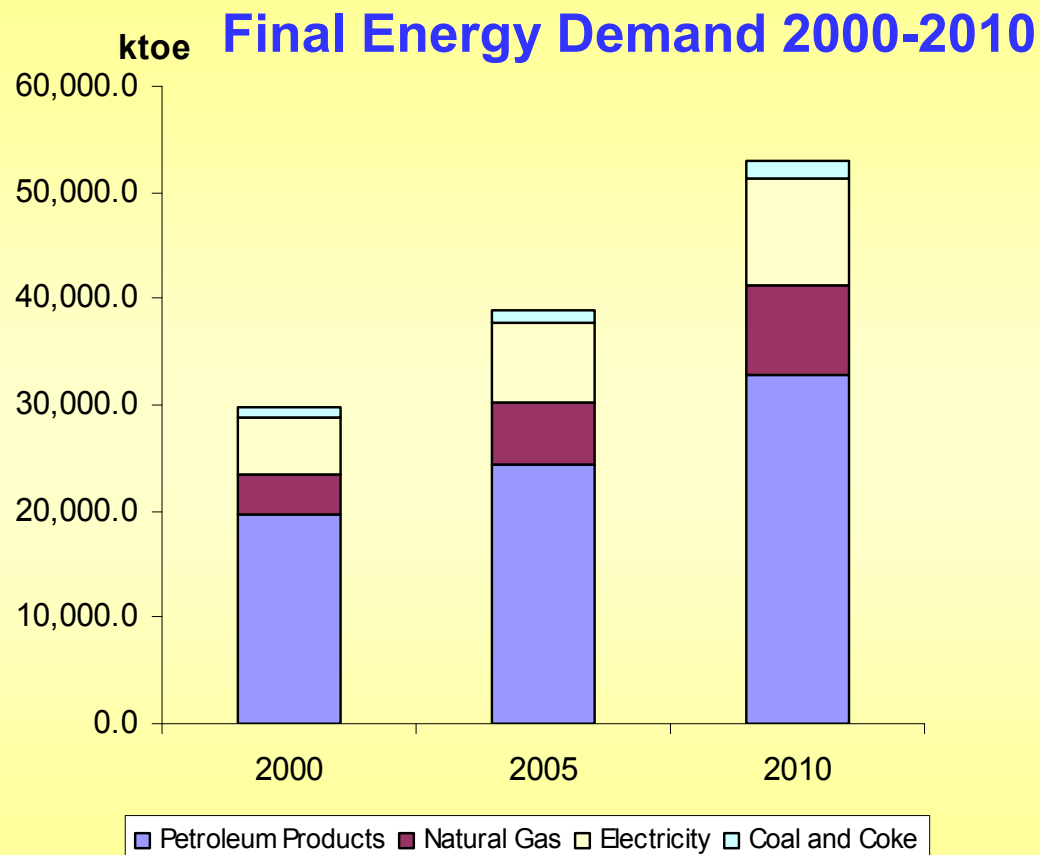
Energy Efficiency & Conservation Goals and Action Plan of Malaysia

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**Tokyo, Japan
18-20 June 2007**



Malaysia Final Energy Demand



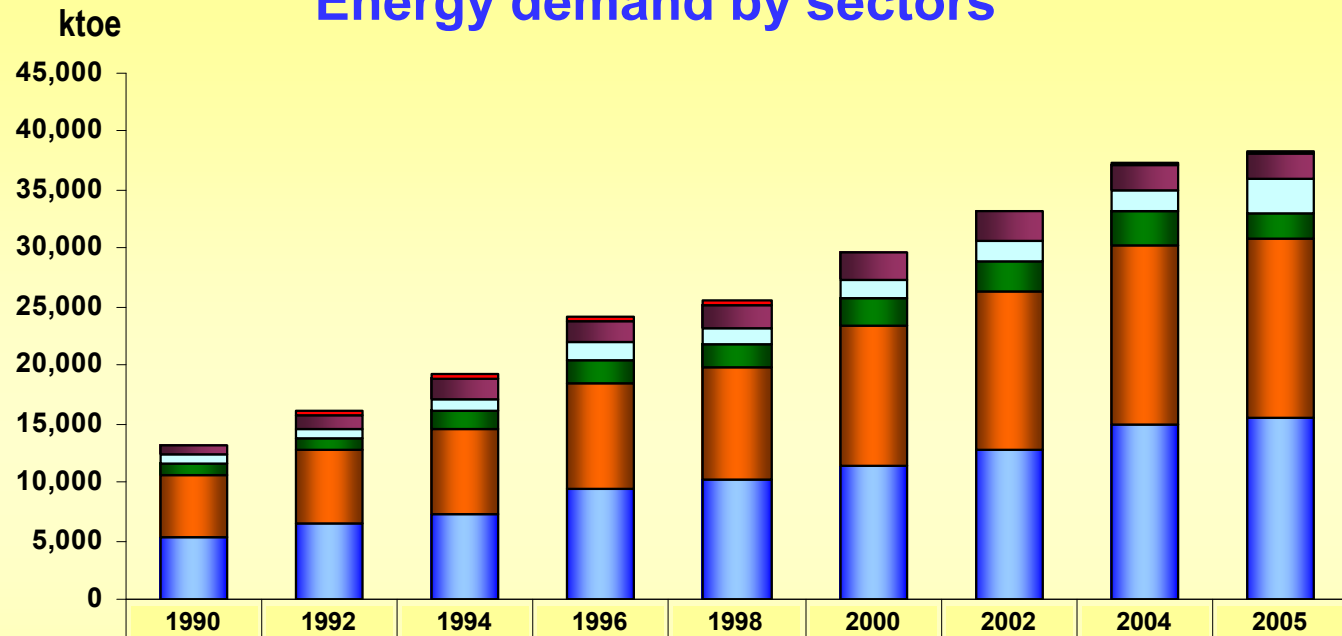
Average Annual Growth Rate (%)

