

Meeting the Energy Needs of Lagos State

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Secretary of Energy
Republic of the Philippines

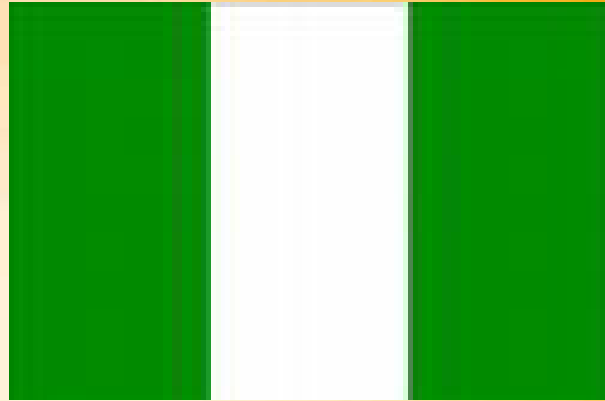
4th Lagos Economic Summit
Lagos, Nigeria
24 April 2008



“Lagosians...have great expectation that the state stands at the threshold of a new era of peace, progress, prosperity and security largely through the radical modernization of our infrastructure. The present administration has adopted, as a major policy thrust, the instrument of public private partnerships and exploring its opportunities towards the delivery of social goods and services to the people of Lagos State.”



- *Governor Babatunde Fashola*





	 Nigeria	 Philippines
Land Area	923,768 sq km	300,000 sq. km
Population (2008 proj.)	138,283,240	92,681,453
Median age	18.7	22.5
GDP growth (2007 est.)	6.3%	7.3%
Electricity production	22.53 billion kWh (2005)	53.67 billion kWh
Electricity consumption	16.88 billion kWh (2005)	46.86 billion kWh

Comparative data from The World Factbook, compiled by the Central Intelligence Agency of the United States

	 Nigeria	 Philippines
Oil production	2.44 million bbl/day (2006 est.)	24,310 bbl/day (2005 est.)
Oil consumption	302,000 bbl/day (2006 est.)	340,000 bbl/day (2005 est.)
Oil exports	2.141 million bbl/day (2006)	34,900 bbl/day (2004)
Oil imports	167,900 bbl/day (2004)	353,700 bbl/day (2004)
Oil-proved reserves	35.88 billion bbl (1 Jan 2006 est.)	152 million bbl (31 Dec 2006 est.)

Comparative data from The World Factbook, compiled by the Central Intelligence Agency of the United States

	 Nigeria	 Philippines
Natural gas production	21.48 billion cu m (2005 est.)	2.781 billion cu m (2005 est.)
Natural gas consumption	9.936 billion cu m (2005 est.)	2.781 billion cu m (2005 est.)
Natural gas exports	11.55 billion cu m (2005 est.)	0
Natural gas-proved reserves	5.015 trillion cu m (1 Jan 2006 est.)	107.5 billion cu m (1 Jan 2006 est.)

Comparative data from The World Factbook, compiled by the Central Intelligence Agency of the United States

