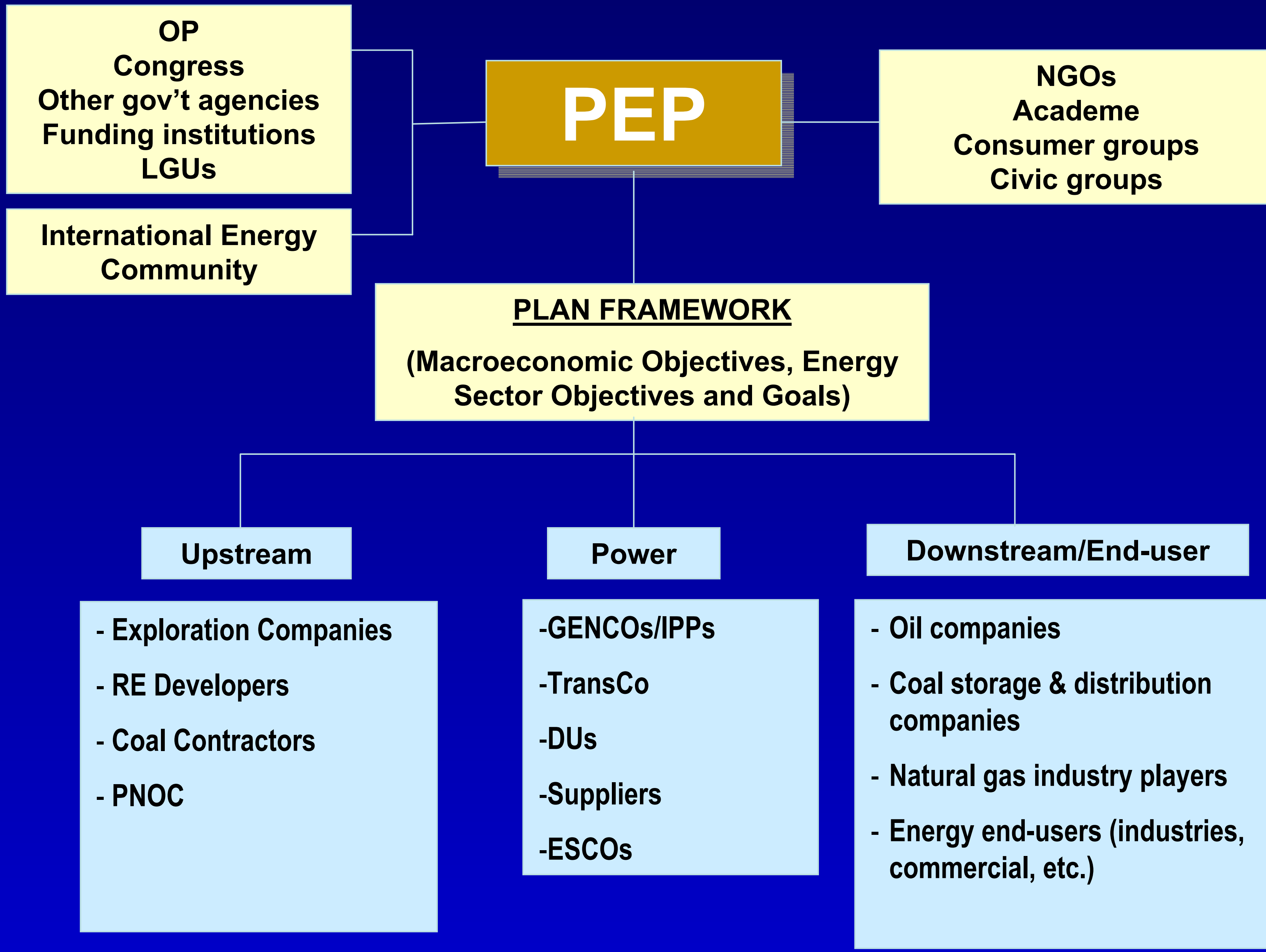

PHILIPPINE
ENERGY
PLAN
2004 – 2013

ENERGY PLAN FRAMEWORK

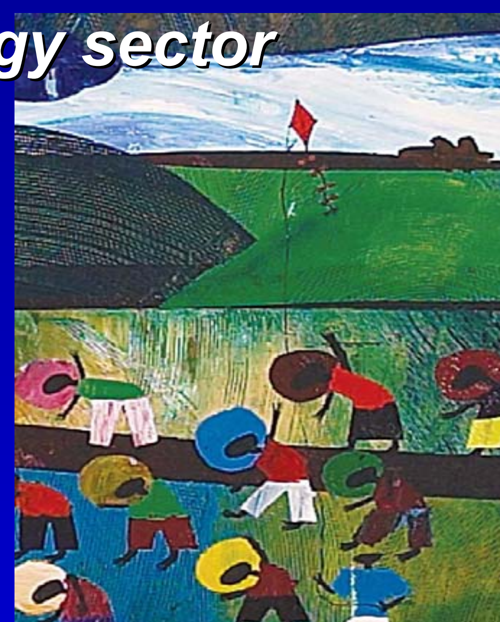


PHILIPPINE ENERGY PLAN

2004 – 2013

Diversified approaches towards a more responsive energy sector






Three critical innovations in the 2004 Plan Update:

- ✓ Anchored on reformulated DOE Mission and Vision Statements
- ✓ Regionalized energy planning to address specific issues of the three main island groups-Luzon, Visayas and Mindanao
- ✓ Sectoralized demand analysis (residential, commercial, industrial, transport and agriculture)

MISSION STATEMENT

We at the Department of Energy, in partnership with our stakeholders, shall improve the quality of life of the Filipino, by formulating and implementing policies and programs to ensure sustainable, stable, secure, sufficient, accessible and reasonably priced energy.

In pursuit of this mission, we commit to render efficient service with utmost integrity and professionalism.

DOE VISION STATEMENT

Within the next decade and by encouraging greater private sector participation:

- ✓ Achieved total and reliable energization and energy self-sufficiency
- ✓ Developed our indigenous and renewable energy resources
- ✓ Actively promoted sustainable and efficient use of energy as well as the utilization of cleaner energy and technologies
- ✓ Developed alternative fuels for commercial applications
- ✓ Successfully implemented reforms in the energy sector which have brought about a competitive environment, consumer satisfaction and empowerment

ENERGY SECTOR OBJECTIVES FOR 2004-2013

- ✓ Ensure sufficient, stable, secure, accessible and reasonably-priced energy supply
- ✓ Pursue cleaner and efficient energy utilization and clean energy technologies applications
- ✓ Cultivate strong partnerships and collaboration with key partners and stakeholders
- ✓ Empower and balance various interests of the energy publics

