

Investment Opportunities in the Energy Sector



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Presentation Outline

- Power
- Oil & Gas
- Coal
- Natural Gas
- Alternative Fuels
- Renewable Energy



Power



Power Sector Situation

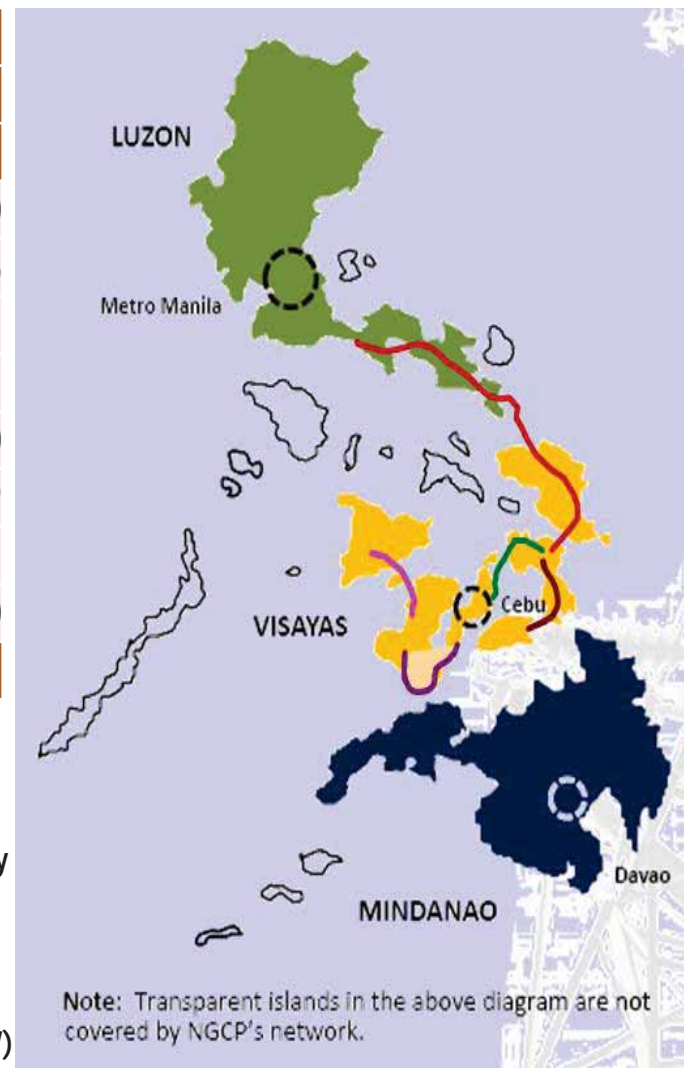
Capacity by Plant Type

FUEL TYPE	PHILIPPINES			
	Capacity (MW)		Percent Share (%)	
	Installed	Dependable	Installed	Dependable
Coal	5,843	5,354	31.68	33.80
Oil Based	3,608	2,750	19.56	17.36
Natural Gas	2,862	2,760	15.52	17.43
Geothermal	1,918	1,607	10.40	10.14
Hydro	3,556	2,993	19.28	18.90
Wind	373	189	2.02	1.19
Solar	102	75	0.55	0.47
Biomass	183	110	0.99	0.70
TOTAL	18,445	15,838		

Note: Assuming all units of power plants are in operation.
 Installed and Dependable capacity as of 30 June 2015
 Available Capacity based on highest recorded capacity
 (non-coincidental) as of 30 June 2015
 Excluding off-grid generators

Interconnection Line Capacity

- Leyte-Luzon (440 MW)
- Leyte-Cebu (400 MW)
- Cebu-Negros (200 MW)
- Negros – Panay (100 MW)
- Leyte-Bohol (100 MW)



