POWER SECTOR

More than six years after the implementation of the Electric Power Industry Reform Act (EPIRA), the country is now moving towards a competitive power market. Significant progress has been made in the restructuring and privatization of the Philippine electric power industry. The following fundamentals prescribed by EPIRA are already in place: unbundled rates among generation, transmission, distribution and other related services; removal of cross subsidies in the generation, transmission, distribution and within different customer classifications to reflect the true cost of providing service; commercial operation of the Wholesale Electricity Spot Market (WESM) in Luzon. The remaining conditions that need to be complied for the implementation of the Open Access and Retail Competition is the privatization of at least seventy (70%) of the total capacity of NPC's generating assets in Luzon and Visayas and transfer of the management and control of the total energy output of power plants under contract with NPC to the Independent Power Producer Administrators (IPPAs).

At present, 2,772 MW which is equivalent to 73.2% of NPC generating assets have been privatized. This translates to USD2,705.74 million of privatization funds for 12 power plants nationwide.

Privatized Generating Assets

Power Plant	Rated Capacity (in MW)	Location	Winning Bidder	Winning Bid Price (US$)	Price (US$M/MW)
Talomo Hydroelectric Power Plant	3.5	Davao	Hydro Electric Development Corporation	$ 1.37 Million	0.39
Agusan Hydroelectric Power Plant	1.6	Agusan	First Generation Holdings	$ 1.53 Million	0.93
Barit Hydroelectric Power Plant	1.8	Camarines Sur	Atty. Ramon I. Constancio	$ 0.48 Million	0.27
Cawayan Hydroelectric Power Plant	0.4	Sorsogon	Sorsogon II Electric Cooperative, Inc.	$ 0.41 Million	1.02
LobocHydroelectric Power Plant	1.2	Bohol	Sta. Clara International Corporation	$ 1.42 Million	1.18
Pantabangan - Masiway Hydroelectric Power Plant	112	Nueva Ecija	First Gen Hydropower Corporation	$ 129 Million	1.15
Magat Hydroelectric Power Plant	360	Isabela	SN Aboitiz Power Corporation	$ 530 Million	1.47
Masinloc Coal-Fired Thermal Power Plant	600	Zambales	Masinloc Power Partners Co. Ltd.	$ 930 Million	1.55
Calaca Coal-Fired Thermal Power Plant	600	Batangas	Calaca Holdco Inc.	$ 787 Million	1.31
Ambuklao - Binga Hydroelectric Power Plant	175	Benguet	SN Aboitiz Power Hydro Inc.	$ 325 Million	1.86
Tiwi - Makban Geothermal Complex	747.53	Albay, Laguna/ Batangas	AP Renewables Inc.	$ 446.89 Million	0.6
Panay and Bohol Diesel Power Plants	168.5	Iloilo and Bohol	SPC Power Corporation	$ 5.86 Million	0.04

Source: PSALM

In the recent developments in the power industry, the 25-year TransCo Concession Contract was awarded to the National Grid Corporation of the Philippines, a consortium of the Monte Oro Grid, Calaca High Power Corp. and State Grid Corp. of China, for a bid price of USD3.95 billion. In nearly two years after the commercial operation of WESM in Luzon, the generators still dominate the market with only an addition of five suppliers. While in the Visayas, trial operations are on-going.

The power sector offers several investment opportunities in the on-going privatization of the remaining generating assets, participation as an IPPA, putting up of new power plant capacity using the Power Development Plan as a reference, participate in the rural missionary electrification program either as a New Power Provider (NPP) in NPC's Small Power Utilities Group (SPUG) areas or as a Qualified Third Party in remote and unviable areas.

