



PHILIPPINE COUNTRY REPORT

Arnel C. Antonio – Dept. of Energy - Philippines



Current Energy Policy and Measures

1. To ensure the continuous, adequate and economic supply of energy with the end view of ultimately achieving self-reliance
2. Intensive exploration, production, management, and development of the country's indigenous energy resources
3. Judicious conservation, renewal and efficient utilization of energy to keep pace with the country's growth and economic development



Current Energy Policy and Measures

4. Consideration of the active participation of the private sector in the various areas of energy resource development.
5. To rationalize, integrate and coordinate the various programs of the Government towards energy self-sufficiency and enhanced productivity in power and energy without sacrificing ecological concerns.



Energy Independence Agenda

(2007 Philippine Energy Plan)

1. 60 % energy self-sufficiency beyond 2010

- Increase resources of indigenous fossil fuels
- Aggressively develop renewable energy such as biomass, solar, wind, and ocean resources
- Increase use of alternative fuels
- Strengthen energy efficiency and conservation program



PUSHING FOR ENERGY INDEPENDENCE

Increasing Indigenous Energy Resource Production

Oil and Gas

- Entry of Exxon-Mobil (SC-56) in Sulu Sea exploration and Blade Petroleum in Cadlao Block, NW Palawan
- 6 Petroleum Service Contracts (SCs) were signed in 2008 bringing in investments amounting to US\$ 88.45 million for their first 7 years
- Actual production by end 2008:
 - ✓ Oil – 964 thousand barrels
 - ✓ Gas - 137 million standard cubic feet
 - ✓ Condensate – 5.6 million barrels

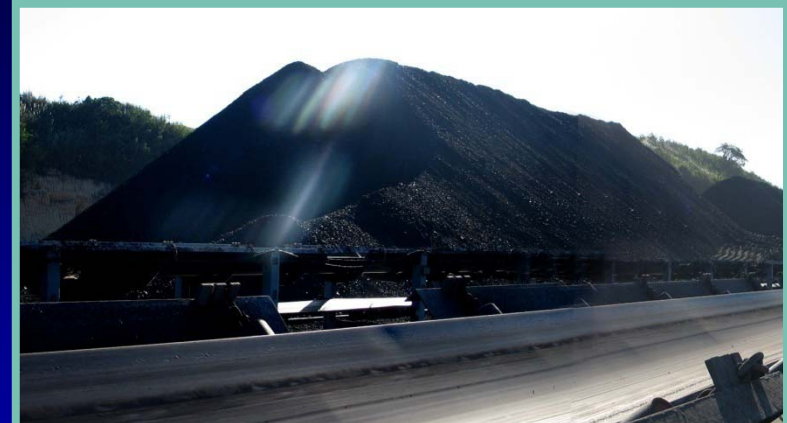


PUSHING FOR ENERGY INDEPENDENCE

Increasing Indigenous Energy Resource Production

Coal

- 4 Coal Operating Contracts (COCs) were signed
- 10 Small-Scale Coal Mining Permits (SSCMP) awarded mostly in Zamboanga where local high quality coals come from
- 4 COCs converted from exploration to development and production
- Total local production is 2.98 MMT, 86 % of which came from Semirara coalfield



PUSHING FOR ENERGY INDEPENDENCE

Accelerating The Renewable and Alternative Fuels Program



Geothermal

- The Philippines is the 2nd largest geothermal producer in the world
- 4 Geothermal Service Contracts (GSCs) were signed during the year with investments amounting to US\$26 million for the first 5 years



PUSHING FOR ENERGY INDEPENDENCE

Accelerating the Renewable and Alternative Fuels Program

Wind Energy

- Biggest wind power producer in Southeast Asia
 - ✓ 25-MW wind turbines in Bangui, Ilocos Norte
 - ✓ Recent capacity addition of 8 MW brings the total capacity to 33 MW



