

# POWER SUPPLY AND DEMAND OUTLOOK 2006-2014



# Electricity Demand Forecasting

**Forecasting methodologies: government has been coming up with more realistic demand forecasts integrating the inputs from the distribution, transmission, generation sectors**

- **DOE: Aggregation of individual Distribution Development Plans of Distribution Utilities**
- **TRANSCO: Econometrics forecast**
- **NPC: Trend analysis of data on historical peak demand**

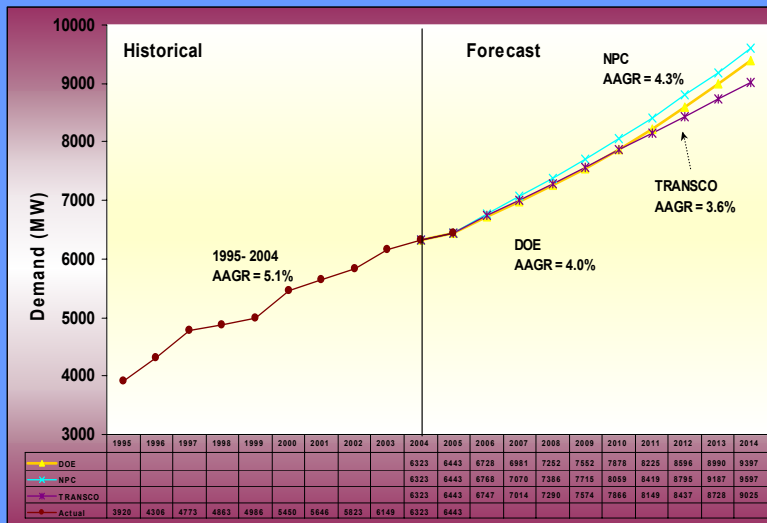
	<b>DDP Aggregation (DOE)</b>		<b>Econometrics (TRANSCO)</b>		<b>Trend Analysis (NPC)</b>	
<b>Annual Average Growth Rate (%)</b>	<b>Luzon</b>	<b>4.0</b>	<b>Luzon</b>	<b>3.6</b>	<b>Luzon</b>	<b>4.3</b>
	<b>Visayas</b>	<b>6.0</b>	<b>Visayas</b>	<b>6.0</b>	<b>Visayas</b>	<b>5.7</b>
	<b>Mindanao</b>	<b>6.0</b>	<b>Mindanao</b>	<b>6.5</b>	<b>Mindanao</b>	<b>6.2</b>

**Different methodologies yield similar results**

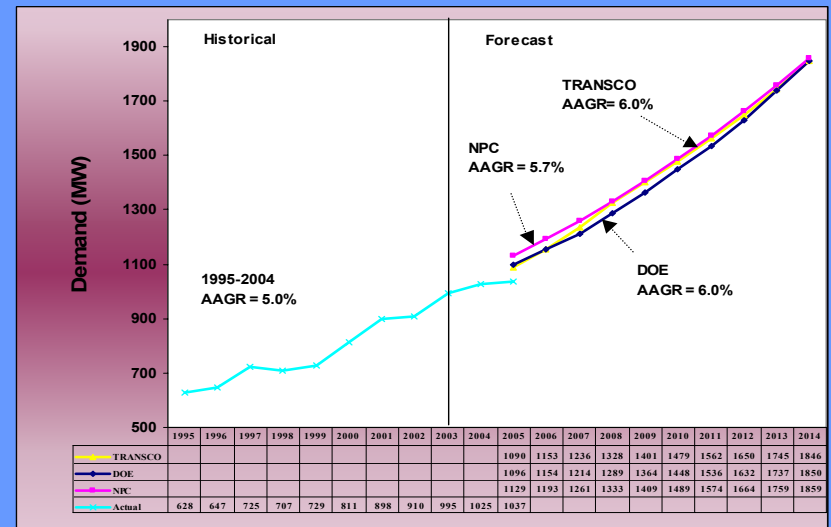
- **High confidence in resulting forecasts**
- **DOE, NPC and TRANSCO forecasts have minimal variance**