ENERGY SECTOR TARGETS FOR 2004-2013

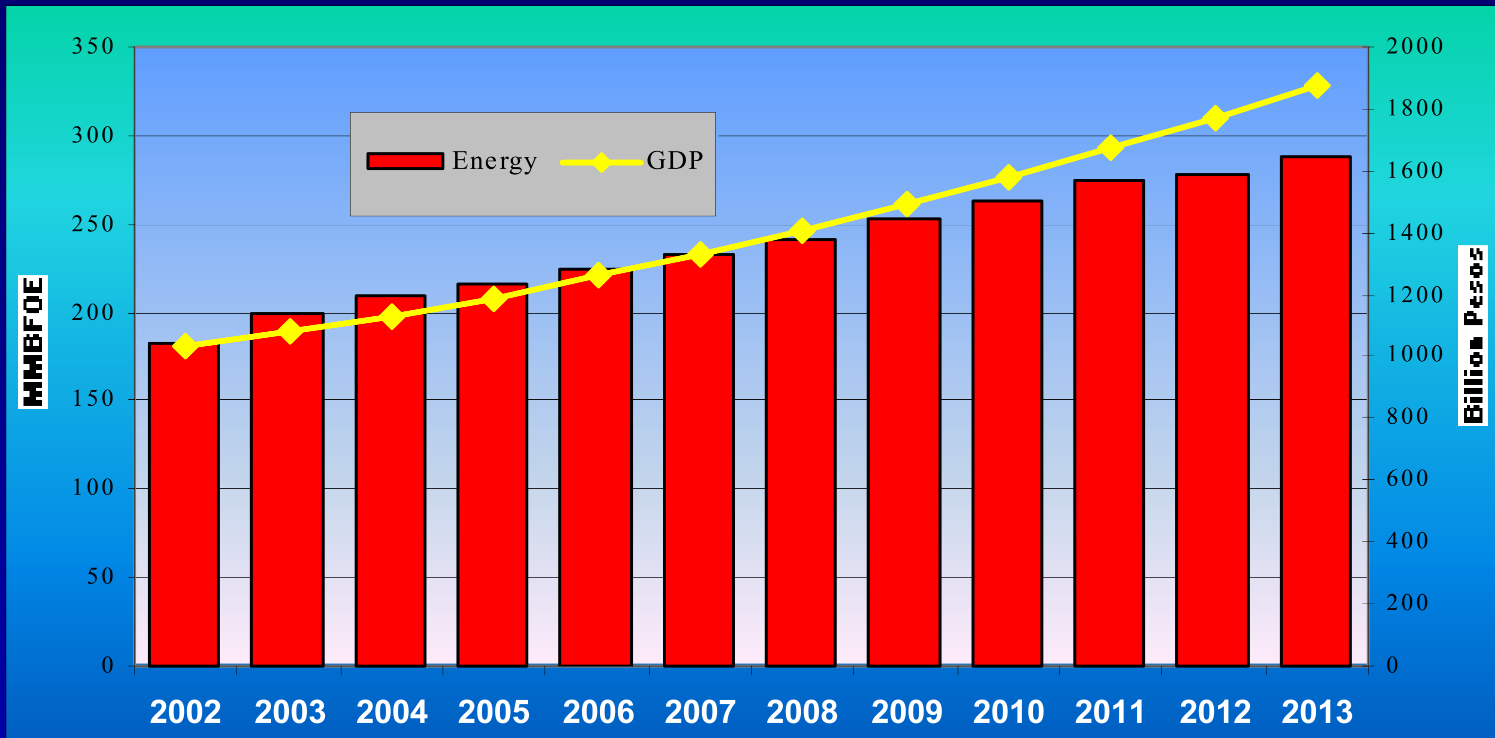
- ✓ Average 50% self-sufficiency level in the next ten years to reach 55% by 2013
- ✓ Wider access to reliable supply of electricity (100% barangay electrification by 2006 and 90% of households by 2017) and petroleum products (50% increase in outlets outside Metro Manila)
- ✓ Setting of policy directions that will establish the conditions for fair business practices in the energy sector
- ✓ Emission avoidance of 32,000 Gg CO_2 by 2013

ENERGY SECTOR TARGETS FOR 2004-2013

- ✓ Generate energy savings of 82.56 MMBFOE from energy efficiency programs
- ✓ Increase/encourage private investments in the following sub-sectors: upstream and downstream activities, power and clean fuels/technologies
- ✓ Increase public and private sector participation in policy formulation and implementation
- ✓ Enhance awareness and involvement of the general public on energy related issues and concerns and safeguard consumer interest


ENERGY
SUPPLY – DEMAND
OUTLOOK

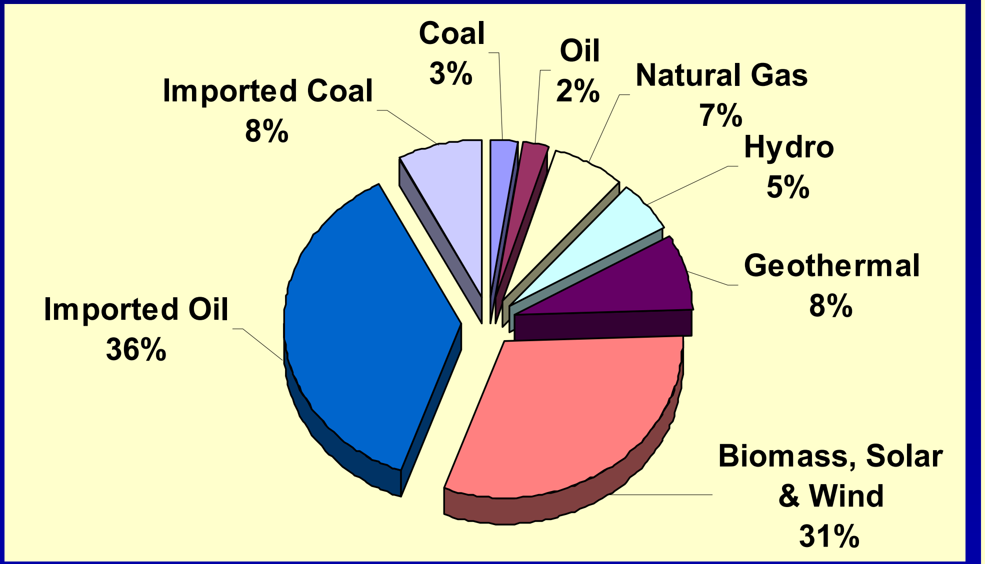
ENERGY DEMAND AND GDP



GROWTH (%)							
Years	GDP	Final Energy Demand					
		Total	Oil	Gas	Coal	Electricity	NRE
2003-2013	5.7	3.7	2.9	796.1	2.4	7.6	2.1
2008-2013	6.0	3.5	4.0	2.9	2.2	7.1	1.7
2003-2008	5.2	3.9	1.8	1,589.3	2.5	8.1	2.5

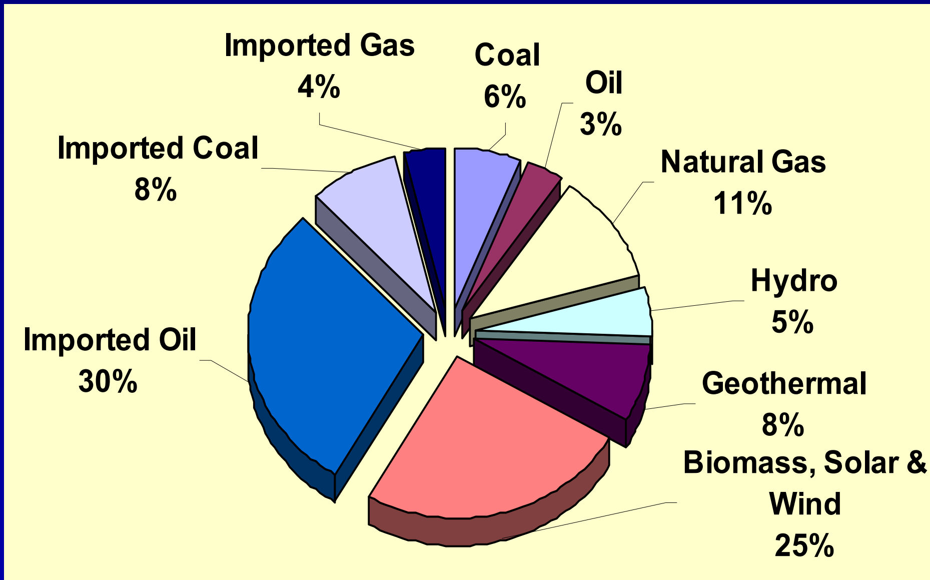
PRIMARY ENERGY SUPPLY

2004



Total Indigenous	152.04
Total Imported	121.94
Energy Self-Sufficiency (%)	55.5

2013



Total Indigenous	233.33
Total Imported	167.58
Energy Self-Sufficiency (%)	58.2

FINAL ENERGY DEMAND BY SECTOR
in MMBFOE

	2003	2004	2008	2013
Residential	74.35	77.41	87.80	99.97
Commercial	15.95	17.04	20.64	29.09
Industrial	48.99	51.57	57.08	65.22
Transportation	57.02	60.17	72.42	88.73
Agriculture	2.92	3.07	3.63	4.36
Total Demand	**199.24**	**209.26**	**241.57**	**287.37**