Power Sector Situation

Capacity Mix

FUEL TYPE	LUZON				VISAYAS				MINDANAO			
	Capacity (MW)		Percent Share (%)		Capacity (MW)		Percent Share (%)		Capacity (MW)		Percent Share (%)	
	Installed	Dependable	Installed	Dependable	Installed	Dependable	Installed	Dependable	Installed	Dependable	Installed	Dependable
Coal	4,806	4,514	35.56	38.03	806	630	29.93	29.86	232	210	10.37	11.29
Oil Based	2,139	1,592	15.83	13.41	670	453	24.90	21.47	799	705	35.72	37.88
Diesel	769	652	5.69	5.49	615	411	22.86	19.48	799	705	35.72	37.88
Oil Thermal	650	320	4.81	2.7								
Gas Turbine	720	620	5.33	5.22	55	42	2.04	1.99				
Natural Gas	2,861	2,759	21.17	23.25	1	1	0.04	0.05				
Geothermal	844	692	6.24	5.83	965	817	35.86	38.73	108	98	4.85	5.27
Hydro	2,484	2,145	18.38	18.08	11	11	0.42	0.51	1,061	837	47.41	45.01
Wind	283	103	2.09	0.87	90	86	3.34	4.08				
Biomass	50	29	0.37	0.24	96	71	3.58	3.38	36	10	1.6	0.54
Solar	49	34	0.36	0.29	52	41	1.93	1.92	1	0.3	0.04	0.02
TOTAL	13,516	11,868			2,692	2,110			2,237	1,860		

Note: Assuming all units of power plants are in operation.

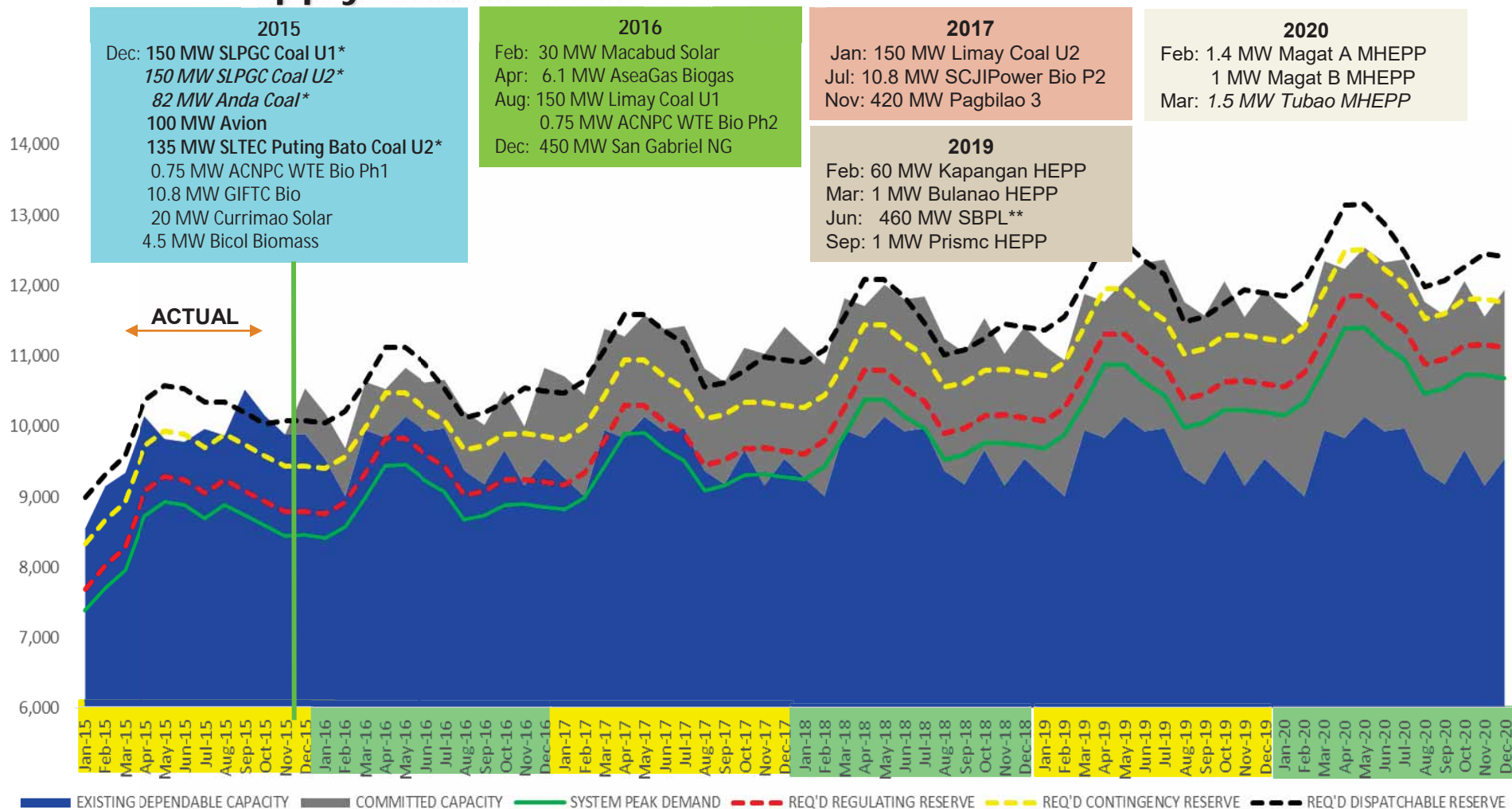
Installed and Dependable capacity as of 30 June 2015