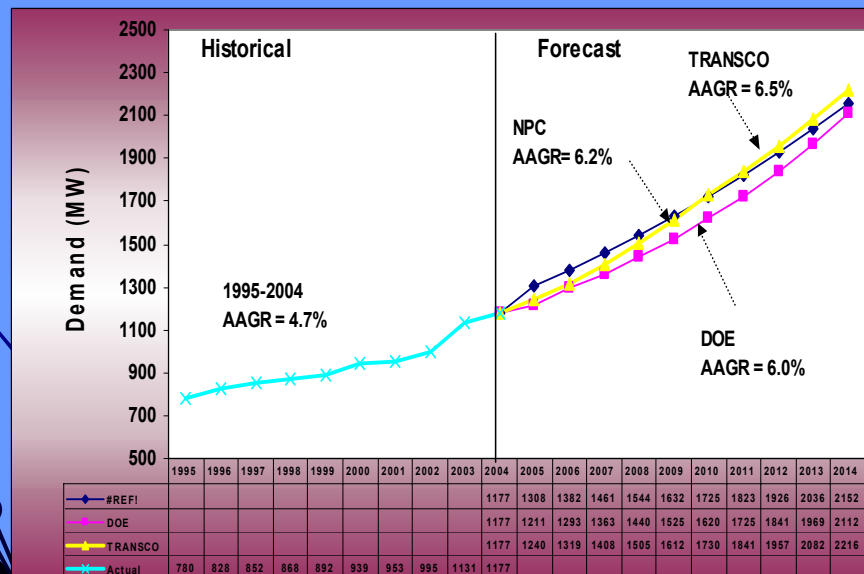
# Comparative Peak Demand Forecasts



## Luzon

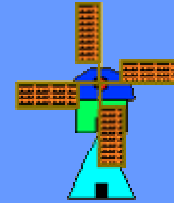
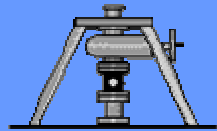


