

TRAINING AND DIALOGUE PROGRAMS OF JICA

ENERGY POLICY

COUNTRY PRESENTATION: MALAYSIA



May 2011

Outline

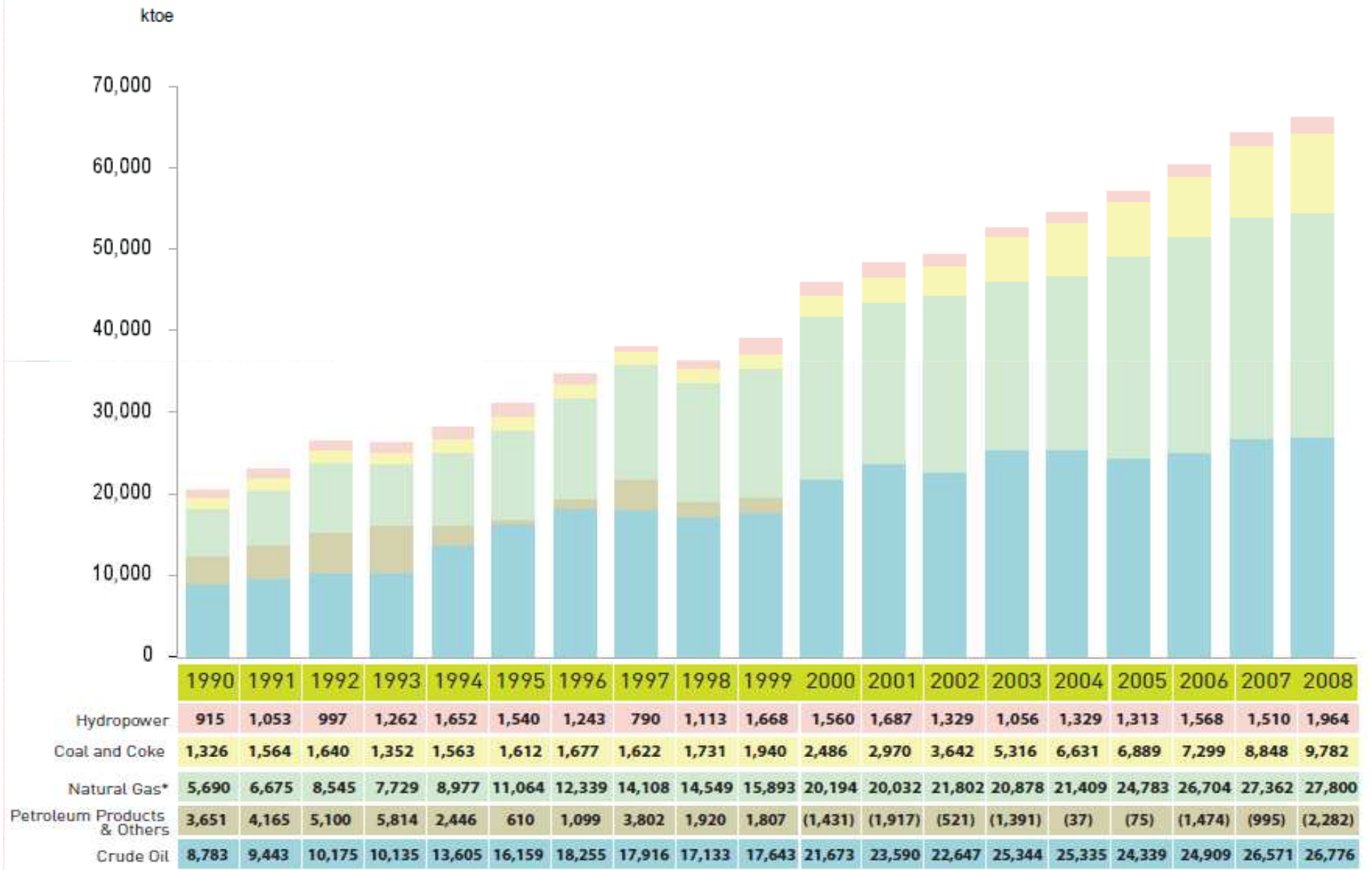
- 1 Introduction : Key Data of Malaysia
- 2 Energy Policies
- 3 Electricity Sector in Malaysia
- 4 Challenges in Meeting Future Energy Demand
- 5 Moving Forward: Fuel Management
- 6 Subject Interest
- 7 Conclusion