FIVE-POINT REFORM PACKAGE

**ECONOMIC
GROWTH AND
JOB CREATION**

**ANTI-
CORRUPTION
THROUGH GOOD
GOVERNMENT**

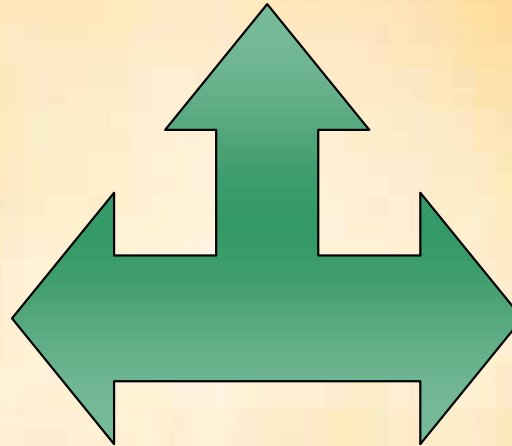
**ENERGY
INDEPENDENCE**

**SOCIAL JUSTICE
AND BASIC
NEEDS**

**EDUCATION AND
YOUTH
OPPORTUNITY**

ENERGY SECTOR AGENDA

- ◆ ENERGY INDEPENDENCE AND SAVINGS
- ◆ POWER MARKET REFORMS



ENERGY SECTOR GOALS

- ◆ 60% SELF-SUFFICIENCY LEVEL BY 2010
- ◆ FAIR AND REASONABLE ENERGY PRICES IN A COMPETITIVE ENVIRONMENT



Moving Towards Energy Independence

- ◆ Accelerate the exploration and development of indigenous oil and gas resources
- ◆ Aggressively develop renewable energy potentials
- ◆ Increase the use of alternative fuels
- ◆ Enhance energy efficiency and conservation programs
- ◆ Form strategic alliance with other countries



❖ *Accelerate exploration and development of geothermal, oil, gas and coal resources*



- ◆ **Intensify search for geothermal, oil, gas and coal resources through continued public bid rounds and improved service contracting schemes**
- ◆ **Promote and implement Philippine Energy Contracting Rounds (PECRs) and award service contracts**



❖ Accelerate exploration and development of geothermal, oil, gas and coal resources



- ◆ Advocate immediate passage of the Downstream Natural Gas Bill
- ◆ Pursue the development of strategic infrastructures
- ◆ Expand the utilization of natural gas in power, transport, industry, buildings and agriculture
- ◆ Establish the Philippine Natural Gas Institute





❖ *Aggressively develop renewable energy potentials*

- ◆ Pursue the immediate passage of the Renewable Energy Bill
- ◆ Promote application of environment-friendly energy technologies
- ◆ Create a one-stop-shop for processing sustainable energy projects



❖ *Increase the use of Alternative Fuels*

Accelerate implementation of the Bio-Fuels Law and Natural Gas Vehicle Program for Public Transport program



❖ *Enhance energy efficiency and conservation*

- ◆ **Continue to implement the National Energy Efficiency and Conservation Program (NEECP)**
- ◆ **Intensify campaign to switch from incandescent lamps to CFLs**
- ◆ **Develop Minimum Energy Performance Standards to phase out the least efficient lamps in the market by 2010**
- ◆ **Expand coverage of electrical light or appliance labeling in the Philippines**
- ◆ **Advocate for the immediate passage of the Energy Conservation Bill**



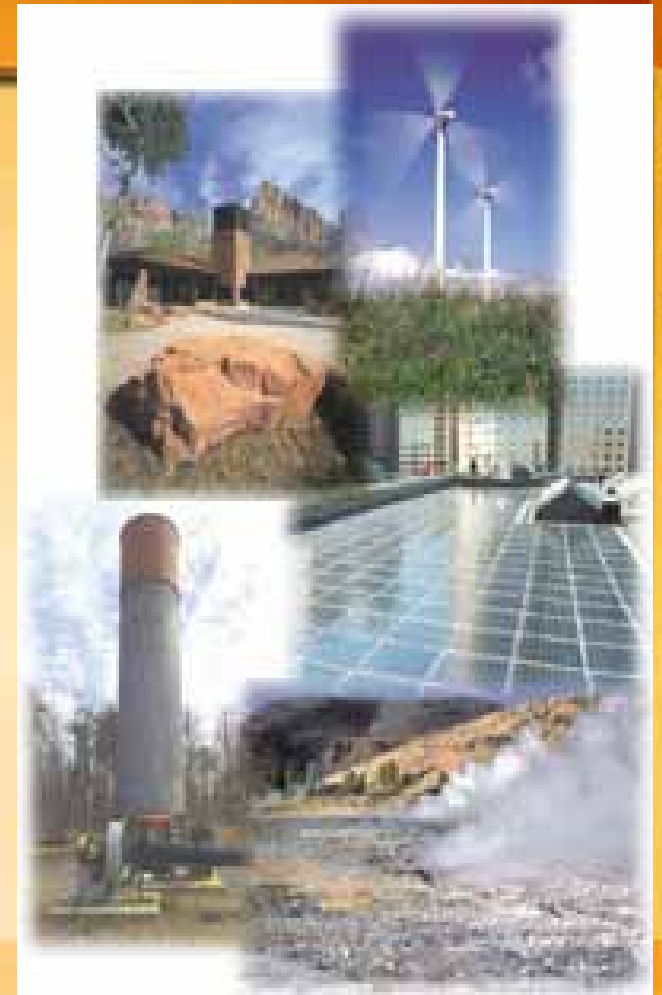
❖ ***Form strategic alliance with other countries***