WESM LUZON REGISTRANTS

GENERATORS	NO. OF GENERATORS	REGISTERED	REGISTERED MW
ALL GENERATORS	27	21	11,470
1. NPC - Owned (Trading Teams)	5	5	1,786
2. PSALM (NPC - IPPs) (Trading Teams)	3	3	6,216
3. First Gas Power Corporation	1	1	1,040
4. FGP Corporation	1	1	533
5. Quezon Power Philippines (Limited) Co.	1	1	459
6. First Gen Hydro Power Corporation	2	2	112
7. SN Aboitiz Power Corp. Inc.	1	1	380
8. Trans Asia Power Generation	1	1	50
9. Northwind Power Development Corp.	1	1	27
10. SN Aboitiz Power - Benguet, Inc.	1	1	100
11. Masinloc Power Partners Co. Ltd.	1	1	600
12. Other IPPs	9	3	167
CUSTOMERS	NO. OF CUSTOMERS	REGISTERED	REGISTERED MW
ALL CUSTOMERS	163	8	4,826
1. Private Distribution Utilities	11	1	4,588
2. Rural Electric Cooperatives	44	6	224
3. Other Customers	108	1	14
SUPPLIERS	NO. OF SUPPLIERS	REGISTERED	
ALL SUPPLIERS	5	5	
1. Team (Philippines) Energy Corporation	1	1	
2. Aboitiz Energy Solution, Inc.	1	1	
3. Trans Asia Oil and Energy Dev't Corp.	1	1	
4. Angeles Power Inc.	1	1	
5. AES Philippines Inc.	1	1	

Source: PEMC *As of September 10, 2008*

Privatization of NPC's Generating Assets

In the remaining generating assets, PSALM is in the process of bidding out the 0.8 MW Amlan Hydro Plant within the year. For 2009, the power plants to be privatized are the 620 MW Limay Combined Cycle Power Plant in Bataan, 54 MW Cebu Diesel Power Plant II, 100 MW Power Barge 117 in Agusan del Norte, 225 Bataan Thermal Power Plant, 100 MW Power Barge 118 in Compostela Valley, 114 MW Iligan I & II Diesel/Bunker, 210 MW Navotas I/100 MW Navotas II Diesel, 55 MW Naga LBGT, 850 MW Sucat Thermal Bunker, 192.5 MW Palinpinon, 150 MW Bacman Geothermal, 112.5 Tongonan Geothermal, and the 246 MW Angat Hydro Plant.

IPP Administrator

IPP Administrator refers to qualified independent entities appointed by PSALM who shall administer, conserve and manage the contracted energy output of NPC IPP Contracts, including selling the energy output and/or offering ancillary services. The IPPAs will be organizations with the knowledge and skills to trade energy and establish bilateral contracts for energy supply and ancillary services. They will operate independently of PSALM.




The law prescribes that PSALM selects the IPPA through public bidding. The IPP Plants located in Luzon will be bidded out to prospective IPPAs since the Wholesale Electricity Spot Market (WESM) will initially cover the Luzon Grid only.

PSALM has initially identified the following plants in Luzon for transfer to the IPP Administrator:

IPP NAME	CONTRACTED CAPACITY, MW	IPP SPONSOR	LOCATION
Ilijan Natural Gas Combined Cycle	1200	Kepco Ilijan Corp	Ilijan, Batangas
Sual Coal Units 1 & 2	1000	Mirant Power Corp	Sual, Pangasinan
Pagbilao Coal 1 & 2	700	Mirant Power Corp	Pagbilao, Quezon
Bauang Diesel Plant	215	Bauang Private Power	Bauang, La Union
Subic Diesel Plant	116	Enron Power Corp	Subic, Zambales
Casecnan Multi-Purpose Hydro	140	National Irrigation Administration	Casecnan, Nueva Ecija
San Roque Multi-Purpose Hydro	340	Marubeni/Sithe	San Manuel, Pangasinan
Bakun Hydro	70	AEV-NMHC-others	Benguet, Ilocos Sur
Leyte B Geothermal (Leyte - Luzon) (MEOT)	440	PNOC-EDC	Tongonan, Leyte
TOTAL	**4221**		

PSALM has finalized the IPPA Structure, Incentive Mechanism and Terms of Reference. The IPPA tender is scheduled on the first (1st) quarter of 2009.