## Visayas

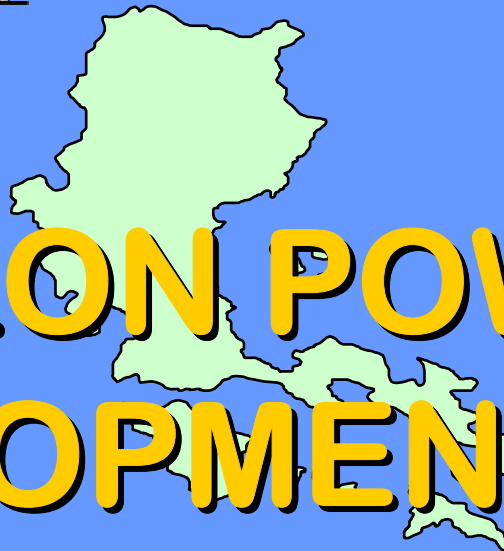


## Mindanao

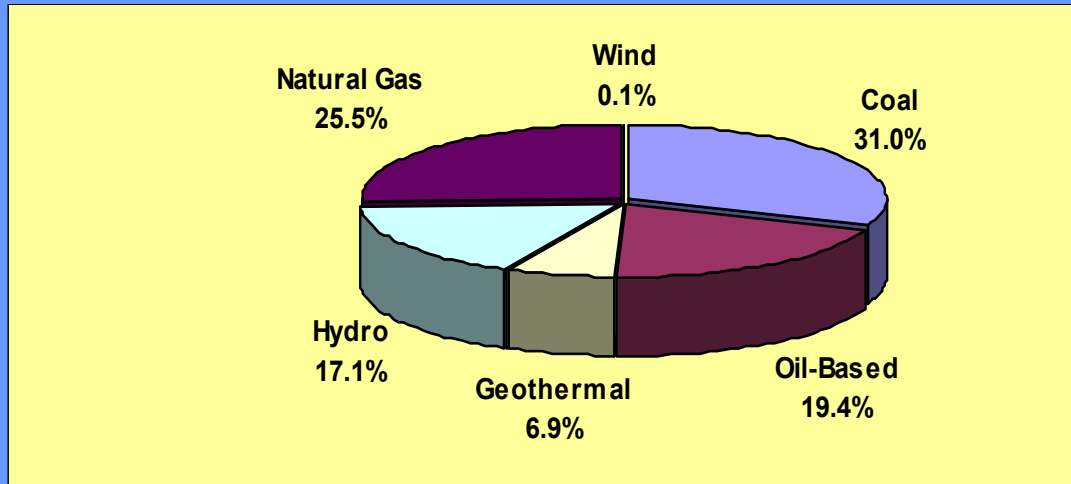




# LUZON POWER DEVELOPMENT PLAN

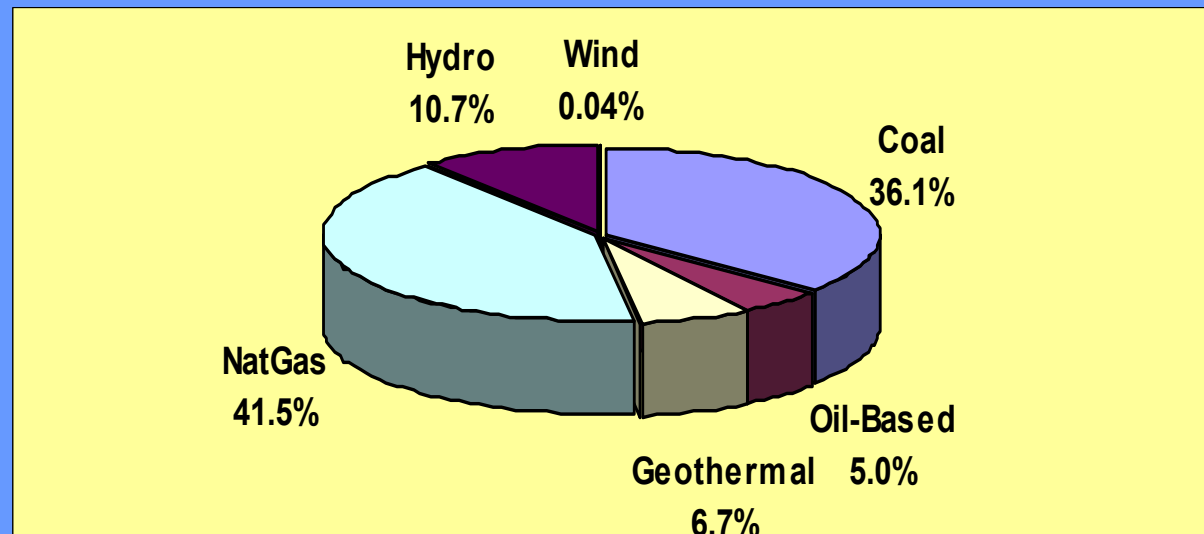


# Capacity and Generation - Luzon



← *Capacity Mix*

**Total dependable capacity = 10,596 MW**



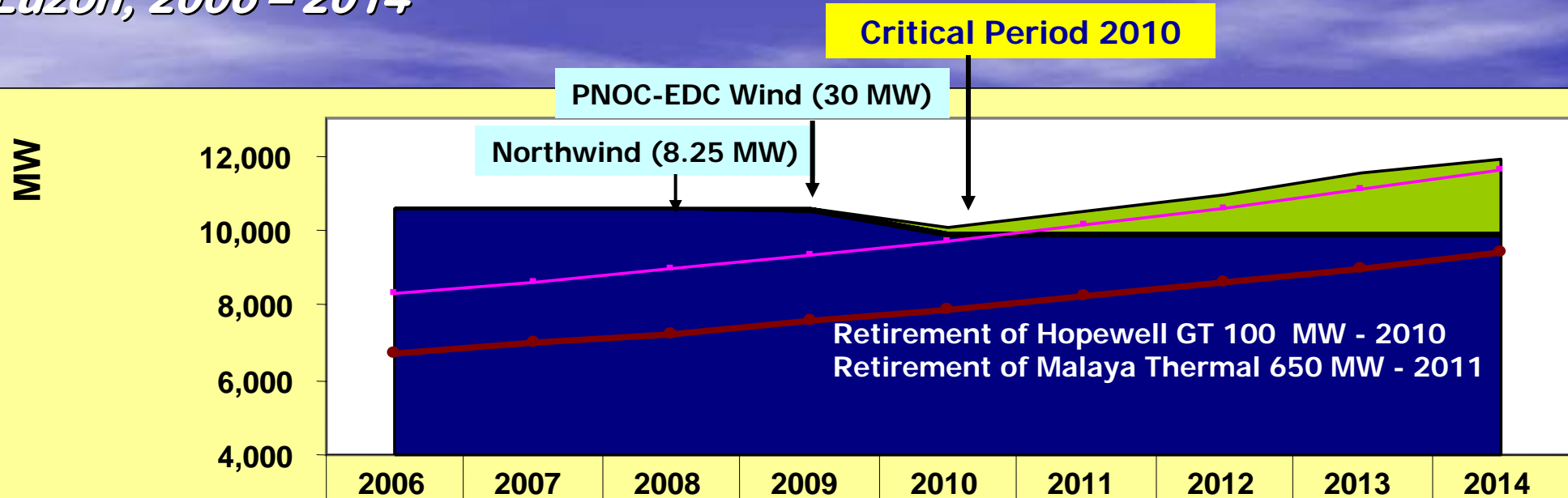
**Total gross generation (2005) = 40,627 GWh**

*Generation Mix* →



# SUPPLY DEMAND PROFILE

Luzon, 2006 – 2014



	2006	2007	2008	2009	2010	2011	2012	2013	2014
Indicative Annual Cap. Reqmt.					150	450	450	600	300
Committed			8.25	30.0					
Dep. Capacity	10,576	10,576	10,576	10,584	10,514	9,864	9,864	9,864	9,864
Required Capacity	8,302	8,614	8,949	9,319	9,721	10,150	10,607	11,093	11,596
Peak Demand	6,728	6,981	7,252	7,552	7,878	8,225	8,596	8,990	9,397
<b>Surplus</b>	<b>3,848</b>	<b>3,595</b>	<b>3,333</b>	<b>2,962</b>	<b>2,137</b>	<b>2,240</b>	<b>2,318</b>	<b>2,525</b>	<b>2,418</b>
<b>Reserve Margin</b>	<b>57.2%</b>	<b>51.5%</b>	<b>46.0%</b>	<b>39.2%</b>	<b>27.1%</b>	<b>27.2%</b>	<b>27.0%</b>	<b>28.1%</b>	<b>25.7%</b>