Complement strengths, share experiences, exchange technologies



RENEWABLE ENERGY RESOURCES

- ◆ **Wind resources – over 10,000 km² with 76,600 MW of potential installed capacity**
- ◆ **Micro-hydro applications – potential capacity of at least 500 kW in Northern Luzon & Mindanao.**
- ◆ **Mini-hydro potential capacity of 1,784 MW from 888 sites**
- ◆ **Solar radiation nationwide – an annual potential average of 5.0 - 5.1 kWh/m²/day**
- ◆ **Ocean energy resource – potential capacity of about 170,000 MW**
- ◆ **Ricehull total potential of 277 MW**
- ◆ **Bagasse total potential of 236 MW**



RE Goals

- ◆ **Increase RE-based capacity by 100% within the next 10 years (100/10)**
- ◆ **Increase non-power contribution of RE to the energy mix by 10 MMBFOE in the next ten years**



Through RE Program, the Philippines aims to:

- ◆ Be the number one geothermal energy producer in the world (*no.2 in capacity and no. 1 in steam utilization*)
- ◆ Be the number one wind energy producer in South East Asia
- ◆ Double hydro capacity by 2013 (*additional 2,950 MW*)
- ◆ Expand contribution of biomass, solar and ocean energy by 131 MW



Where are we now?

RESOURCE	TARGET (MW)		ACCOMPLISHMENTS (MW)	% ACCOMPLISHED		REMAINING BALANCE (MW)
	2004-2013	2004-2007	2004-2007	2004-2013	2004-2007	
Hydro	2,950	881	796.00	26.98	90.35	2,154.00
Geothermal	1,200	120	104.60	8.72	87.17	1,095.40
Wind	417	105	25.20	6.04	24.00	391.80
Biomass	120	120	68.25	56.88	56.88	51.75
Solar	1	1	4.158	415.8	415.8	-3.16
Ocean	10	0	0	0	0	10.00
Total	4,698	1,227	998.21	21.25	81.35	3,699.79