	Ave. Annual Growth Rate (%)		
	2003-2008	2008-2013	2003-2013
Residential	3.4	2.6	3.0
Commercial	5.3	7.1	6.2
Industrial	3.1	2.7	2.9
Transportation	4.9	4.1	4.5
Agriculture	4.4	3.7	4.1
Total Demand	**3.9**	**3.5**	**3.7**

ENERGY RESOURCE POTENTIAL by Region

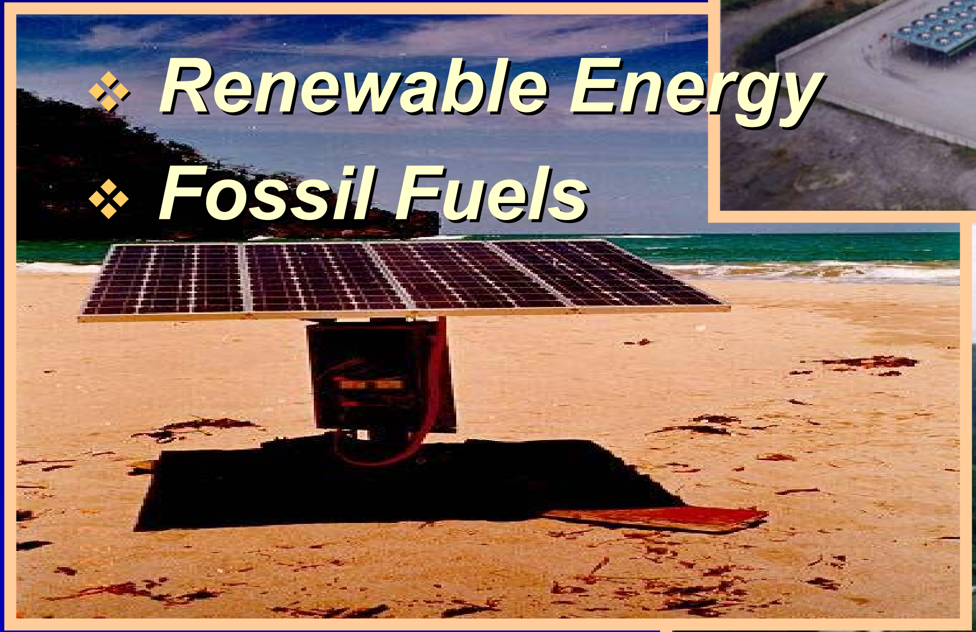
REGION	OIL (MMB)	CONDENSATE (MMB)	GAS (TCF)	GEOTHERMAL (MW)	COAL (MMMT)	HYDRO (MW)
Luzon	5.38 - 5.42	59 - 98	3.00 - 8.35	2,325	455	6,052
Visayas	1.10		2.00	1,670	747	493
Mindanao			0.03	542	115	2,519
Total Philippines	6.48 - 6.52	59 - 98	5.034 - 10.38	4,537	1,317	9,064

SECTORAL PLANS

- *Energy Resource Development*
- *Downstream Development*
- *Power Development*

ENERGY RESOURCE DEVELOPMENT

- *Renewable Energy*
- *Fossil Fuels*



PLANS AND PROGRAMS

- ✓ To increase renewable energy-based capacity 100% by 2013
- ✓ To become the largest geothermal energy producer in the world (1st geothermal bid round)
- ✓ To be the leading wind energy producer in Southeast Asia
- ✓ To double hydro capacity by 2013
- ✓ To install 130-250 MW of biomass, solar and ocean capacity
- ✓ To become the solar manufacturing export hub of the ASEAN region
- ✓ To increase the non-power (including CME) contribution of renewable energy to the energy mix by 10 MMBFOE within the next decade

PLANS AND PROGRAMS

- ✓ Enhance petroleum exploration and development through the conduct of Petroleum Contracting Rounds

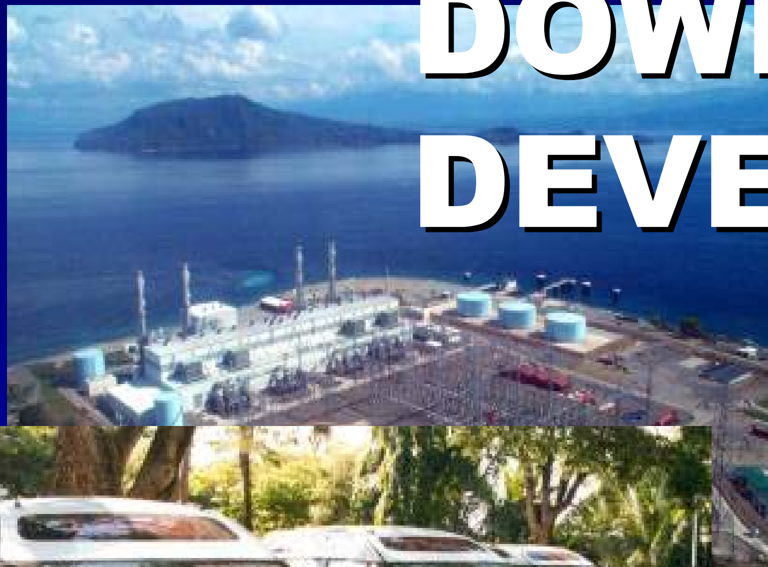
- Public bid system on prospective basins identified in PhilPRA
- PCR-1 to offer 46 contract areas in Palawan and Sulu Sea basins