Malaysia's Key Indicators

Year	2010
Population	28.9 million
GDP (PPP)	USD219 billion
GDP Growth	7.2%
Per capita income	USD8,100
Area	329,847 sq km
Energy Resources (2008)	
Oil	5.4 bbl
Gas	88.01 Tscf
Coal	1.938 bil ton
Hydro	23 GW



Malaysia's Energy Profile



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Energy Policies

Malaysia's Energy Framework

National Petroleum Policy (1975)

National Energy Policy (1979)

National Depletion Policy (1980)

The Four-Fuel/Diversification Policy (1981)

The Five-Fuel Policy (2001)

Energy Policies

National Petroleum Policy (1975)

Efficient utilization of petroleum resources

Ensuring the nation exercises **majority control** in the management and operation of the industry

National Energy Policy (1979)

Supply Objective: Ensure **adequate, secure and cost-effective** energy supply.

Utilization Objective: Promote **efficient utilization of energy and eliminate wasteful and non-productive** usage

Environmental Objective : Minimize **negative impacts** to the environment.

Energy Policies

National Depletion Policy (1980)

Formulated to **prolong the life span** of the nation's oil and gas reserves

Four-fuel / Diversification Policy (1981)

Aimed at ensuring **reliability and security** of supply through **diversification** of fuel (oil, gas, hydro and coal)

Five-fuel Policy (2001)

Encourage the **utilization** of **renewable resources** such as biomass, solar, mini hydro etc