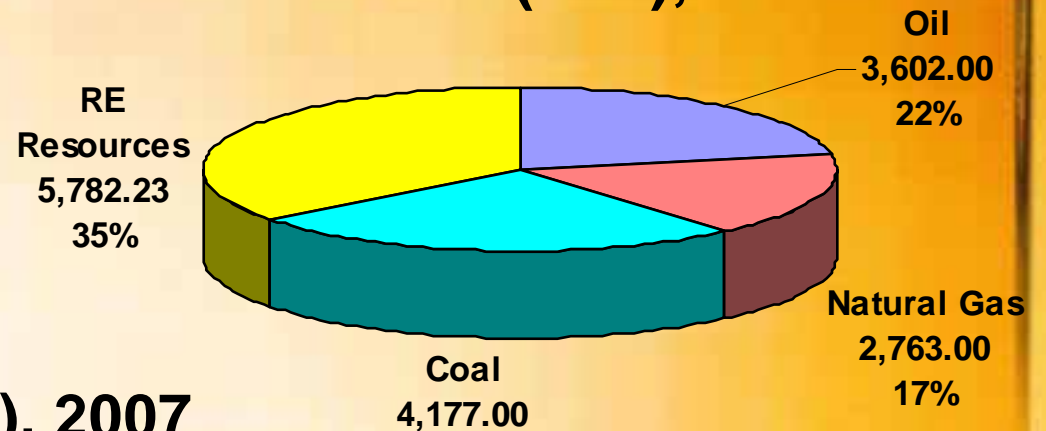
INSTALLED CAPACITY MIX, MW

RESOURCE	2004	2005	2006	2007
Oil	3,669.33	3,669.20	3,602.00	3,602.00
Natural Gas	2,767.54	2,763.00	2,763.00	2,763.00
Coal	3,964.74	3,967.00	4,177.00	4,177.00
RE Resources	5,240.02	5,273.15	5,713.98	5,782.23
Hydro	3,312.07	3,312.07	3,657.56	3,657.56
Geothermal	1,927.95	1,932	2,027.07	2,027.07
Wind	0	24.95	25.2	25.2
Solar Photovoltaic	0	4.13	4.158	4.158
Biomass	0	0	0	68.25
Total	15,641.63	15,672.35	16,255.98	16,324.23