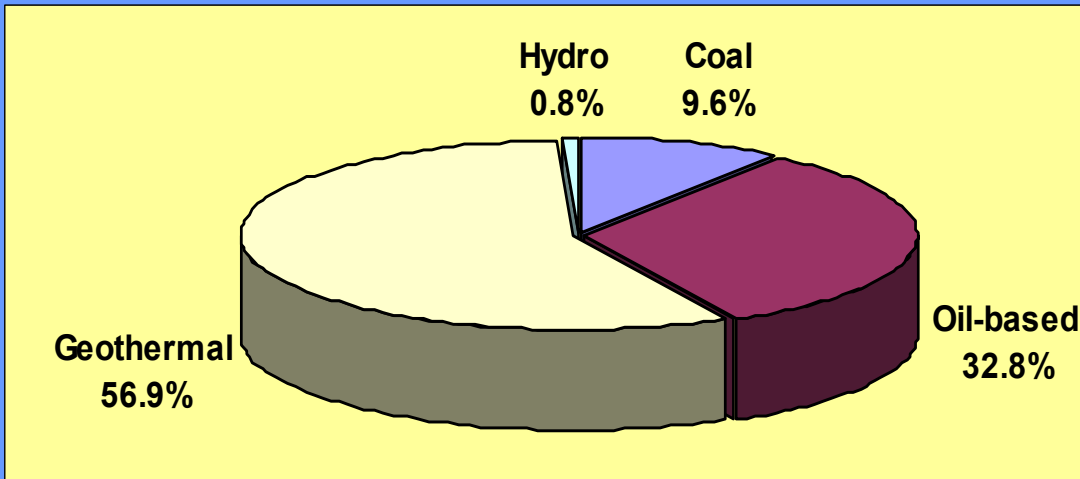
Note: Required Capacity refers to the peak demand plus the ERC-approved reserve margin above the peak demand of 23.4 % (2.8% Load Following and Frequency Regulation, 10.3% Spinning Reserve, 10.3% Back-Up)