- ✓ Enhance the petroleum prospectivity of sedimentary basins

PLANS AND PROGRAMS

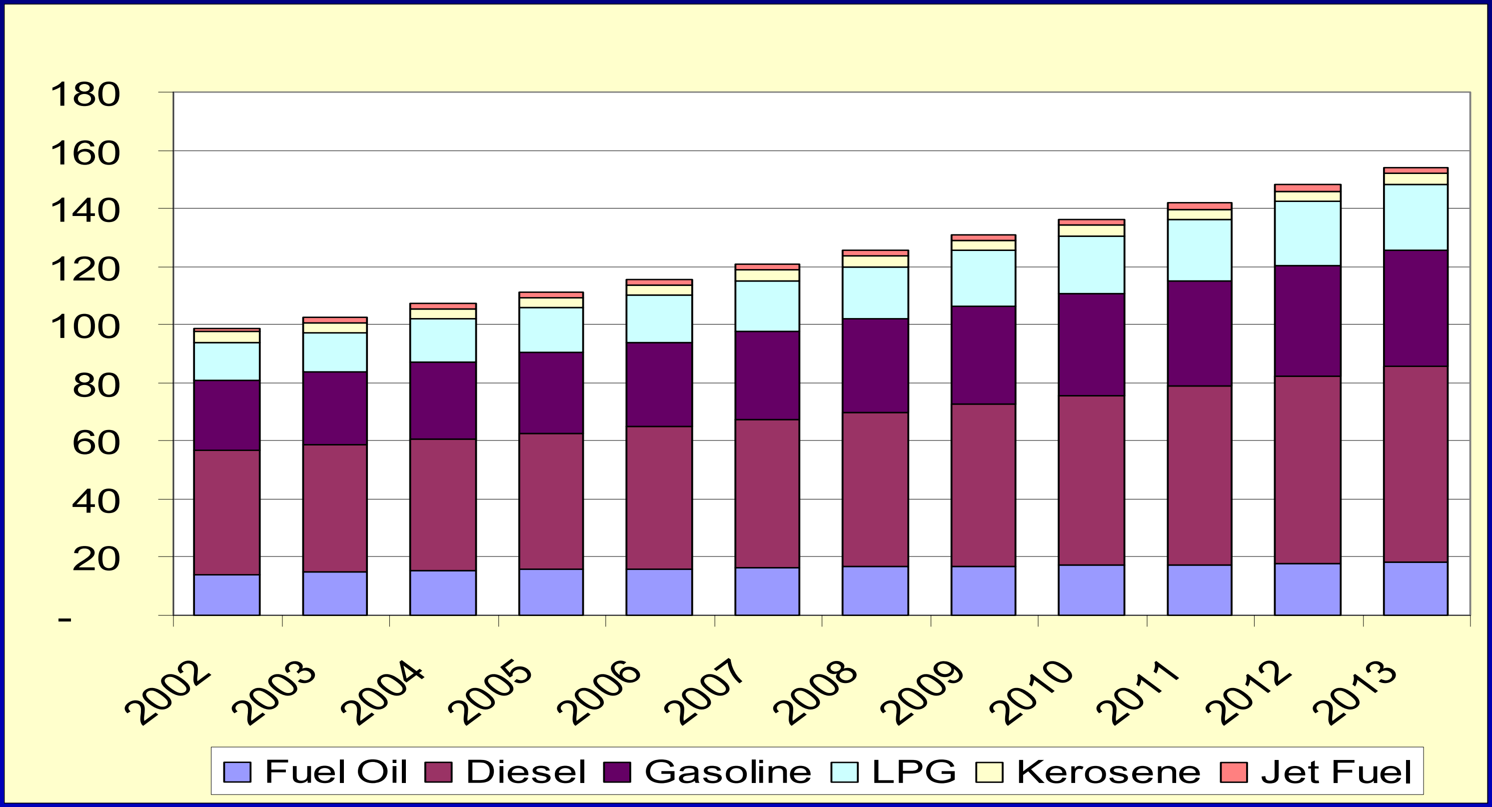
- ✓ Promote mine-mouth coal power plants
- ✓ Promote clean coal technology
- ✓ Increase domestic coal consumption of existing power plants

DOWNSTREAM DEVELOPMENT



- *Oil*
- *Natural Gas*

PETROLEUM PRODUCTS DEMAND in MMB



PETROLEUM PRODUCTS DEMAND

in percent

Growth Rates	2004-2008	2008-2013	2004-2013
LPG	5.5	4.5	5.0
Diesel	4.2	5.1	4.7
Gasoline	4.6	4.1	4.5
Fuel Oil	1.9	1.6	1.8
Kerosene	1.6	1.5	1.5
Jet Fuel	3.0	3.0	3.0

PLANS AND PROGRAMS

- ✓ Encourage private sector participation in the downstream oil industry activities
- ✓ Provision of fair and reasonable oil prices
- ✓ Policy advocacy activities
- ✓ Promote oil supply security programs
- ✓ Strengthen institutional linkages

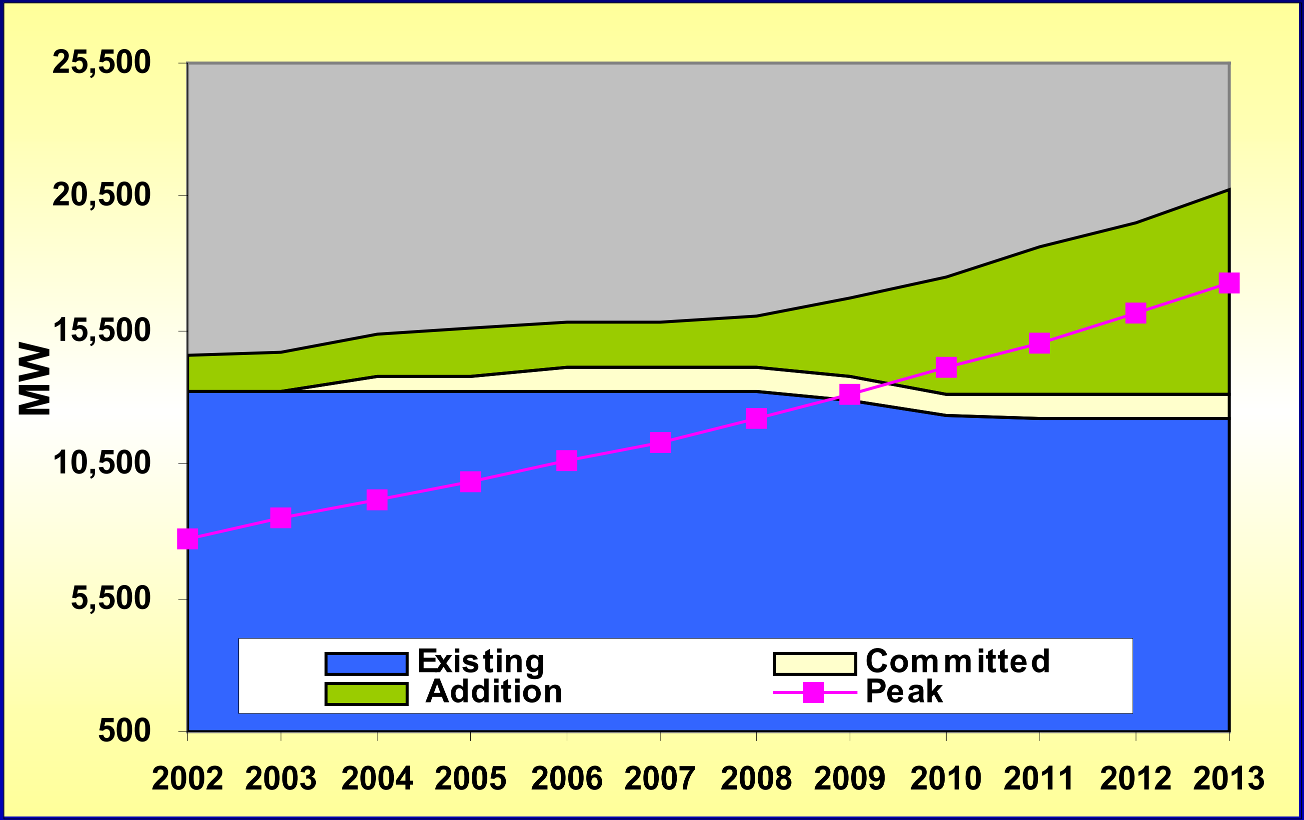
PLANS AND PROGRAMS

- ✓ Establish domestic infrastructure network
- ✓ Expand the use of natural gas
  - ✓ CNG as an alternate fuel for transport
  - ✓ District cooling for industrial use
  - ✓ Commercial applications