Available Capacity based on highest recorded capacity (non-coincidental) as of 30 June 2015

Excluding off-grid generators

Power Outlook – Luzon Grid

Demand-Supply Outlook 2015-2020



- Required Reserve Margin (RM) i.e. 4% regulating reserve and contingency and dispatchable reserve requirement
- 4.2 % peak demand growth rate resulted from observed 0.6 elasticity ratio of demand for electric power with national economic growth applied to 7 percent GDP growth rate (GR) target for 2015.
- 4.8 % peak demand growth rate resulted from observed 0.6 elasticity ratio of demand for electric power with national economic growth applied to 8 percent GDP growth rate (GR) target for 2016-2020.

* On-going testing and commissioning

** awaiting certificate of financial closure

Bold & italicized – with changes on schedule; new entry

As of 15 November 2015

Power Outlook – Luzon Grid

Summary of Power Projects

Type of Power Plant	Committed		Indicative	
	No. of Proponents	Capacity (MW)	No. of Proponents	Capacity (MW)
Coal	6	1,697.00	9	6,400.00
Oil-Based	0	0.00	1	150.00
Natural Gas	2	550.00	2	1,500.00
Renewable Energy	12	149.60	28	983.95
<i>Geothermal</i>	<i>0</i>	<i>0.00</i>	<i>1</i>	<i>111.00</i>
<i>Hydro</i>	<i>5</i>	<i>65.90</i>	<i>20</i>	<i>536.80</i>
<i>Biomass</i>	<i>5</i>	<i>33.70</i>	<i>2</i>	<i>21.60</i>
<i>Solar</i>	<i>2</i>	<i>50.00</i>	<i>1</i>	<i>65.55</i>
<i>Wind</i>	<i>0</i>	<i>0.00</i>	<i>4</i>	<i>249.00</i>
Battery Energy Storage	0	0.00	1	10.00
TOTAL LUZON	20	2,396.60	41	9,043.95

Power Outlook – Luzon Grid

Committed Power Projects: 2,396.6 MW

Name of the Project	Project Proponent	Mother/ JV Company	Location	Rated Capacity (MW)	Target Testing & Commissioning	Target Commercial Operation
Anda Power Corporation Cicularing Fluidized Bed Coal Fired Power Plant***	Anda Power Corporation	Anda Power Corporation	Brgy. Bundagul, Mabalacat, Pampanga	82.0	June 2015 ^b	Dec 2015 ^b
SLPGC Coal-Fired Power Plant Phase I Unit 1***	Southwest Luzon Power Generation Corporation (SLPGC)	DMCI Power Corporation	Brgy. San Rafael, Calaca, Batangas	150.0	June 2015	Dec 2015 ^b
Puting Bato Coal Fired Power Plant Phase II***	South Luzon Thermal Energy Corp. (SLTEC)	Trans Asia Oil and Energy Development Corporation (TAOil)	Brgy. Puting Bato West, Calaca, Batangas	135.0	Aug 2015	Dec 2015 ^b
SLPGC Coal-Fired Power Plant Phase I Unit 2***	Southwest Luzon Power Generation Corporation (SLPGC)	DMCI Power Corporation	Brgy. San Rafael, Calaca, Batangas	150.0	Aug 2015	Dec 2015
Limay Power Plant Project Phase I Unit 1	SMC Consolidated Power Corporation	SMC Consolidated Power Corporation	Brgy. Lamao, Limay, Bataan	150.0	May 2016	Aug 2016
Limay Power Plant Project Phase I Unit 2	SMC Consolidated Power Corporation	SMC Consolidated Power Corporation	Brgy. Lamao, Limay, Bataan	150.0	Oct 2016	Jan 2017
Pagbilao 3 Coal-Fired Thermal Power Plant	Pagbilao Energy Corporation	TeaM Energy / Aboitiz Power	Pagbilao Power Station, Nrgy. Ibabang Polo, Pagbilao, Quezon	420.0	May-2017	Nov-2017
San Buenaventura Power Ltd. Co. (SBPL) Project****	San Buenaventura Power Ltd. Co. (SBPL)	QPPL/EGCO	Mauban, Quezon	460.0	Dec 2018 ^b	June 2019
TOTAL COAL				1,697.0		
ACNPC WTE Biomass Power Plant Project	Asian Carbon Neutral Power Corporation	Asian Carbon Neutral Power Corporation	Tarlac City, Tarlac	Phase 1 – 0.75MW Phase 2 – 0.75MW	Phase 1 - September 2015 Phase 2 - July 2016	Phase 1 - Dec 2015 ^a Phase 2 - July 2016