| Source | 8MP | 9MP |
|--------------------|------------|------------|
| Petroleum Products | 4.5 | 6.1 |
| Natural Gas | 8.8 | 7.3 |
| Electricity | 7.1 | 6.3 |
| Coal and Coke | 4.6 | 7.6 |
| Total | 5.6 | 6.3 |

Source: Ninth Malaysia Plan, 2006-2010, The Economic Planning Unit

Malaysia Energy Demand

Energy demand by sectors



| | 1990 | 1992 | 1994 | 1996 | 1998 | 2000 | 2002 | 2004 | 2005 |
|--------------------------------|-------|-------|-------|-------|--------|--------|--------|--------|--------|
| ■ Agriculture | 0 | 391 | 422 | 472 | 307 | 104 | 96 | 87 | 101 |
| ■ Non-Energy (Petroleum & Gas) | 908 | 1,222 | 1,817 | 1,744 | 2,023 | 2,250 | 2,511 | 2,183 | 2,173 |
| □ Commercial | 658 | 756 | 1,001 | 1,423 | 1,326 | 1,547 | 1,755 | 1,902 | 2,951 |
| ■ Residential | 988 | 1,135 | 1,501 | 2,134 | 1,988 | 2,321 | 2,632 | 2,852 | 2,183 |
| ■ Transport | 5,387 | 6,226 | 7,262 | 8,951 | 9,793 | 12,071 | 13,442 | 15,385 | 15,340 |
| ■ Industrial | 5,276 | 6,455 | 7,283 | 9,433 | 10,121 | 11,406 | 12,854 | 14,914 | 15,536 |

Source: National Energy Balance 2005, Ministry of Energy, Water and Communciations

Malaysia's Energy Policies

1. Petroleum Development Act (1974)

Entrusts PETRONAS with the exclusive rights of ownership, exploration and production of oil & gas resources

2. National Petroleum Policy (1975)

Regulates the oil and gas industry

3. General Energy Policy (1979)

a) Supply Objective

b) Utilization Objective

c) Environmental Objective

4. Four-fuel Diversification Policy (1981)

To ensure reliability and security of fuel supply and to reduce the dependence on oil in energy consumption esp. in the power sector

- ***Eighth Malaysia Plan (2001-2005)***
- ***Four-fuel diversification policy is expanded to include renewable energy as fifth fuel to supplement energy supply from conventional energy resources.***

- 1) **Focus on EE initiatives in industrial and commercial sectors**
 - ❑ EE measures & improvements in plants, equipment & processes
 - ❑ Encourage the use of High Efficient Motors
 - ❑ Use more EE lightings & air-conditioning systems
 - ❑ Efficient Management of Electrical Energy Regulation
 - ❑ Amendment of UBBL to include MS:1525
 - ❑ Labelling of electrical appliances

EE&C - 9th MP (cont'd)

2) Awareness on EE to be initiated

- ❑ EE&RE courses in higher learning institutions
- ❑ Special courses for professionals and ESCOs in energy-related fields

3) Promote greater EE in government buildings

- ❑ Energy audits to further improve EE

4) Further improvement of financial and fiscal incentives



EE&C – 9th MP Target

- Expected 700 MW capacity reduction of electricity generation
- To reduce energy elasticity from 1.24 (8th MP) to 1.05 (9th MP)

- **On-going activities:**

- Energy Audits in Industries
- Energy Audits in Govt & Commercial Buildings
- EE Campaign for industrial Sectors
(HEM, boilers, chillers, CFL lighting)