POWER DEVELOPMENT PLAN

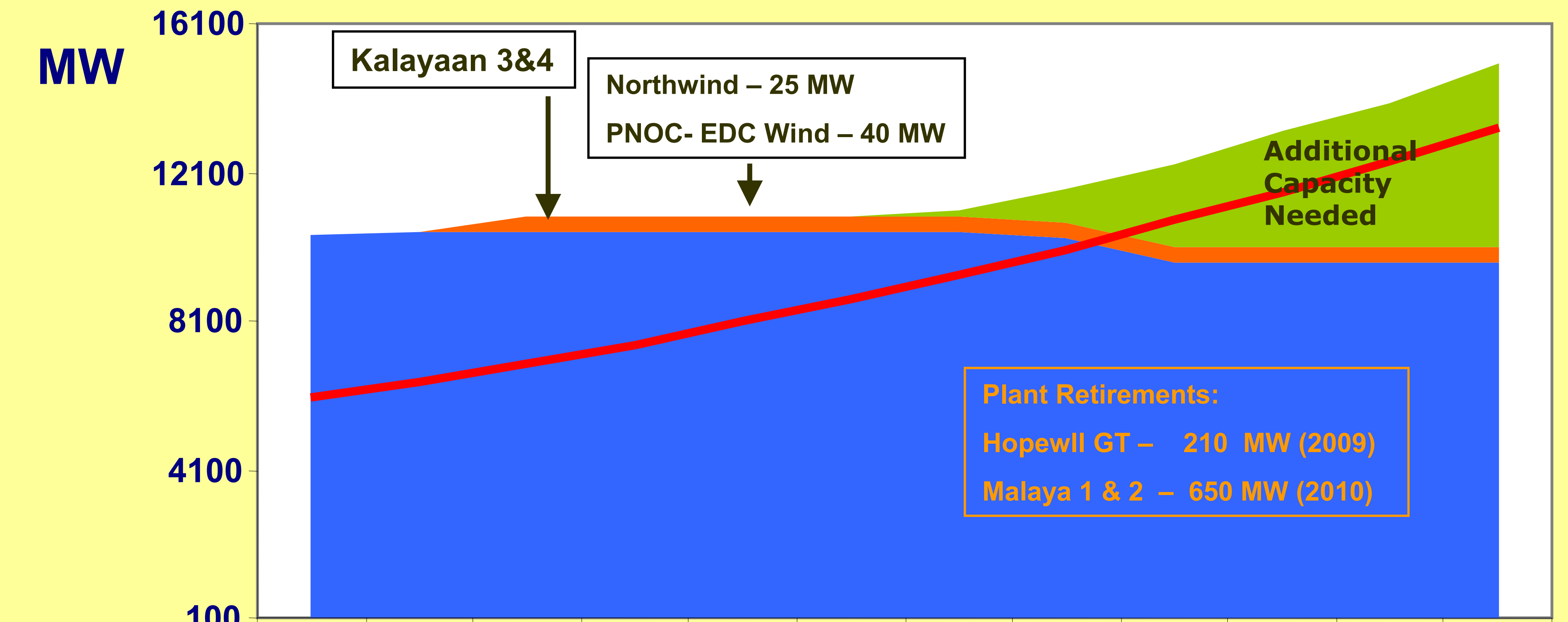
POWER DEVELOPMENT PLAN

SUPPLY-DEMAND PROFILE, Philippines



POWER DEVELOPMENT PLAN

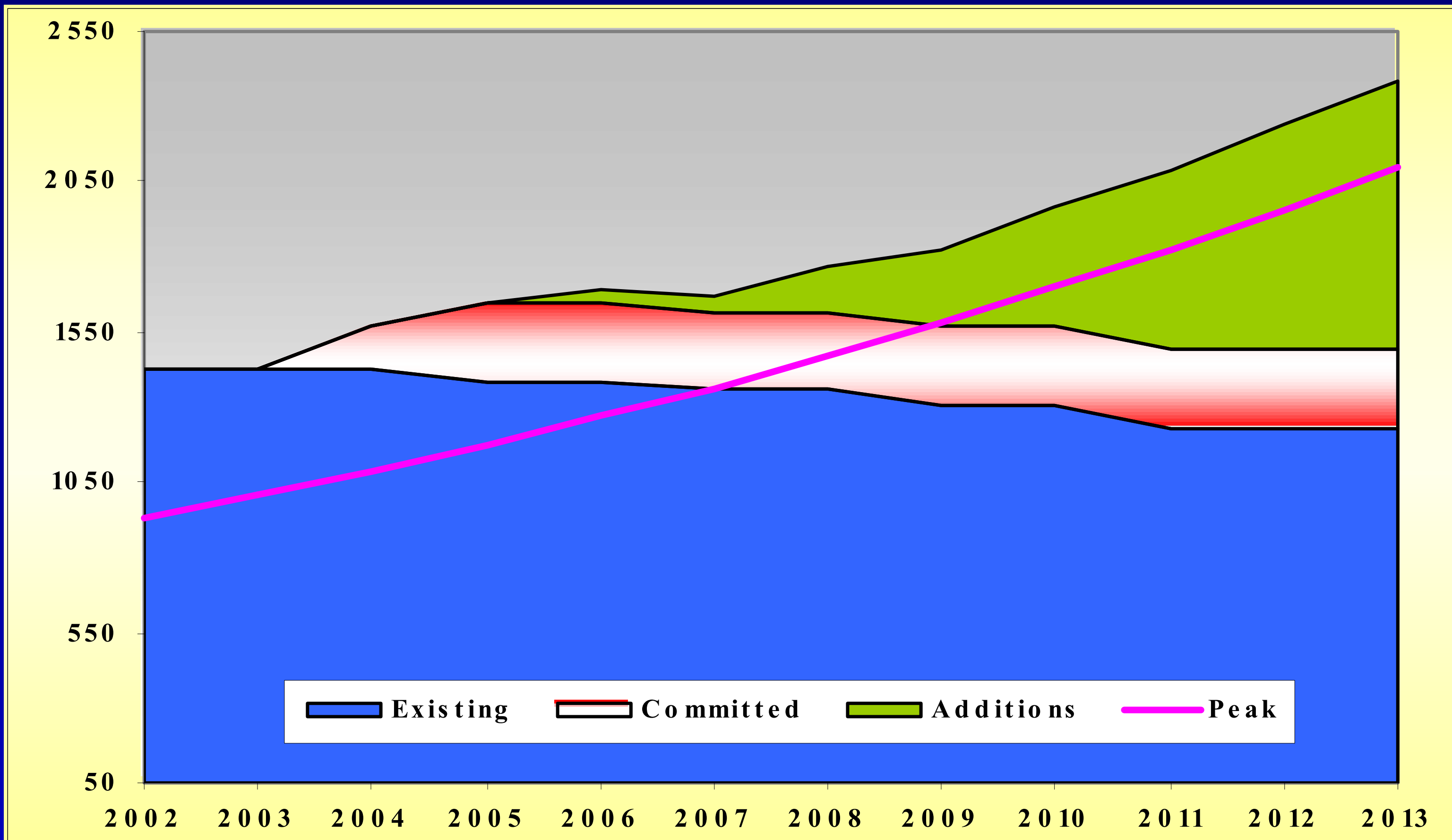
SUPPLY-DEMAND PROFILE, Luzon



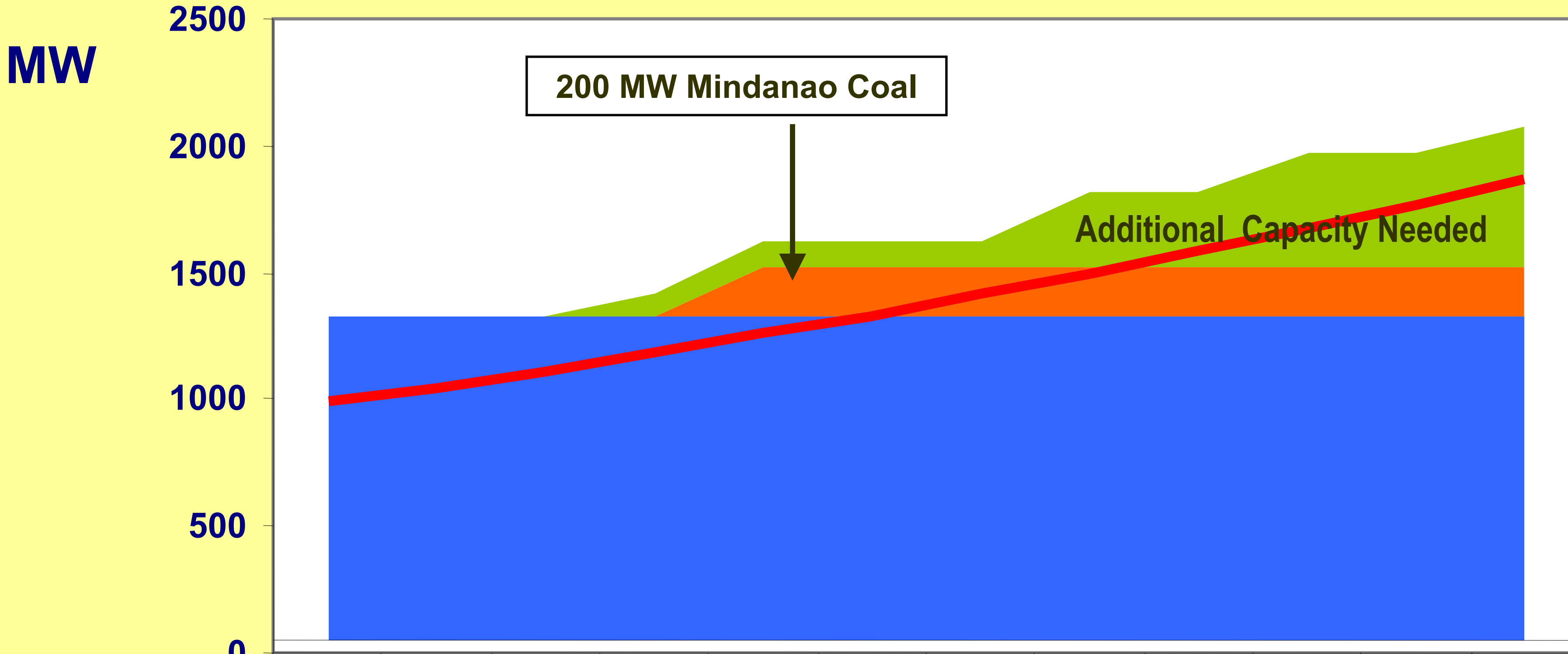
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Req'd Cap.Add.	0	0	0	0	0	0	150	600	1350	900	750	1050
Committed	0	0	350	0	65	0	0	0	0	0	0	0
Existing	10435	10520	10520	10520	10520	10520	10520	10310	9660	9660	9660	9660
Peak	6,039	6,454	6,937	7,473	8,076	8,662	9,323	10,036	10,786	11,575	12,406	13,280

POWER DEVELOPMENT PLAN

SUPPLY-DEMAND PROFILE, Visayas



SUPPLY-DEMAND PROFILE, Mindanao



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Req'd Cap. Add.		0	0	100	0	0	0	200	0	150	0	100
Committed			0	0	200	0	0	0	0	0	0	0
Existing	1422	1422	1422	1422	1422	1422	1422	1422	1422	1422	1422	1422
Peak	995	1,04 9	1,112	1,181	1,259	1,331	1,412	1,498	1,586	1,676	1,769	1,864

PLANS AND PROGRAMS

Year	Barangay	RE System Installed	Expansion		Rehab (ckt. kms.)