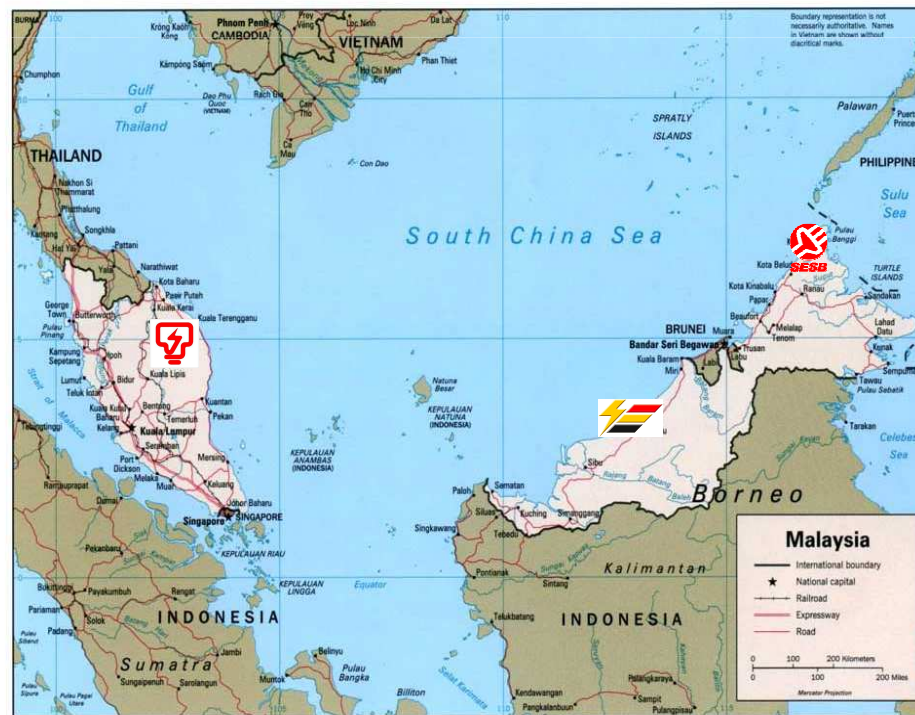
Efficient utilization of energy

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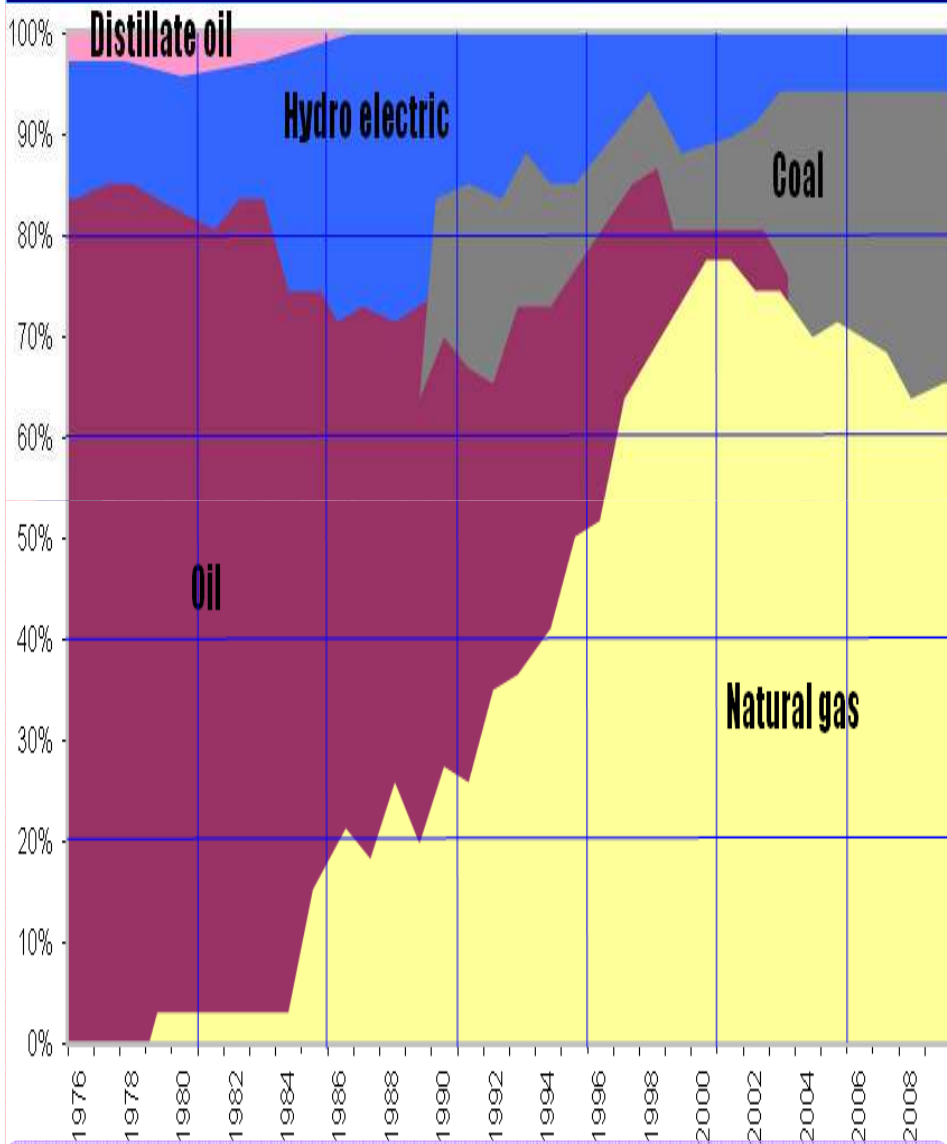
Snapshot of Malaysia's Electricity Profile

	Peninsular Malaysia	Sabah	Sarawak
Installed Capacity (MW)	21,873	1,167	1,343
Peak Demand (MW)	15,072	773	1,067
Consumption (GWh) 2009	83,411	3,855	4,540