PUSHING FOR ENERGY INDEPENDENCE

Accelerating the Renewable and Alternative Fuels Program

Solar Energy

- Largest solar PV power plant in Cagayan de Oro
- Solar wafer manufacturing capacity raised at 214 MW
- 3,000 households in 90 barangays under the BEP
- 7,400 units of PV Solar Home Systems (SHS) and 1,233 units of communal solar PV packages installed under the DOE-DAR SPOTS Project
- 42,531 total solar PV installation in the country



PUSHING FOR ENERGY INDEPENDENCE

Accelerating the Renewable and Alternative Fuels Program

Hydro

- Issued 5 mini-hydro operating contracts
- Issued 28 Reconnaissance Permits with a total capacity of 83.375 MW
- Monitored the operations of 35 existing MHPs
- On-going construction of 4 mini-hydro projects



Biomass

- 1 MW La Suerte Cogen Plant in San Manuel, Isabela
- Payatas Biogas Emission Reduction Project
 - ✓ *200-kw Biogas-Fueled Generator*
- 7 biomass projects endorsed for BOI registration



PUSHING FOR ENERGY INDEPENDENCE

Accelerating the Renewable and Alternative Fuels Program

Implementation of Biofuels Act of 2006
(R.A. 9367)

BIODIESEL

- Actual production of 91 million liters (CME)
- 1% biodiesel blend sold in all gasoline stations

BIOETHANOL

- Actual production of 611,235 liters
- Voluntary 10% ethanol blend in 105 Seaoil stations nationwide, 55 Shell and 14 Petron stations in greater Manila area
- 9 projects in pipeline with estimated total production capacity of 346 million liters



PUSHING FOR ENERGY INDEPENDENCE

Accelerating the Renewable and Alternative Fuels Program

Renewable Energy Act of 2008

The enactment of R.A. 9513, the act promoting the development, utilization and commercialization of renewable energy resources. This law is made to accelerate the exploration and development of renewable energy resources and establish the necessary infrastructure and mechanism to carry out the mandate provided in the law.



PUSHING FOR ENERGY INDEPENDENCE

Accelerating the Renewable and Alternative Fuels Program

Auto-LPG

- 13,886 Auto-LPG taxis converted nationwide
- 165 Auto-LPG dispensing stations



CNG

- 15 CNG buses plying along Batangas-Laguna-Manila route (under NGVPPT)
- Inauguration of CNG Mother-Daughter stations in Batangas and Laguna



PUSHING FOR ENERGY INDEPENDENCE

Strengthening Energy Efficiency and Conservation Program



PROGRAM	FUEL DISPLACEMENT (MMLOE)
Energy Audits in Industrial and Commercial Establishments	2.00
Government Energy Management Program	11.07
Voluntary Agreements Program	65.18
TOTAL	78.25



Energy Independence Agenda

(2007 Philippine Energy Plan)

2. Globally competitive energy sector

- Establish a transparent privatization process
- Create an investment climate attractive to investors



IMPLEMENTING ENERGY SECTOR REFORMS

Privatization of NPC Assets and TransCo Concessionaire

- Privatized 68.75% of NPC generating assets from 48.9% in 2007
- Facilitated competitive rates to the industry through the multi-stakeholders dialogue
 - Reduction of P1.0294 per kWh for high load factor ecozone locators
 - Implemented rate reduction in four ecozones



IMPLEMENTING ENERGY SECTOR REFORMS

Implementation of the Downstream Oil Industry Deregulation Law

- Total of 861 players engaged in various activities
- Tight oil price movement monitoring resulting in moderated price increases
- Regular dialogues with concerned stakeholders
- Quality standards for products facilitating early introduction of E-10
- Initiatives against oil smuggling
 - Coordination with BOC on use of marker dye and import shipments



ENSURING ENVIRONMENTAL SUSTAINABILITY

Implementation of the Clean Air Act

- Creation of Framework and Action Plan on Climate Change
- Tri-media campaign
- Integration of climate change concepts in the curriculum
- Linkages with LGUs, civil society and other stakeholders thru dialogues, fora, etc.