			Distribution Lines (ckt. kms.)	Substations (MVA)	
2003	2,515	5,942	13,632.66	539	1,652.17
2004	1,188	2,247	7,197.69	1,270	1,231.99
2005	638	2,417	4,532.45	235	943.53
2006	936	1,287	5,598.89	205	938.71
2007	-	4	488.49	200	726.09
2008	-	-	362.07	150	609.48
2009	-	-	363.73	60	528.42
2010	-	-	334.72	90	569.62
2011	-	-	312.42	75	538.41
2012	-	-	336.45	120	659.00
2013	-	-	336.45	120	659.00
TOTAL	**2,762**	**5,955**	**19,863.36**	**2,525**	**7,404**

INVESTMENT OPPORTUNITIES in Billion Php

Sector	Amount
Energy Sector Development	295.28
Geothermal	56.53
Hydropower	96.00
Other Renewable Energy	24.20
Oil and Gas	89.16
Coal	29.39
Downstream	378.00
Oil and Gas	48.00
Natural Gas	330.00
Power Development	637.14
Main Grid	633.85
Small Island Grids	3.29
Socially Responsive Programs	106.01
Expanded Rural Electrification	39.01
Energy Efficiency	67.00
Total	**1,416.43**

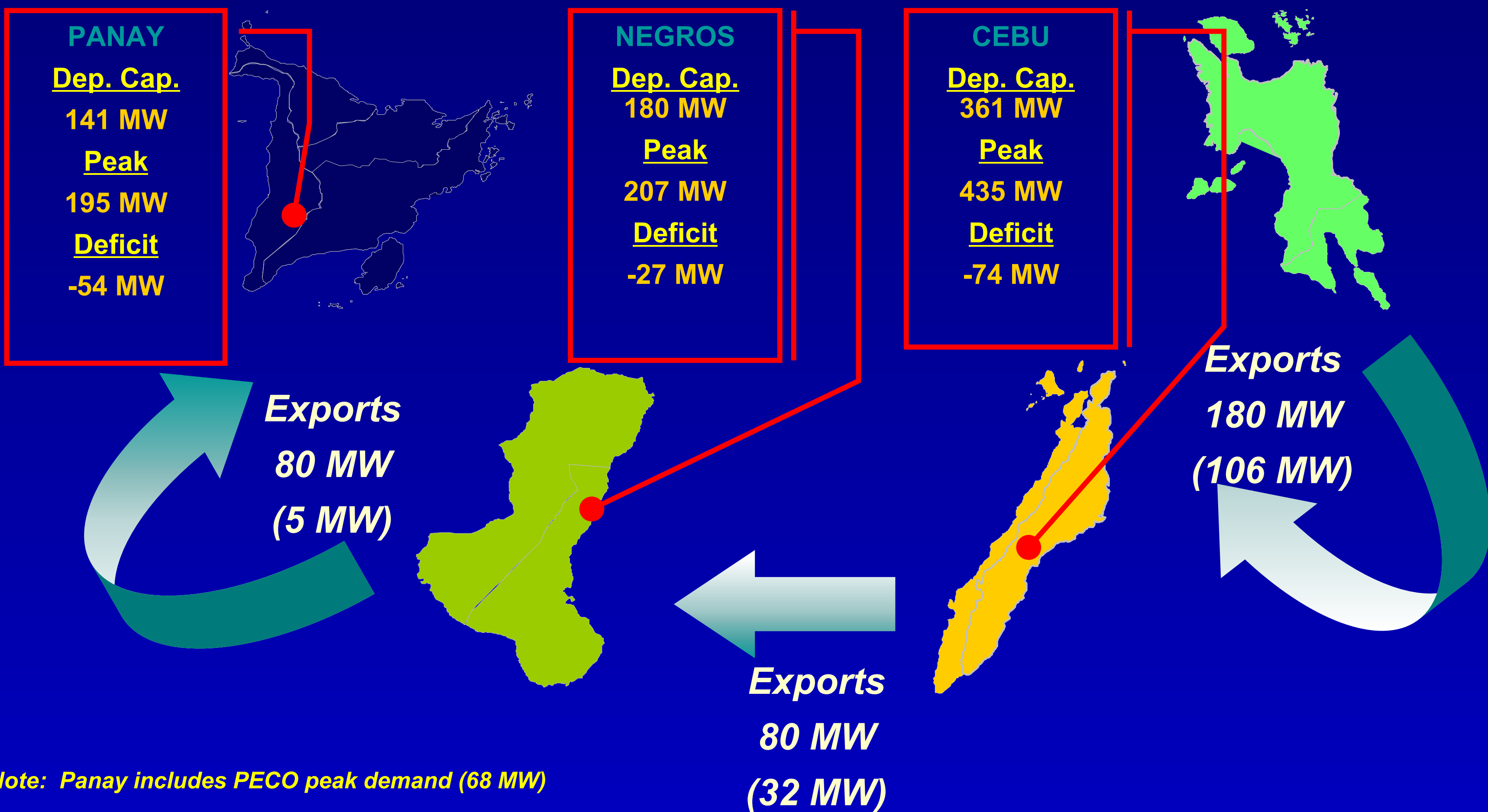
CONCLUSION

The PEP will serve as the blueprint of all key players in the energy sector for the next ten years.