* Excluding Off-grid power projects

*** on-going testing and commissioning

^b Updated from proponent's submission

^a Revised based on REMB's report

**** awaiting certificate of financial closure

Power Outlook – Luzon Grid

Committed Power Projects: 2,396.6 MW

Name of the Project	Project Proponent	Mother/ JV Company	Location	Rated Capacity (MW)	Target Testing & Commissioning	Target Commercial Operation
GIFTC Rice Husk-Fired Biomass Power Plant Project	Green Innovations for Tomorrow Corporation (GITC)	Green Innovations for Tomorrow Corporation (GITC)	Muñoz, Nueva Ecija	10.8	Nov-2015	Dec-2015 ^a
Bicol Biomass Energy Corporation	Bicol Biomass Energy Corporation	Bicol Biomass Energy Corporation	Pili, Camarines Sur	4.5	Dec-2015	Mar-2016 ^a
Biogas Power Plant Project ¹	AseaGas Corporation	AseaGas Corporation	Batangas	6.1	Feb 2016	April 2016
SJCityPower Rice Husk-Fired Biomass power Plant Project Phase 2	San Jose City I Power Corporation	San Jose City I Power Corporation	Brgy. Tulat, San Jose, Nueva Ecija	10.8	June 2017	July 2017
TOTAL BIOMASS				33.7		
San Gabriel Avion Project	Prime Meridian PowerGen Corporation	First Gen Power Corporation	Barangay Bolbok, Batangas	100.0	Aug 2015	Dec-2015 ^b
San Gabriel Project	First Gas Power Corp.	First Gen Power Corporation	San Gabriel, Batangas	450.0	Mar-2016	Dec 2016 ^b
TOTAL NATURAL GAS				550.0		
Kapangan HEPP	Cordillera Hydro Electric Power Corp	Cordillera Hydro Electric Power Corp	Kapangan & Kibungan, Benguet	60.0	Feb 2019	Feb 2019
Bulanao HEPP	DPJ Engineers and Consultants	DPJ Engineers and Consultants	Tabuk, Kalinga	1.0	Mar-2019	Mar-2019
Prismc HEPP	PNOC-Renewables Corporation	PNOC	Rizal, Nueva Ecija	1.0	Sep-2019	Sep-2019
Magat A	Isabela Electric Cooperative, Inc.	Isabela Electric Cooperative, Inc.	Ramon, Isabela	1.4	Feb 2020	Feb 2020
Magat B	Isabela Electric Cooperative, Inc.	Isabela Electric Cooperative, Inc.	Ramon, Isabela	1.0	Feb 2020	Feb 2020
Tubao Mini Hydro	Tubao Mini-Hydro Electric Corp	Tubao Mini-Hydro Electric Corp	Tubao, La Union	1.5	Mar 2020	Mar 2020
TOTAL HYDRO				65.9		
Currimao Solar Power Project	Mirae Asia Energy Corporation	SOLEQ	Currimao, Ilocos Norte	20.0	Dec-2015	Dec-2015
Macabud Solar Power Project	ATN Philippines Solar Energy Group, Inc.	ATN Philippines Solar Energy Group, Inc.	Brgy. Macabud, Rodriguez, Rizal	30.0	Feb-2016	Feb-2016
TOTAL SOLAR				50.0		
TOTAL LUZON				2,396.6		