ENSURING ENVIRONMENTAL SUSTAINABILITY

Long-term Energy Diversification

Nuclear Power Option

- DOE Task Force on the Nuclear Power Program under D.O. 2007-11-0012 on 05 November 2007
- International Atomic Energy Agency (IAEA) Mission in January 2008 to assess the viability of BNPP-1 rehabilitation as against putting up a new one



SECURING VITAL ENERGY INFRASTRUCTURE AND FACILITIES

- Formulated the National Plan on the Security of Energy Facilities
 - ❖ Oplan "Bantay Singaw"
 - *Confiscated 3,957 illegal LPG cylinders*
 - *Filed 35 criminal charges against dealers/owners of 10 against violators of energy laws and standards*
 - ❖ Oplan "Ligaw na Langis"
 - *Apprehended 13 tankers in Metro Manila and Bataan*
- Coordinated closely with DND-AFP for the security of on-going oil exploration areas particularly the Malampaya oil field
- Prevented the destruction of more power transmission lines in Mindanao by:
 - ❖ Enhancing stakeholders assistance in the community where transmission towers are located
 - ❖ Activated 2 special CAFU companies funded by TransCo and trained and managed by AFP



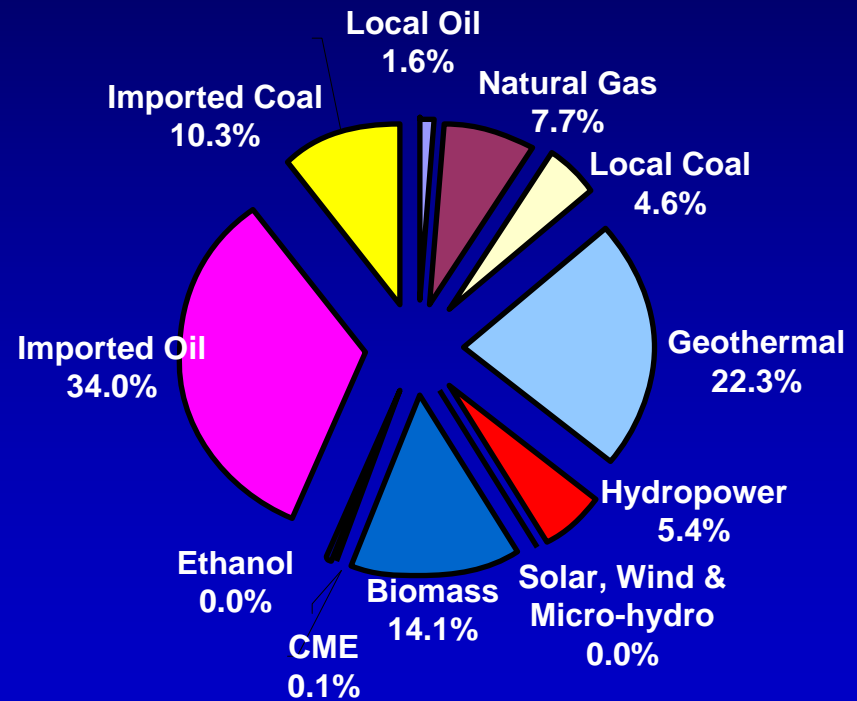
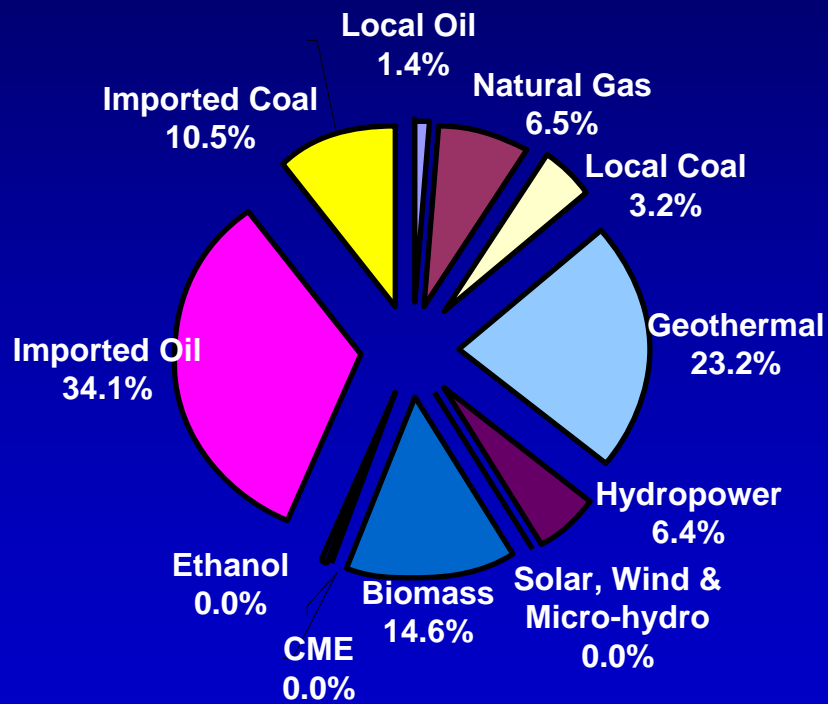
Energy Statistics