Construction of New Power Plants

The 2008 update of the Power Development Plan indicates that the country requires a total capacity addition of 4,100 MW. The Luzon grid needs a cumulative capacity of 3,000 MW, the Visayas grid demands 500 MW while the Mindanao grid requires 600 MW additional capacity. Since the government is prohibited to enter into new obligations, it has encouraged the private sector to build up 1,020 MW additional generation capacities.

Committed Capacity Addition

PROJECTS	LOCATION	RATED CAPACITY (MW)	PROPONENT	YEAR AVAILABLE
LUZON		**600.0**		
Coal-Fired Power Plant	Bataan	600	GN Power	2011
VISAYAS		**320.0**		
Cebu Coal-Fired Power Plant	Cebu	200	KEPCO SPC Power Corporation	2011
Coal-Fired Power Plant	Iloilo	100	DMCI Power Corp.	2011
Nasulo Geothermal	Negros Oriental	20	Energy Development Corporation	2010
MINDANAO		**100.5**		
Sibulan Hydroelectric Power	Davao del Sur	42.5	Hedcor Sibulan, Inc.	2009
Cabulig Hydro	Misamis Oriental	8	CEPALCO	2010
Mindanao 3 Geothermal	North Cotabato	50	Energy Development Corporation	2011
TOTAL		**1,020.5**		

The remaining capacity requirement offer vast opportunities in the generation business for private sector investment. At present, project development led by the private sector are in different stages and indicate a potential capacity addition of 4,543 MW.

Indicative Power Projects

PROJECTS	LOCATION	RATED CAPACITY (MW)	PROPONENT	YEAR AVAILABLE
LUZON		**3,136.5**		
Burgos Wind Power Project Phase 1 (formerly North Luzon Wind Power Project Phase 1)	Burgos, Ilocos Norte	40	Energy Development Corporation	2009
Nueva Ecija Biomass Power Project	Nueva Ecija	15	Green Power	2010
Pangasinan Biomass Power Project	Malasiqui	17.5	Green Power	2010
Ilijan CCGT Expansion	Batangas City	300	KEPCO Ilijan	2009
Burgos Wind Power Project Phase 2	Burgos, Ilocos Norte	46	Energy Development Corporation	2010
2nd Phase CFB Coal-Fired Power Plant	Pampanga	50	Asia Pacific Energy Corporation	2010
Coal-Fired Power Plant	Subic	300	Redondo Peninsula Energy, Inc.	2012
San Gabriel Power Plant	Batangas City	550	First Gen Holdings Corp. and BG Consolidated Corp.	2011
Kalayaan Pumped Storage Power Plant III (CBK Expansion)	Lumban, Laguna	360	Power and Sumitomo Corp.	2012
Tanawon Geothermal Project	Sorsogon	40	Energy Development Corporation	2010
Rangas Geothermal Plant	Sorsogon	40	Energy Development Corporation	2014
Manito-Kayabon Geothermal Plant	Sorsogon	40	Energy Development Corporation	2014
Balintingon River Multi-purpose Project	Nueva Ecija	30	National Irrigation Administration	2015
Northwind Pamplona Project	Cagayan Valley	30	Northwind Power	2015
Pagbilao Expansion	Quezon	400	Team Energy Corporation	
Pantabangan Expansion	Nueva Ecija	78	First Gen Hydro Power Corp.	
CCGT Power Station	Quezon Province	300	Energy World International Ltd.	
Quezon Power Expansion Project	Mauban, Quezon	500	Quezon Power Phils.	