* Excluding Off-grid power projects

** New Entry from Indicative list

^a Revised based on REMB's report

¹ New Entry to Committed Project based from REMB's report

^b Updated from proponent's submission

Power Outlook – Luzon Grid

Indicative Power Projects: 9,043.95 MW

Name of the Project	Project Proponent	Mother/ JV Company	Location	Rated Capacity (MW)	Target Commissioning
SMC Limay Power Plant Project Phase II (2x150MW)	SMC Consolidated Power Corporation	SMC Consolidated Power Corporation	Brgy. Lamao, Limay, Bataan	300.0	U1 (150 MW) – Jul 2017
					U2 (150 MW) – Dec 2017 ^b
SMC Limay Power Plant Project Phase III Unit 1	SMC Consolidated Power Corporation	SMC Consolidated Power Corporation	Brgy. Lamao, Limay, Bataan	300.0	U1 (150 MW) - Dec 2016
					U2 (150 MW) - May 2017
Lucidum Energy Coal Power Plant	Lucidum Energy, Inc. (LEI)	Lucidum Energy, Inc. (LEI)	Silanguin Bay, Zambales	300.0	Jun 2017
SLPGC Coal-Fired Power Plant Phase Ii	Southwest Luzon Power Generation Corporation (Project Company)	DMCI Power Corporation	Brgy. San Rafael, Calaca, Batangas	300.0	Unit 1 - Dec 2017 Unit 2 - Dec 2017
SMC Limay Power Plant Project Phase III Unit 2	SMC Consolidated Power Corporation	SMC Consolidated Power Corporation	Brgy. Lamao, Limay, Bataan	300.0	Dec-2017
JGS Coal Fired Thermal Power Plant Unit 1	JG Summit Holdings, Inc.	JG Summit Holdings, Inc.	Brgy. Pinamukan Ibaba, Batangas City	150.0	Unit 1 - June 2018
JGS Coal Fired Thermal Power Plant Unit 2	JG Summit Holdings, Inc.	JG Summit Holdings, Inc.	Brgy. Pinamukan Ibaba, Batangas City	150.0	Unit 2 - Dec 2018
Redondo Peninsula Coal-Fired Power Plant	Redondo Peninsula Energy, Inc.	MERALCO MGEN Power Corporation/ Aboitiz Power Corporation/ Taiwan Cogeneration Corporation	Sitio Naglatore, Cawag, Subic Bay Freeport Zone	600.0	Dec 2019 ^b
GNPower Mariveles Expansion Project	GNPower Mariveles Coal Plant Ltd. Co.	GNPower Ltd. Co.	Mariveles, Bataan	1,200.0	U1 (300 MW) – Dec 2018 ^b
					U2 (300 MW) – Jan 2020
JGS Coal Fired Thermal Power Plant Unit 3	JG Summit Holdings, Inc.	JG Summit Holdings, Inc.	Brgy. Pinamukan Ibaba, Batangas City	150.0	Unit 3 - June 2019
Masinloc Expansion	AES Masinloc Power Partners Co., Inc.	AES Philippines Power Partners Co., LTD.	Zambales	600.0	U3 (300 MW) – Dec 2019
					U4 (300 MW) – Dec 2019 ^b
JGS Coal Fired Thermal Power Plant Unit 4	JG Summit Holdings, Inc.	JG Summit Holdings, Inc.	Brgy. Pinamukan Ibaba, Batangas City	150.0	Unit 4 - Dec 2019
AOE Coal-Fired Power Plant	Atimonan One Energy	Meralco PowerGen Corporation	Atimonan, Quezon	1,200.0	U1 – Dec 2020
					U2 – May 2021
PTE Sub-Critical Coal-Fired Power Plant	H & WB Asia Pacific (PTE)	H & WB Asia Pacific (PTE)	Camarines Norte	700	U1 - Dec 2020 U2 - Dec 2025
TOTAL COAL				6,400.0	