Self Sufficiency Level = 55.4%

Self Sufficiency Level = 55.7%

2006

2007



PRIMARY ENERGY MIX



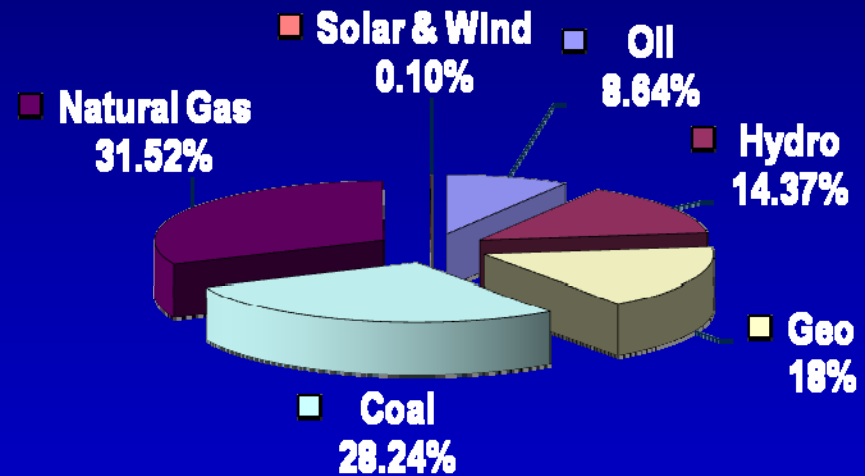
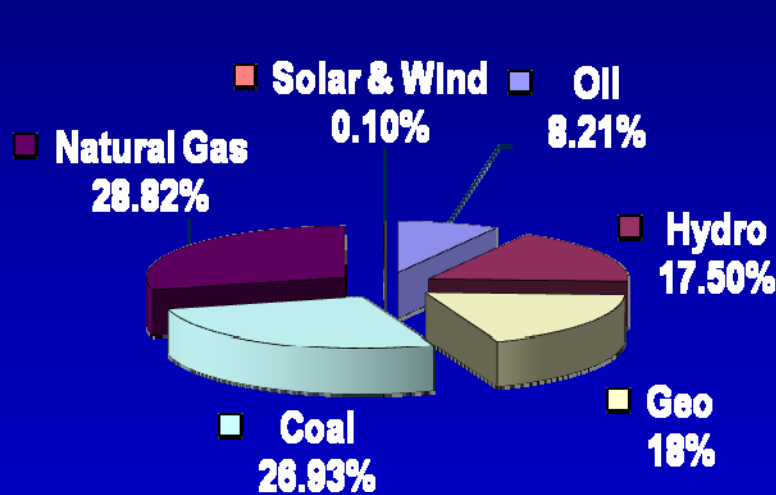
Energy Statistics