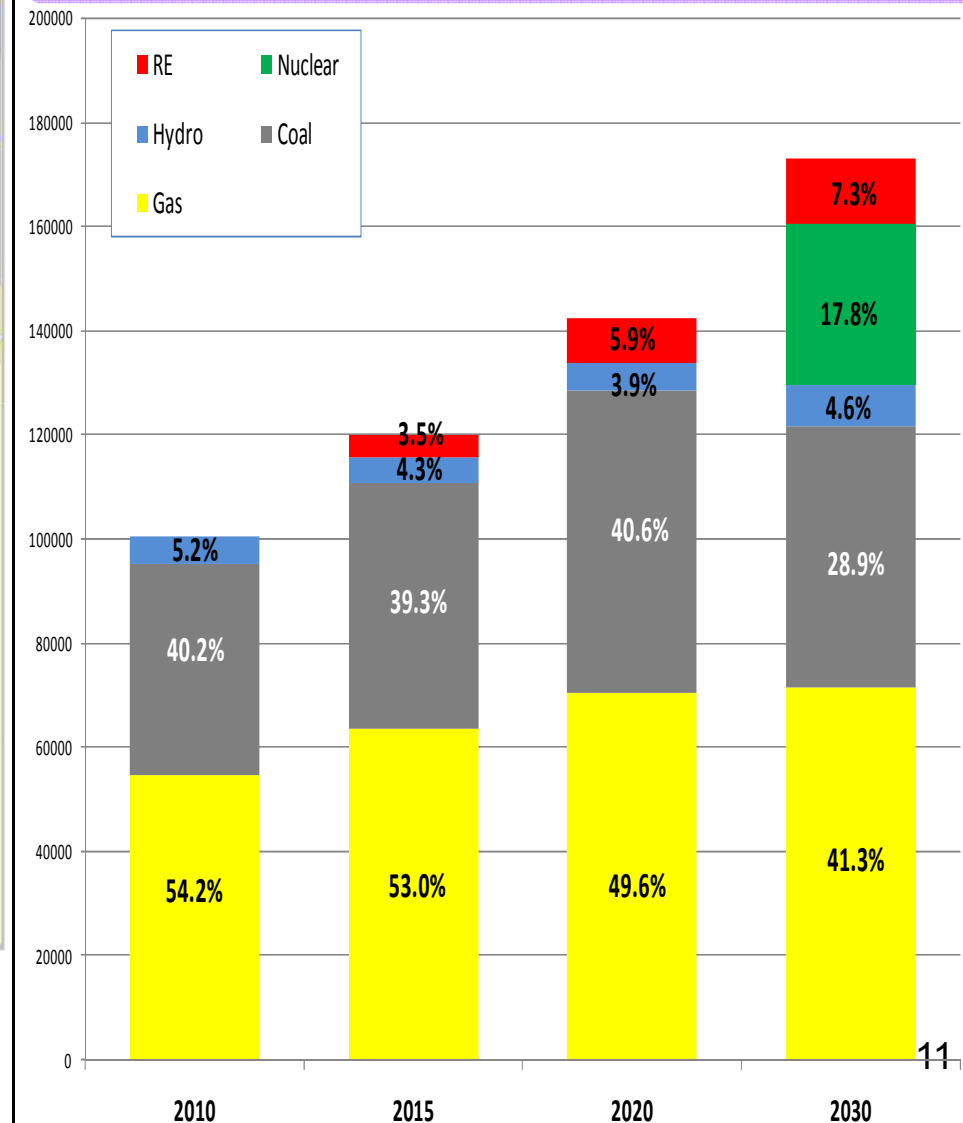




Snapshot of Malaysia's Electricity Profile



Projected Fuel Mix for Pen. Malaysia



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Challenges

Price Volatility

Depleting Resources

Optimizing Resources

Subsidies

Industry Structure

Realized regional cooperation

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Moving Forward

Gas

- Prioritise the indigenous gas sources for local consumption

Coal

- Secured long term contract with supplier
- Multiple coal supplier countries

Hydro

- Developed feasible and viable hydro projects
- Replace heavy dependent gas fired plant esp. as peaking plant

Renewable Energy

- Introduction of Feed-in Tariff by 3rd Quarter 2011

Energy Efficiency

- Developing a master plan for the whole nation

Regional Cooperation

To Realize ASEAN Power Grid (APG)

- Establish Electricity Open Market among ASEAN countries for resource optimization

To Realize Trans-ASEAN Gas Pipeline (TAGP)

- Gas exports among ASEAN countries

Close cooperation among APEC members

- Biofuels
- Regional Energy Market Study

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Subject Interest

Coal Power Plant

- Technology on Plant's Efficiency such as supercritical and ultra super critical
- Better Efficiency helps in mitigating CO² emissions and protect environment

Electricity Market

- Two basic types of market: Vertical (mostly monopoly) and Horizontal (mostly multiple companies)
- Benefit analysis on both type : economic scale vs. competitive

Nuclear Power

- Awareness and acceptance
- Malaysia is still studying nuclear power as an option

Smart Grid

- Implementation, cost etc.
- Malaysia have some pilot projects on smart grid

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Conclusion

- 1 Malaysia's effort on fuel diversification started from 1980s. However, fuel diversification is a dynamic process
- 2 Diversification of fuel mix is important to enhance energy security
- 3 Volatility of energy prices and meeting future demand are two major challenges that every country are facing



THANK YOU