# VISAYAS POWER DEVELOPMENT PLAN

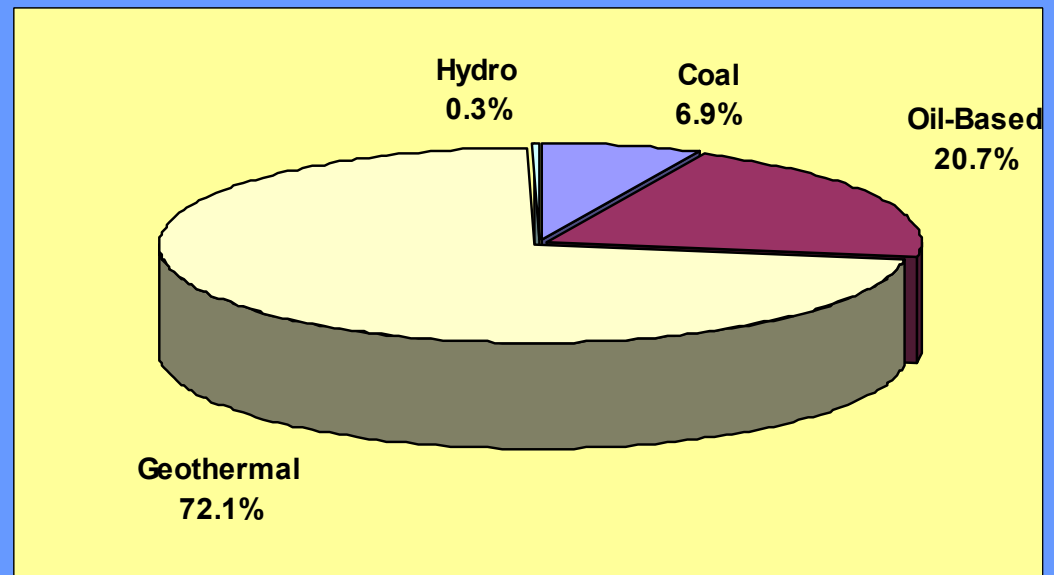


# Capacity and Generation - Visayas



← *Capacity Mix*

**Total dependable capacity = 1,506 MW**



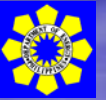
*Generation Mix* →

**Total gross generation (2005) = 8,698 GWh**

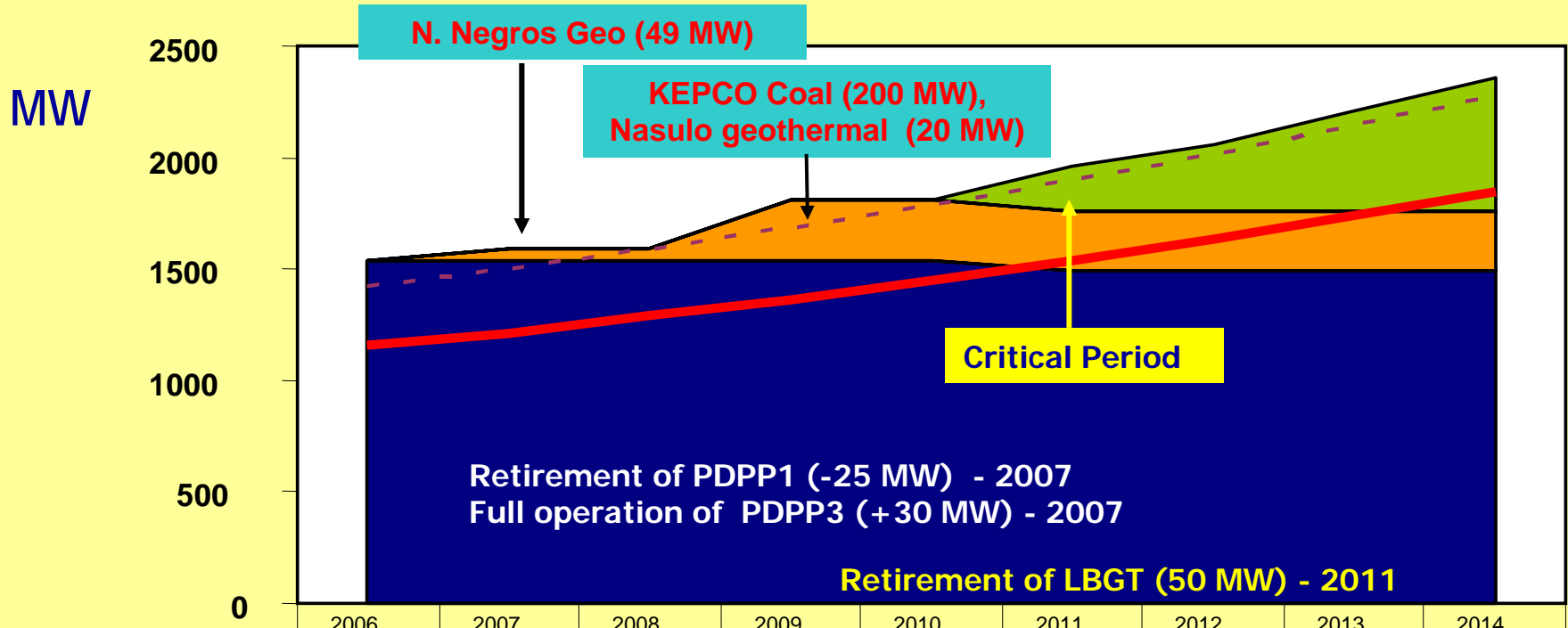




# SUPPLY DEMAND PROFILE



Visayas, 2006 – 2014



	2006	2007	2008	2009	2010	2011	2012	2013	2014
Indicative Annual Cap. Reqmt.	-	-	-	-	-	200	100	150	150
Committed	-	49		220					
Dep. Capacity	1,536	1,541	1,590	1,590	1,810	1,760	1,760	1,760	1,760
Required Capacity	1,424	1,498	1,591	1,683	1,787	1,895	2,014	2,143	2,283
Peak Demand	1,154	1,214	1,289	1,364	1,448	1,536	1,632	1,737	1,850
<b>Surplus</b>	382	376	301	446	362	424	428	473	510
<b>Reserve margin</b>	33.1%	31.0%	23.4%	32.7%	25.0%	27.6%	26.3%	27.3%	27.6%