Total Generation = 56,784 GWh

Total Generation = 59,612 GWh

2006

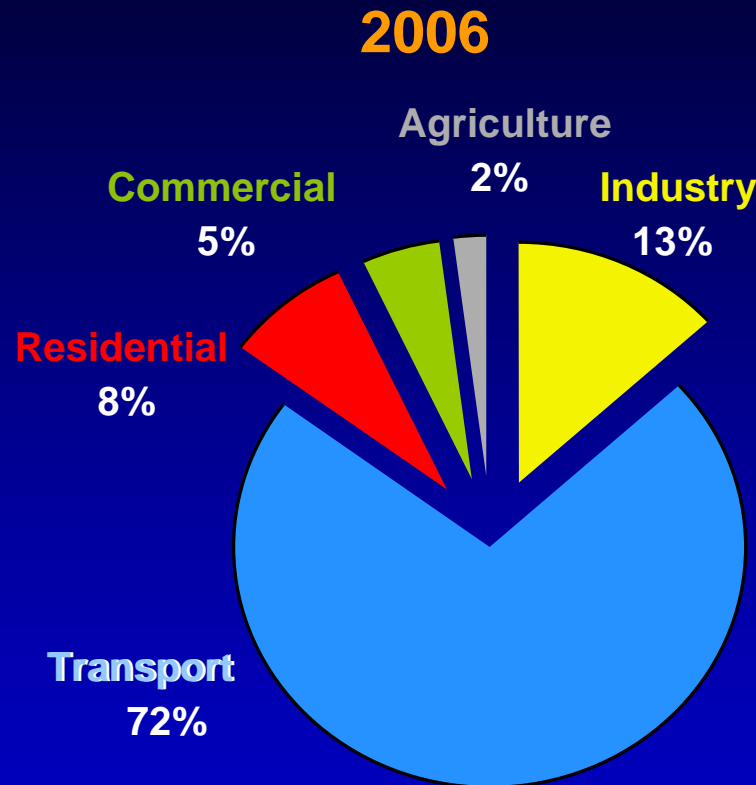
2007



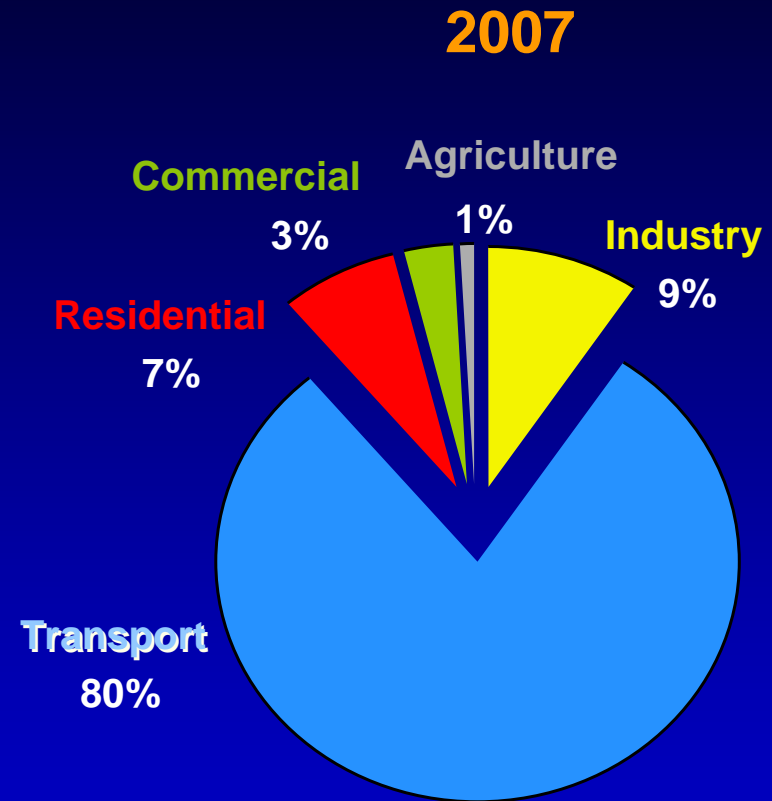
POWER GENERATION MIX



Energy Statistics



Total : 11.7 MTOE