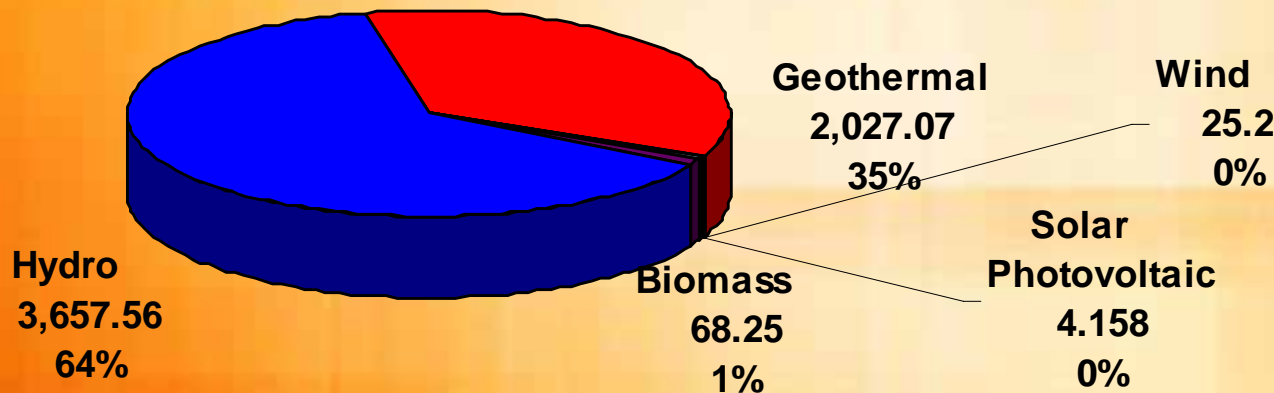


INSTALLED CAPACITY MIX, 2007

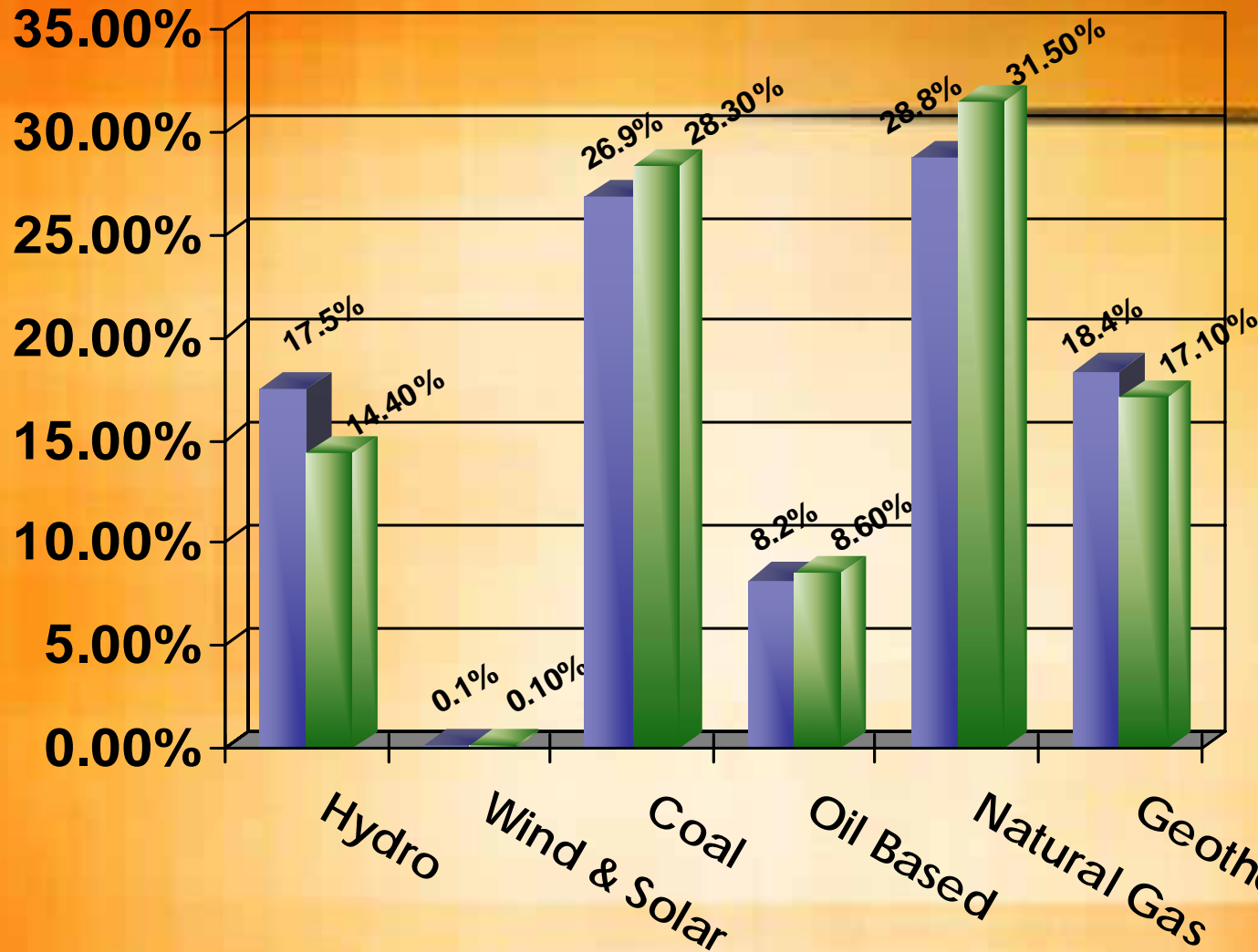
INSTALLED GENERATING CAPACITY (MW), 2007



RE-INSTALLED CAPACITY (MW), 2007



POWER GENERATION MIX



■ 2006
■ 2007

Self Sufficiency Level

2006 = 65%

2007 = 66%



* 2007 Generation Mix is based on preliminary data

POWER GENERATION

GRID	Installed Capacity (MW)	Dependable Capacity (MW)	Peak Demand (MW)
Luzon	12,172	10,311	6,643
Visayas	1,833	1,498	1,102
Mindanao	1,933	1,671	1,241
Total	15,937	13,479	8,986

Note:

Installed Capacity for NPC/NPC-IPP as per NPC Power Economics Dept. data. Dependable capacity of NPC/NPC-IPP based on 2007 NPC Eligible Generating Capacity as of July 2007. Peak Demand as of October 2007 per TransCo S.O. (Luzon – May, Visayas – August, Mindanao – September)



as of April 2008

POWER GENERATION

PLANT TYPE	Installed (MW)	% Share
Oil-based	3,616	23
Hydro	3,289	21
Geothermal	1,958	12
Coal	4,213	26
Natural Gas	2,834	18
Wind	25	0.16
Solar	1	0.01
Total	15,937	100

Note:

Installed Capacity for NPC/NPC-IPP as per NPC Power Economics Dept. data. Dependable capacity of NPC/NPC-IPP based on 2007 NPC Eligible Generating Capacity as of July 2007. Peak Demand as of October 2007 per TransCo S.O. (Luzon – May, Visayas – August, Mindanao – September)



as of April 2008

STATUS OF EPIRA IMPLEMENTATION

UNBUNDLING

Rates are
Structured and
Unbundled.