Note: Required Capacity refers to the peak demand plus the ERC-approved reserve margin above the peak demand of 23.4% (2.8% Load Following and Frequency Regulation, 10.3% Spinning Reserve, 10.3% Back-Up)

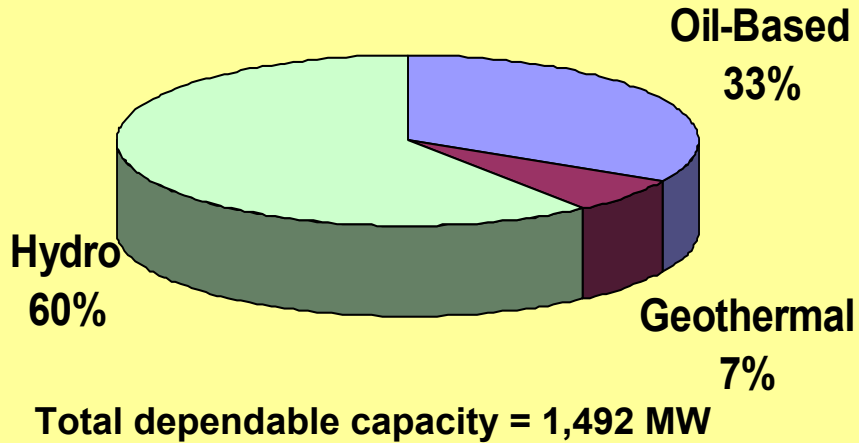


# MINDANAO POWER DEVELOPMENT PLAN



# Capacity and Generation, Mindanao

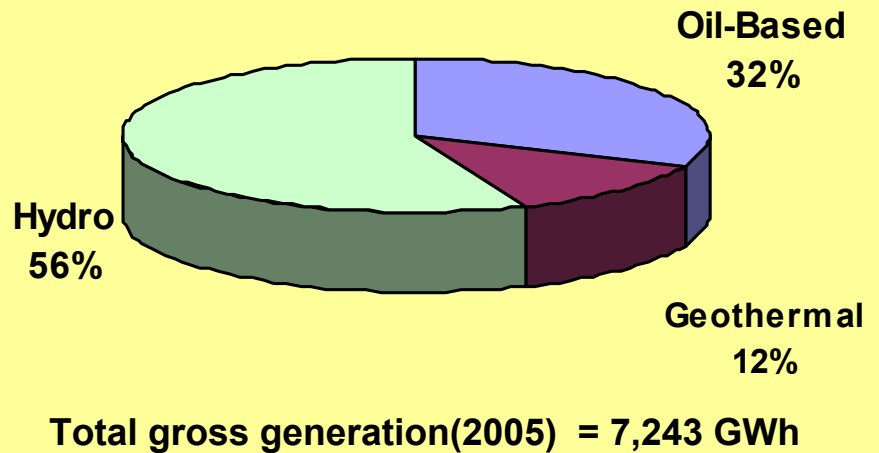
Capacity Mix 2005



← *Capacity Mix*

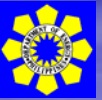
*Generation Mix* →

Generation Mix 2005

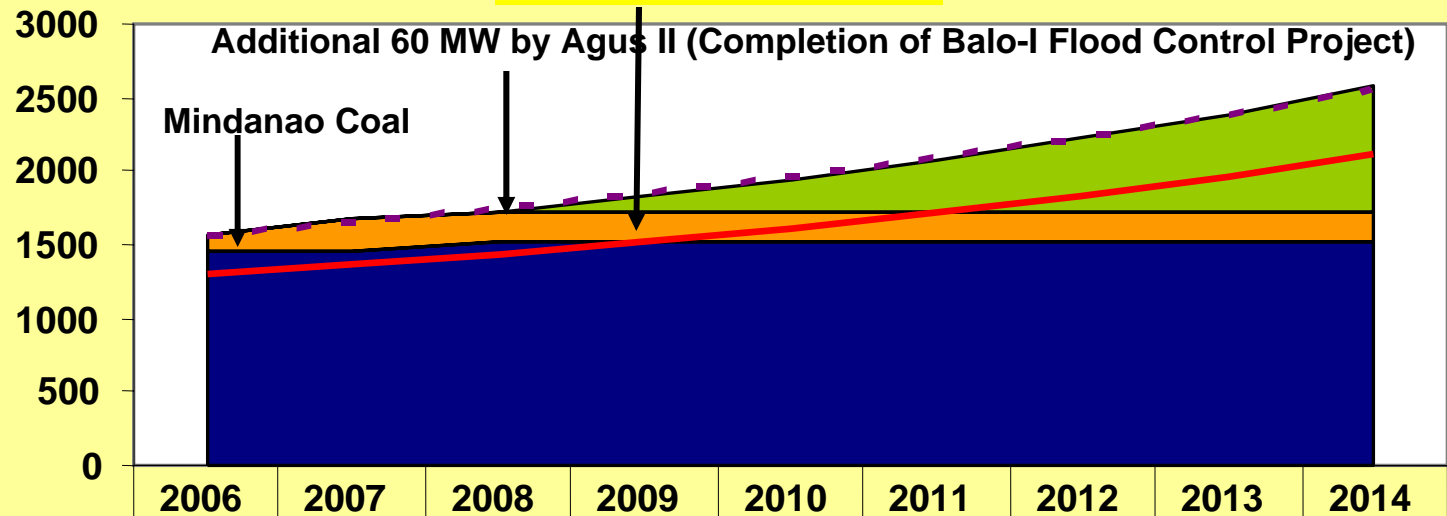


# SUPPLY DEMAND PROFILE

Mindanao, 2006 – 2014



MW



Indicative Annual Cap. Reqmt.				100	100	150	150	150	200
Committed	210								
Dependable	1455	1670	1730	1730	1730	1730	1730	1730	1730
Required Capacity	1565	1649	1742	1845	1960	2087	2228	2382	2556
Peak Demand	1293	1363	1440	1525	1620	1725	1841	1969	2112
Surplus/deficit	372	307	290	305	310	355	389	411	468
% RM	28.8%	22.5%	20.2%	20.0%	19.1%	20.6%	21.1%	20.9%	22.2%

Note: Required Capacity refers to the peak demand plus the ERC-approved reserve margin above the peak demand of 21.0 (2.8% Load Following and Frequency Regulation, 9.1% Spinning Reserve, 9.1% Back-Up)

# INDICATIVE CAPACITY ADDITIONS

## ■ Luzon

- 550 MW Combined Cycle Natural Gas Plant (South Luzon)
- 300-500 MW Ilijan CCGT expansion (South Luzon)
- 600 MW Coal-fired Thermal Plant (North Luzon)

## ■ Visayas

- 100 MW Toledo Coal Expansion (Cebu)
- 100 MW Coal-Fired Plant (Panay)
- 25 MW Talisay Bioenergy (Negros)
- 100 MW Cabalian Geothermal (Leyte)
- 40 MW Dauin Geothermal (Negros)
- 25 MW Villasiga Hydropower (Panay)

## ■ Mindanao

- 21.8 MW Minergy Diesel Plant Expansion (North Mindanao)
- 46 MW Sibulan Hydropower (South Mindanao)
- 50 MW Mindanao 3 Geothermal (North Mindanao)
- 68 MW Tagoloan Hydropower (North Mindanao)





# PRIVATE SECTOR PARTICIPATION

**Distribution Utilities and large industrial/commercial users can help facilitate investments in new capacity by:**

- **firming up and indicating their energy requirements**
- **signing up for bilateral contracts with power providers to provide stable market**



# THANK YOU



DEPARTMENT OF ENERGY