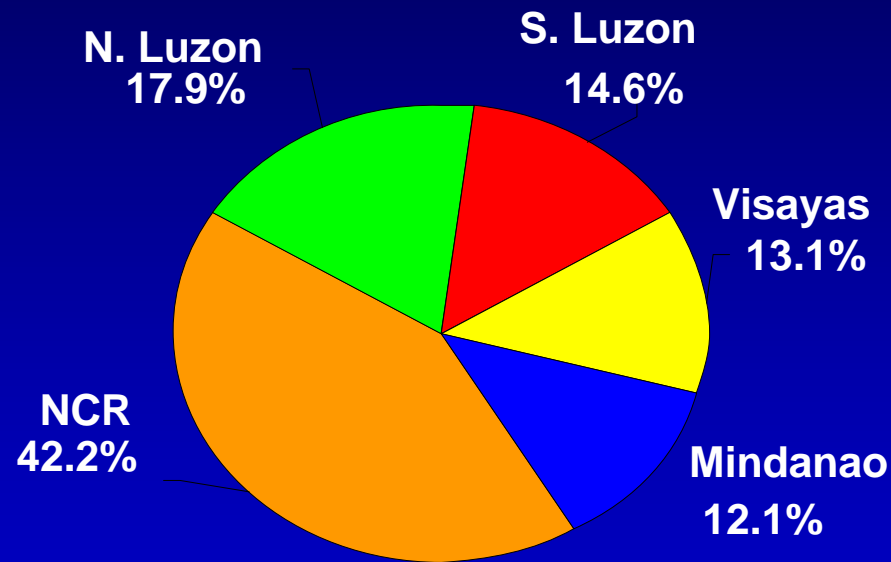
Total : 13.0 MTOE

SECTORAL CONSUMPTION OF OIL

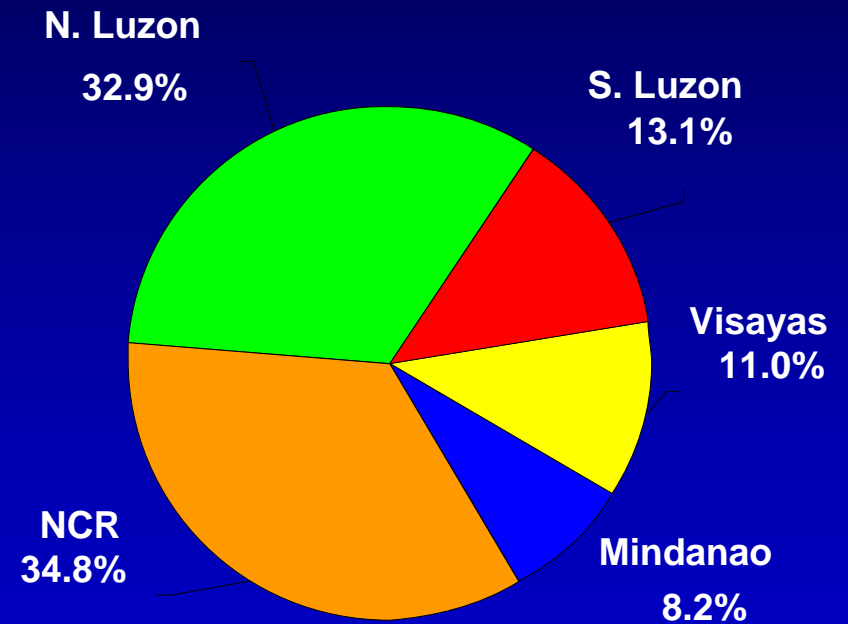


Energy Statistics

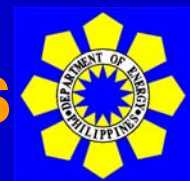
REGIONAL DEMAND SHARE (Total)