PROJECTS	LOCATION	RATED CAPACITY (MW)	PROPONENT	YEAR AVAILABLE
VISAYAS		**644**		
Panay Biomass Power Project ONE	Iloilo	17.5	Green Power Panay Philippines, Inc.	2010
Panay Biomass Power Project TWO	Capiz	17.5	Green Power Panay Philippines, Inc.	2010
Negros Biomass Power Project TWO	Negros	30	Green Power Negros Philippines, Inc.	2012
Toledo Expansion Project	Cebu	246	Global Business Power Corp.	Phase 1 - 2010 Phase 2 - 2011
GBPC Coal-Fired Plant (Panay Power Corp.)	Iloilo	164	Global Business Power Corp.	2011
Dauin Geothermal	Dauin, Negros Oriental	40	Energy Development Corporation	2014
Aklan Hydropower Project	Libacao, Aklan	41	CalEnergy International Ltd.	2012
Villasiga HEP	Sibalom, Antique	8	SUNWEST Water & Electric Co., Inc.	2013
Southern Leyte Geothermal Project (formerly Cabalian Geothermal Project)	Southern Leyte	80	Energy Development Corporation	2016
MINDANAO		**762.50**		
Cagayan de Oro Biomass Power Project	Cagayan de Oro	15	Green Power Cagayan de Oro Philippines, Inc.	2012
Bunker-Fired Power Plant		20	MINERGY	2010
Tamugan AB, Panigan and Suawan Hydroelectric Power	Davao City	34.5	Hedcor Tamugan, Inc.	2010
Agus 3 Hydroelectric Plant	Lanao del Norte	225	Lanao Hydropower Development Corporation	2011
SM 200 MW CFBB CFTPP	Southern Mindanao	200	Conal Holdings Corporation	2011
Sultan Kudarat Coal	Sultan Kudarat	200	MG Mining & Energy Corporation	2012
Tagoloan Hydropower	Bukidnon	68	Luzon Hydro Corporation	2012
TOTAL		**4,543**		

Source: Electric Power Industry Management Bureau

New Power Provider in Missionary Areas

New Power Provider (NPP) refers to an entity deemed technically and financially capable to serve/take over existing NPC-SPUG areas, resulting from a competitive selection process. In 2004, the DOE declared that all 75 Missionary Electrification areas currently served by NPC-SPUG would be gradually opened for private sector participation (PSP) as a NPP. This is to reduce the total cost of generation, provide reliable supply, reduce NPC's deficit and total subsidy requirement. As an initial undertaking, the DOE declared fourteen (14) island grids as a priority for PSP. To date, nine Electric Cooperative (ECs) have chosen their respective NPPs, an EC is in the process of selecting its NPP, 2 ECs are improbable. NPC has formally opened to private sector investors the 61 remaining areas serviced by SPUG.

14 FIRST WAVE SPUG AREAS	ELECTRIC COOPERATIVE	NEW POWER PROVIDER
Bantayan	BANELCO	Bantayan Island Power Corporation
Oriental Mindoro	ORMECO	Power One Corporation
Catanduanes	FICELCO	Catanduanes Power Generation Incorporated
Palawan (Puerto Princesa and Narra)	PALECO	Palawan Power Generation Incorporated
Tablas Island	TIELCO	3i Powergen Incorporated
Marinduque	MARELCO	3i Powergen Incorporated
Romblon	ROMELCO	3i Powergen Incorporated
Masbate	MASELCO	DMCI Power Corporation
Basilan	BASELCO	Coastal Power Development Corporation
Siquijor	PROSIELCO	On going
Tawi-Tawi	TAWELCO	Undecided
Camotes Island	CELCO	Undecided
Occidental Mindoro	OMECO	Not Doable
Sulu	SULECO	Not Doable

Qualified Third Party (QTP) in Unviable Areas

Qualified Third Party (QTP) refers to the alternative electric service provided that meets the standards and chosen in accordance with the process set forth, duly qualified and authorized by the ERC to serve unviable areas pursuant to Section 9 of the EPIRA and Rule 14 of the EPIRA-IRR. The participation as a QTP shall be open to any party, including but not limited to private firms, local government units, cooperatives, non-government organizations, generation companies or their subsidiaries. All QTPs shall adopt least-cost and most efficient technology option in serving unviable areas. Preference shall be given to persons or entities that can offer the least-cost technologies utilizing renewable energy resources.

The areas pilot tested are in Brgy. Rio Tuba, Bataraza, Palawan by PowerSource CEP and in Masbate through the Philippine Rural Electrification Service (PRES) Project with SPUG as the Interim QTP. PowerSource currently provides 1,100 households in Palawan with 24/7 electricity service. While in Masbate, 5,126 households (107 barangays) are energized with solar PV system.