- ✓ 55% self-sufficiency by 2013
  - ✓ Renewed interest for the exploration of hydrocarbon resources
  - ✓ Largest geothermal energy producer in the world
  - ✓ Solar manufacturing hub in ASEAN
  - ✓ Biggest wind farm in Southeast Asia
- ✓ Development of the downstream natural gas infrastructures
- ✓ 100% electrification of barangays (villages) by 2006
- ✓ Privatization of the power sector
- ✓ Promotion of alternative clean fuels and efficient energy utilization
- ✓ Effective implementation of the deregulation of the downstream oil industry
- ✓ International cooperation

POWER DEVELOPMENT PLAN

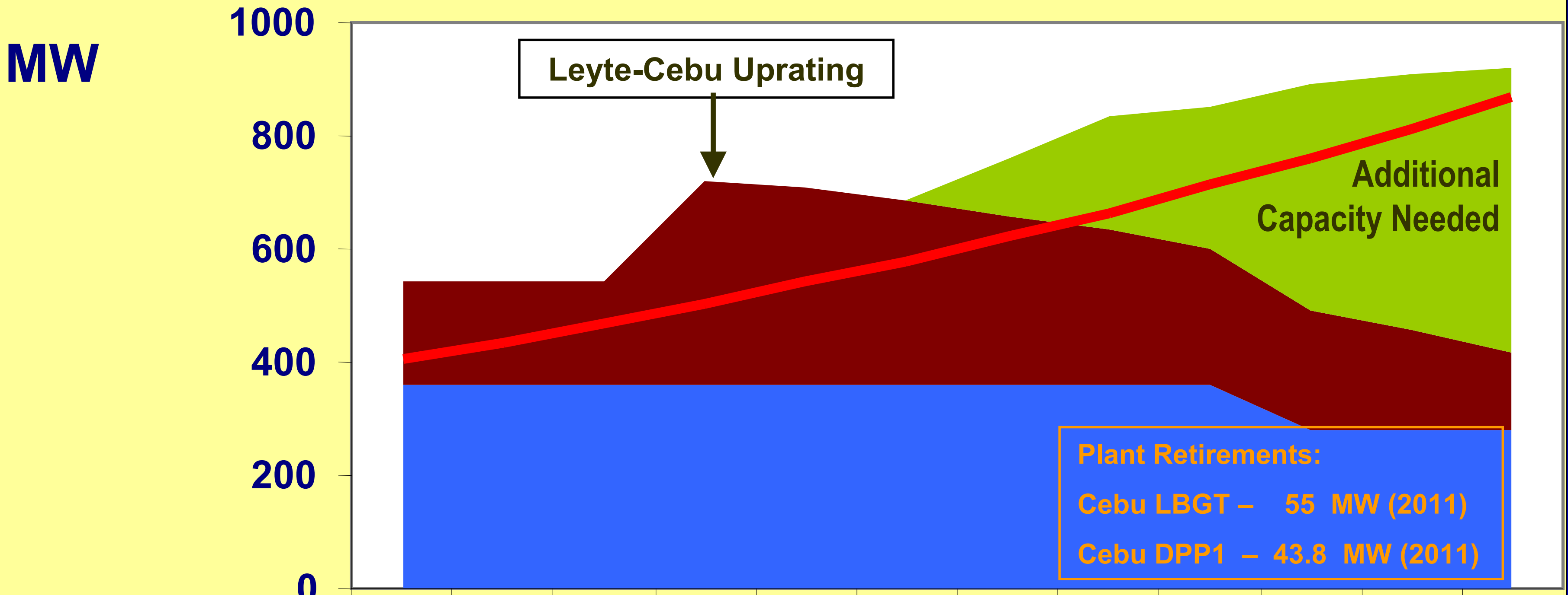
CNP SUPPLY INTERDEPENDENCE



Note: Panay includes PECO peak demand (68 MW)

Source of Data : PDP 2004-2013

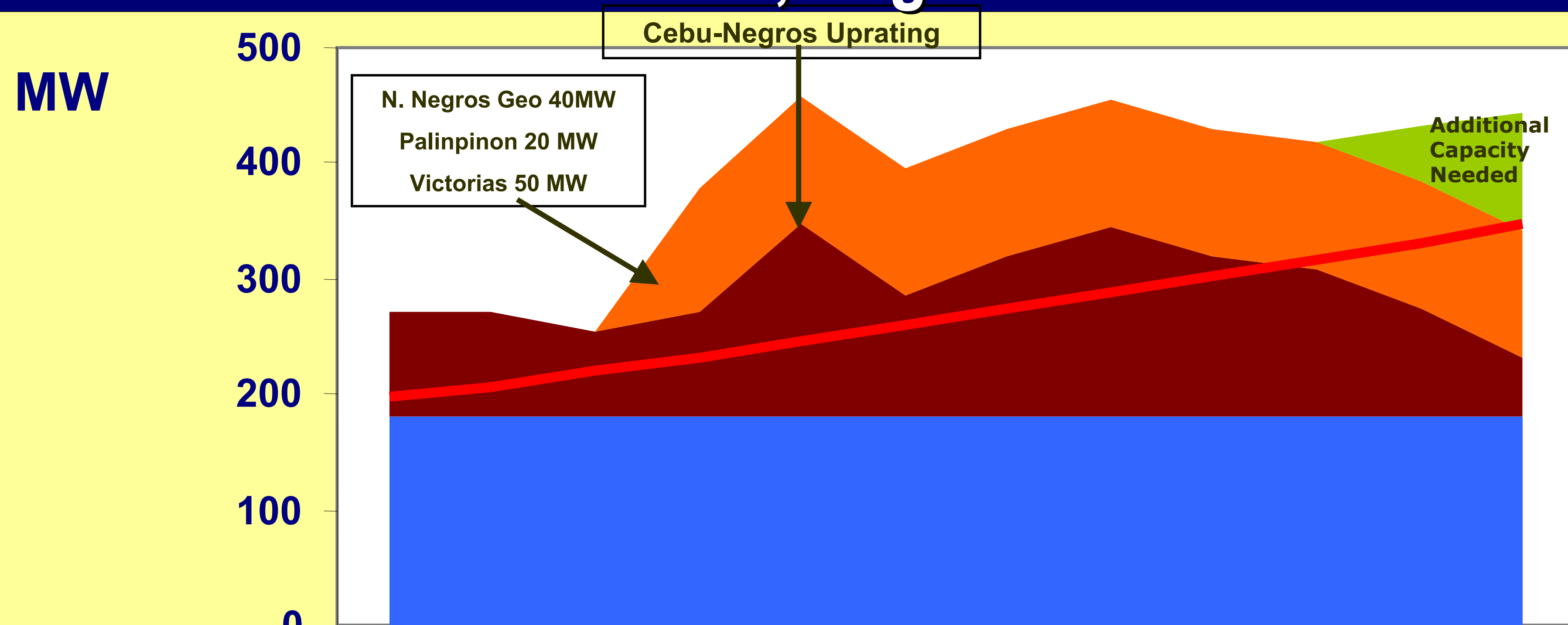
SUPPLY-DEMAND PROFILE, Cebu



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Req'd Cap. Add.	0	0	0	0	0	0	100	100	50	150	50	50
Leyte-Cebu Int.	180	180	180	360	348	325	299	271	241	209	175	139
Existing	361	361	361	361	361	361	361	361	361	281	281	281
Peak	407	435	467	502	541	579	621	666	713	762	813	866