LPG SECTOR



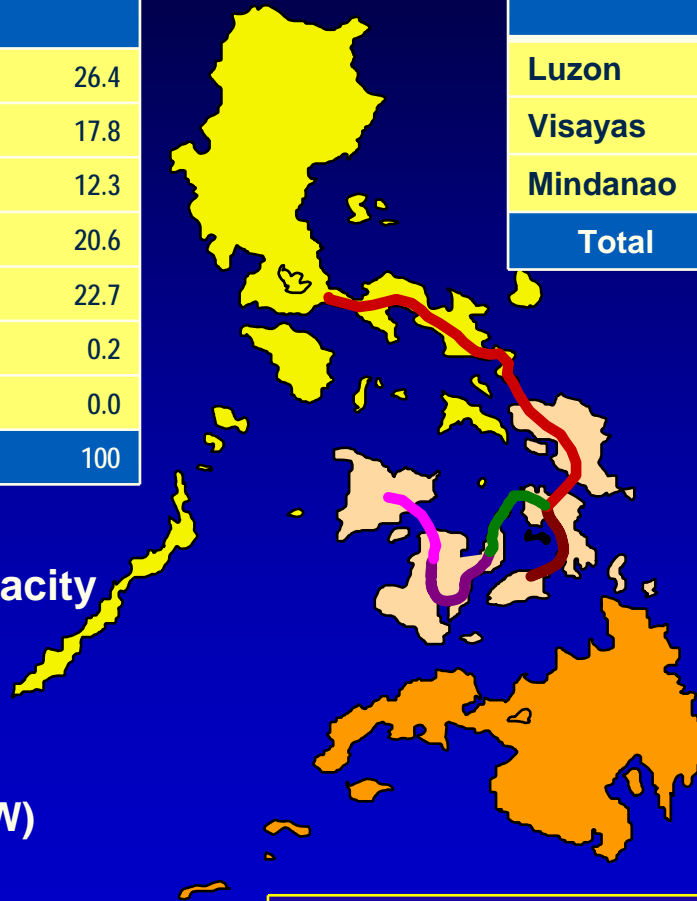
FY 2007 PETROLEUM PRODUCTS IN THE PHILIPPINES



Energy Statistics

PLANT	PHILIPPINES	
	Installed Capacity (MW)	% Share
Coal	4,213	26.4
Natural Gas	2,834	17.8
Geothermal	1,958	12.3
Hydro	3,289	20.6
Oil-Based	3,616	22.7
Wind	25	0.2
Solar	1	0.0
TOTAL	15,937	100

Grid	Installed Capacity (MW)	Dep. Capacity (MW)	Peak Demand (MW)
Luzon	12,172	10,029	6,643
Visayas	1,832	1,475	1,102
Mindanao	1,933	1,682	1,241
Total	15,937	13,186	8,987



Interconnection Line Capacity

- Leyte-Luzon (440 MW)
- Leyte-Cebu (400 MW)
- Cebu-Negros (100 MW)
- Negros – Panay (100 MW)
- Leyte-Bohol (100 MW)

Note:

Actual 2007 Peak Demand per TransCo S.O.

Installed and Dependable Capacity based on NPC/Non-NPC submissions to DOE

Dependable Capacity based on 2007 Plant Operation of NPC/Non-NPC plant

EXISTING FACILITIES	
Substation Capacity	24,489 MVA
Transmission Line Length	20,236 circuit kilometers

INSTITUTIONALIZING SOCIAL MOBILIZATION IN ALL ENERGY INITIATIVES

- ✓ 2008 Philippine Energy Summit
- ✓ SWITCH Movement



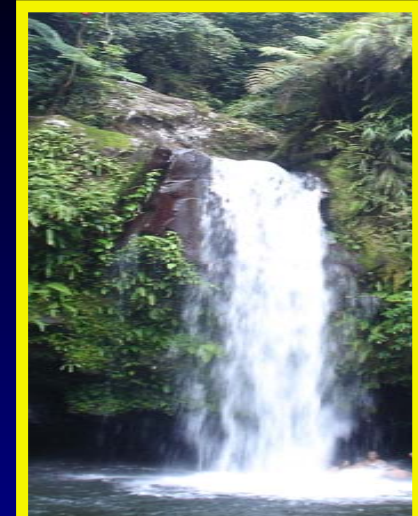
EXPLORING OPTIONS FOR REGIONALIZATION

- On-going public consultations validate the need for DOE regional presence



PROGRAMS FOR 2009

- ❖ *Intensify development and utilization of renewable and environment-friendly alternative energy resources/technologies*
 - ✓ Support the programs / intent of the Renewable Energy Law
 - ✓ Accelerate implementation of the Biofuels Law and Natural Gas Vehicle Program for Public Transport
 - ✓ Create a one-stop shop for processing sustainable energy projects