Complied with.

CROSS-SUBSIDY REMOVAL

Inter-Grid Sept. 2002
Intra-Grid Oct. 2005
Inter-Class Oct. 2005



Complied with.

WESM

- Luzon Commercial Operation in June 2006
- On-going assessment and preparation for WESM
Visayas launch



Complied with.

PRIVATIZATION

- Privatization level at 49% out of the 70% required
 - TransCo Concessionaire Awarded
 - By end-2008: To Offer 2,732.03 MW
 - By end-2009: To Offer 2,215 MW
 - By 1Q 2010: To Offer 235.2 MW
- IPP Administrator tender by August 2008



On-going.



MOVING TOWARD A
COMPETITIVE POWER
MARKET

OPEN ACCESS AND RETAIL COMPETITION

REFORM BREAKTHROUGHS

- ◆ **Achieved 96.57% village electrification level**
- ◆ **Successfully implemented Private Sector Participation in remote and off-grid areas**
- ◆ **Sold subtransmission assets at P2.5Bn covering 1,845 circuit-km of lines and 16,947 structures**



Power Plant Privatization: On Target

YEAR	CAPACITY (MW)	LEVEL OF PRIVATIZATION
2007	1,951-2,168	45-50% privatized
2008	3,035-3,252	70-75% privatized
2009	4,336	≈ 97% privatized
2010	235.2	100% privatized



INVESTMENT OPPORTUNITIES

Power Development Scenario

**As
New
Entrant**

**1,266.8 MW
Committed**

**Indicative
4,256.5 MW**

LUZON : 1,950 MW (2011-2014)

608.25 MW

3,188 MW

VISAYAS : 820 MW (2010-2014)

566 MW

333 MW

MINDANAO : 950 MW (2009-2014)

92.5 MW

735.5 MW



Total Additional Capacity Needed - 3,720 MW

POWER SECTOR CHALLENGES

- ◆ **Make electricity rate more affordable**
- ◆ **Meet electricity demand anywhere**
- ◆ **Maintain an environment conducive to private investments**
- ◆ **Promote clean energy and energy efficiency**



Make Electricity Rate Affordable and Competitive

- ◆ **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**
- ◆ **Ensure better targeting and implementation of subsidies for the poor and facilitating industry competitiveness**
- ◆ **Intensify public sector involvement in reform process**



Meet Electricity Demand Anywhere

- ◆ **Aim for 100% village electrification by 2009**
- ◆ **Intensify household electrification**
- ◆ **Expand private sector participation in rural and missionary areas**



Maintain an environment conducive to private investments

- ◆ Ensure sufficient, stable and accessible energy supply meeting quality and safety standards
- ◆ Provide a level-playing field in the conduct of business
- ◆ Encourage investment in efficient and economic modes of energy marketing and distribution
- ◆ Promote investment in strategic energy infrastructure
- ◆ Encourage greater private sector investments and participation through market-based incentives



Promote clean energy and energy efficiency

- ◆ **Promote private sector investment in green power generation**
- ◆ **Carry out demand side management program**
- ◆ **Support climate change awareness campaign**



Sustaining best energy practices

- ◆ **Extensively employ social mobilization to strengthen stakeholders' participation in planning, implementing and monitoring, energy plans and programs**
- ◆ **Adopt efficient use of energy as a way of life**
- ◆ **Refine program monitoring systems**



THANK YOU