POWER DEVELOPMENT PLAN

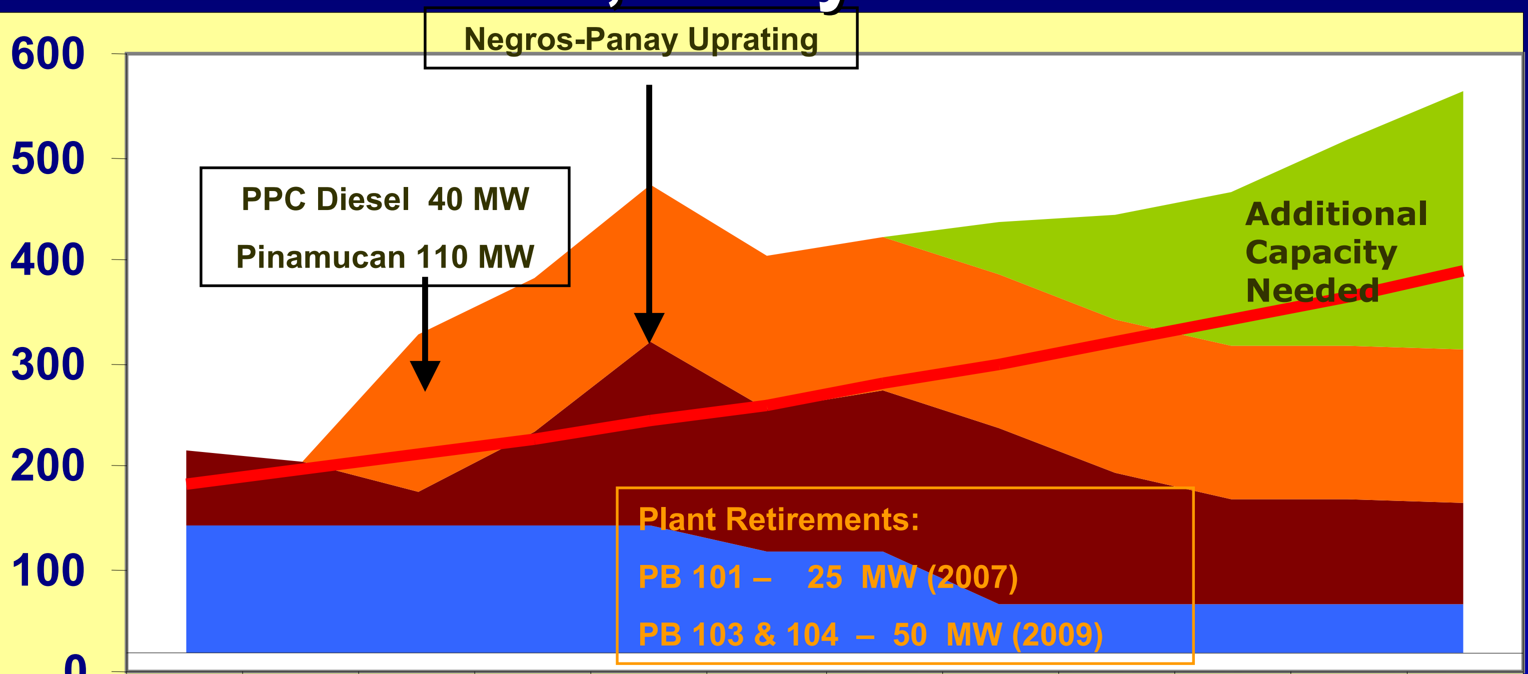
SUPPLY-DEMAND PROFILE, Negros



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Req'd Cap. Add.	0	0	0	0	0	0	0	0	0	0	50	50
Committed	0	0	0	110	0	0	0	0	0	0	0	0
Cebu-Negros Int.	90	90	74	90	168	107	139	166	139	128	93	53
Existing	180	180	180	180	180	180	180	180	180	180	180	180
Peak	197	207	219	232	246	259	273	287	302	317	332	347

POWER DEVELOPMENT PLAN

SUPPLY-DEMAND PROFILE, Panay



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Req'd. Cap. Add.	0	0	0	0	0	0	0	50	100	150	200	250
Committed	0	0	150	150	150	150	150	150	150	150	150	150
Negros-Panay Int.	73	62	34	90	180	138	156	169	127	101	101	96
Existing	141	141	141	141	141	116	116	66	66	66	66	66
Peak	183	195	210	225	243	260	279	299	320	342	365	389

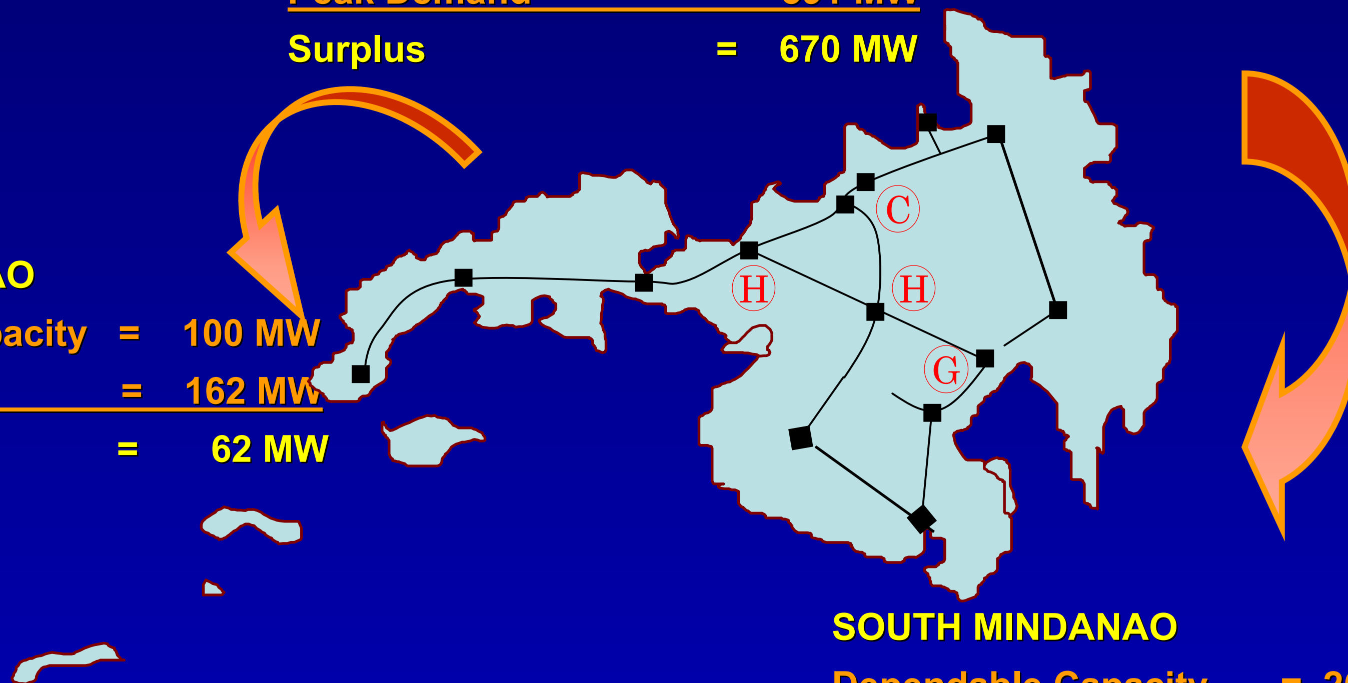
MINDANAO SUPPLY INTERDEPENDENCE

NORTH MINDANAO

Dependable Capacity = 1061 MW

Peak Demand = 391 MW

Surplus = 670 MW



WEST MINDANAO

Dependable Capacity = 100 MW

Peak Demand = 162 MW

Import = 62 MW

SOUTH MINDANAO

Dependable Capacity = 262 MW

Peak Demand = 495 MW

Import = 233 MW

Mindanao Total	
Dep. Capacity	= 1,423 MW
Peak Demand	= 1,048 MW
Surplus	= 375 MW

T/L length = 5,627 ckt kms