- **Future activities**

- Buildings & Industrial EE Award
- EE Rating for Buildings
- Encourage Combined Heat & Power



Source: National Energy Efficiency Programmes (ST)

EE&C INITIATIVES

✓ Preparation of Legislative Framework

- Final Draft of Efficient Management of Electrical Energy Regulations
- Inclusion of EE elements in Uniform Building By-Laws (UBBL)- MS 1525
- Guidelines for EE Electrical Equipments drafted

✓ Fiscal Incentives (2001-2010)

- Pioneer Status, Investment Tax Allowance, Import Duty & Sales Tax Exemption

EE&C in BUILDING SECTOR

- Efficient building demonstration
 - Ministry of Energy Water and Communication
 - Pusat Tenaga Malaysia
 - Energy Commission
- Government green procurement
- Formation of Malaysia Green Building Council



EE&C in BUILDING SECTOR

- Energy Audit in Government Buildings (EAGB)
 - Identified another 10 highest consumers in government buildings (hospitals, offices etc)
 - Development of Energy Management guidelines
 - Trainings on Energy Management to government facility operators/managers



Thank You



Our Function :
PTM is the agent for public & private energy sectors

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Malaysia One Stop Energy Centre

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Energy Efficiency
Renewable Energy
Clean Development Mechanism
Energy Statistics
AAIBE Projects
PTM Building
Regularly updated information on energy
A well equipped resource centre
In-house publications
A complete ESCOs directory

Malaysia Energy Database Information System

Energy Audit Equipment for rental

Weekly Info Energy

- Maesco sokong usaha Kerajaan jimat tenaga
- Palm oil to be used to power car engines, generators
- Harga minyak tidak boleh terus dilindungi
- Ekonomi diperkasa
- Biofuel station in the pipeline
- Biofuel Startegy
- Biofuel policy: a boon to palm oil industry: Sabri
- Call to solve biofuel tamir issue first

BiOGEN
Building Integrated Photovoltaic
Regional Projects

PTM Membership Updates
Currently we have a total of 102 Members:
60 Corporate Members
42 Individual Members
List of PTM Members
Why become a member?
Download registration form
Corporate
Individual

Highlights
Download now ICRA Paper & Newsletters

Upcoming Events

- National Convention for Energy Professional 2005: Achieving Sustainable Development Through Fossil Fuel Conservation**
Venue: Nirvana Ballroom 1, Crowne Plaza Mutiara Hotel
Date: 15th September 2005
- MBIPV - Building Integrated Photovoltaic (BIPV): Architecture, Engineering & Standards**
Venue: Hilton Kuala Lumpur
Date: 12th September 2005 (1day seminar)
To participate please download this brochure...
- MBIPV - Building Integrated Photovoltaic (BIPV): Policy & Financial Frameworks Promoting Sustainable Photovoltaic (PV) Markets**
Venue: Hilton Kuala Lumpur

12:55 AM Monday 5th September 2005

- New PTM Building (Zero Energy Office)**
- Malaysia Industrial Energy Efficiency Improvement Project (MIEEIP)**
- Biomass Generation & Co-generation in Palm Oil Mill in Malaysia (Biogen)**
- Malaysia Building Integrated Photovoltaic (BIPV) Technology Application Project**

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EE&C IN INDUSTRIAL SECTOR

Malaysia Industrial Energy Efficiency Improvement Project (MIEEIP)

- A 4-Year Programme costing RM79 mil; funded by GOM/UNDP/Private Sector to enhance EE in industries;
- E-Benchmarking, energy audits, demonstration and promotion in:
 - 8 Intensive industries (Cement, Ceramics, Food, Glass, Iron & Steel, Pulp & Paper, Rubber, Wood);
 - Additional 3 industries (oleo-chemical, plastic & textile)
- ESCO development, EE equipment manufacturers assistant, Motor rating programme, Boiler best practice program



10% reduction in:

Energy Consumption

Energy Intensity

GHG emissions



Heater furnace



Sawdust conveyor /inlet



EE&C INITIATIVES

- Rating
 - Electrical Motor
- Labelling
 - Energy rating of refrigerators
 - Home Air Conditioning
- Improvement of Equipment Manufacturing
 - Pumps
 - Fan and blowers
 - Industrial motors
- Campaign
 - High Efficiency Motor (HEM)
 - Operational Best Practices
 - Awareness



EE&C IN INDUSTRIAL SECTOR

Energy Efficiency and Conservation Guidelines Project for Malaysian Industries

- To develop useful and practical energy efficiency and conservation guidelines for Malaysian industries.
- Electrical equipment (completed Aug 2007)
 - Transformers
 - Motors
 - Chillers
 - Cooling towers
 - Fans and blowers
 - Lighting
 - Pumps
 - Air compressors
- Thermal equipment (Next Phase)