PROGRAMS FOR 2009

- ❖ *Accelerate exploration and development of oil, gas, coal and geothermal resources*
 - ✓ Intensify search for oil, gas, coal and geothermal resources through the Philippine Energy Contracting Rounds (PECRs) and in-house exploration activities



PROGRAMS FOR 2009

❖ *Market development of natural gas industry*

- ✓ Intensify market development for natural gas
- ✓ Catalyze the development of natural gas strategic infrastructures
- ✓ IEC activities to promote the utilization of natural gas in all demand sectors
- ✓ Forge stronger collaboration with all stakeholders on natural gas



PROGRAMS FOR 2009

❖ *Attain Nationwide Electrification*

- ✓ Accelerate Expanded Rural Electrification Program
 - Achieve 100% barangay electrification by 2009
 - Energize remaining 1,275 unelectrified barangays
 - Intensify household electrification
- ✓ Pursue Private Sector Participation in Rural and Missionary Areas
 - Continue offer of NPC-SPUG areas to New Private Power Providers
 - Operationalize Public-Private Partnership Programs (e.g., QTP Program)



PROGRAMS FOR 2009

❖ *Maintain a competitive energy investment climate*

- ✓ Ensure sufficient, stable and accessible energy supply meeting quality and safety standards
- ✓ Promote investments in efficient and economic modes of energy marketing and distribution
- ✓ Encourage greater private sector investments through market-based incentives

❖ *Nuclear Power as a long-term energy option*

- ✓ Enhance human resource capacity building
- ✓ Study options for new nuclear power plant or rehabilitation of BNPP
- ✓ Conduct of public perception survey



PROGRAMS FOR 2009

❖ *Reduce Energy Costs*

- ✓ Pursue full privatization of the remaining NPC assets and contracted energy outputs
- ✓ Accelerate implementation of open access and retail competition; to start in economic zones
- ✓ Facilitate industry competitiveness and promote consumer education and protection
- ✓ Formulate policy on Demand Side Management (DSM)
- ✓ Intensify public sector involvement in reform process
- ✓ Enforce energy standards and regulations
- ✓ Encourage greater competition
- ✓ Accelerate increase of bioethanol blend



PROGRAMS FOR 2009

Institutionalize social mobilization and monitoring mechanism

- ✓ Enhance IEC on energy sector plans, programs and developments
- ✓ Strengthen linkages with critical sectors



OUR WAY FORWARD

- Ensure comprehensive, integrated, responsive and consistent energy policy
- Identify and achieve the optimal energy mix
- Promote green and clean energy
- Continue implementation of social mobilization and monitoring mechanism
- Establish R & D program for energy
- Develop human resource capacity



Challenges in Energy Policy Formulation

1. Conflicting laws and policies, e.g. renewable energy law promotes the exploration of geothermal and hydro resources, while indigenous people rights law protects the ancestral lands of these people. Unfortunately, potential geothermal and hydro sources are located in ancestral areas.
2. **Investors lack of confidence to invest in energy business due to excessive regulatory requirements.**
3. Lack of political will in policy implementation.
4. **Basically lack of necessary expertise in the field of energy, e.g., very few nuclear engineers and energy engineers.**
5. Manpower shortage in the field of energy. Most Filipino engineers were employed abroad in pursuit of better financial considerations.



Challenges in Energy Policy Formulation

6. Poor education in the area of energy conservation.
7. **Shift in priority initiatives due to changes in political management**
8. Conflicting demands/interests of energy stakeholders
9. **Difficulties in energy data gathering (for policy studies)**
due to lack of manpower and budget (insufficient energy database)
10. Inadequate expertise on policy formulation (need to increase level of technical confidence in using energy modeling tools)



Policy Study Preference

1. Public Policy to Institutionalized the Development of More Reliable Data on Energy Consumption
2. Nuclear Option
3. Energy Efficiency and Conservation
4. Policy on Indigenous Coal



Thank you for listening.

Contact: report@tky.ieej.or.jp