*Excluding Off-grid power projects

^b Updated from proponent's submission

Power Outlook – Luzon Grid

Indicative Power Projects: 9,043.95 MW

Name of the Project	Project Proponent	Mother/ JV Company	Location	Rated Capacity (MW)	Target Commissioning
Aero Derivative Combined Cycle Power Plant	Calamba Aero Power Corporation	MERALCO MGEN Power Corporation	Calamba, Laguna	150.0	TBD
TOTAL OIL-BASED				150.0	
Pagbilao Combined Cycle Gas Fired Power Plant***	Energy World Corporation (EWC)	Energy World Corporation (EWC)	Isla Grande, Pagbilao, Quezon Province	600.0	U1 (200 MW)- Apr 2016 ^b
					U2 (200 MW)- Jul 2016 ^b
					U3 (200 MW)- Dec 2016 ^b
Sta Maria Project (formerly San Gabriel Phase 2 Project)	First Gen Corporation	First Gen Corporation	Sta Maria, Batangas	900.0	U1 – Dec 2017 U2 – Dec 2019
TOTAL NATGAS				1,500.0	
Bacman 3 (Tanawon) Geothermal Project	Energy Development Corporation (EDC)	Energy Development Corporation (EDC)	Guinlajon, Sorsogon	31.0	Dec 2017
Rangas Geothermal Project	Energy Development Corporation (EDC)	Energy Development Corporation (EDC)	Bacon District, Sorsogon	40.0	Jun 2019 ^a
Kayabon Geothermal Project	Energy Development Corporation (EDC)	Energy Development Corporation (EDC)	Manito, Albay	40.0	May 2020 ^a
TOTAL GEOTHERMAL				111.0	
Clark Freeport Zone Solar Power Project**	Enfinity Philippines Renewable Resources, Inc	Enfinity Philippines Renewable Resources, Inc	Clark Freeport Zone, Pampanga	12.0	Dec 2015
Concepcion Solar Power Project**	Enfinity Philippines Renewable Resources, Inc		Brgy. Sta. Rosa, Concepcion, Tarlac	50.55	Dec 2015
Cavite Solar Power Project	Enfinity Philippines Renewable Resources, Inc	Enfinity Philippines Renewable Resources, Inc	Cavite Economic Zone, Rosario Cavite	3.0	March 2016
TOTAL SOLAR				65.55	

TBD – to be determined

* Excluding Off-grid power projects

** New Entry from REMB's report

*** not considered due to uncertainty of commissioning

^a Revised based on REMB's report

Power Outlook – Luzon Grid

Indicative Power Projects: 9,043.95 MW

Name of the Project	Project Proponent	Mother/ JV Company	Location	Rated Capacity (MW)	Target Commissioning
Ibulao Hydroelectric Power Project	Hydrocore, Inc.	Hydrocore, Inc.	Lagawe, Ifugao	4.5	Jun 2018
Dupinga Hydroelectric Power Project	Constellation Energy Corporation	Exelon Corporation	Gabaldon, Nueva Ecija	3	Jun-2018
Tinoc 1	Quadriver Energy Corp.	Quadriver Energy Corp.	Tinoc, Ifugao	4.1	Aug-2018 ^a
Tinoc 4	Philnew Hydro Power Corporation	Philnew Hydro Power Corporation	Tinoc, Ifugao	5	Aug-2018 ^a
Pinacanauan	Sunwest Water & Electric Co., Inc.	Sunwest Water & Electric Co., Inc. (SUWECO)	Peñablanca, Cagayan	6	Sep-2018
Tinoc 2	Philnew Hydro Power Corporation	Philnew Hydro Power Corporation	Tinoc, Ifugao	11	Jan 2019
Tinoc 3	Philnew Hydro Power Corporation	Philnew Hydro Power Corporation	Tinoc, Ifugao	5.0	Jan 2019
Colasi	Colasi Mini Hydro Electric Power Plant Corporation	Colasi Mini Hydro Electric Power Plant Corporation	Mercedes, Camarines Norte	0.96	Feb-2019
Majayjay	Majayjay Hydro Power Company, Inc.	Majayjay Hydro Power Company, Inc.	Majayjay, Laguna	2.2	Apr-2019
Ranggas	Clean and Green Energy Solutions, Inc.	Clean and Green Energy Solutions, Inc.	Goa & Tigaon, Camarines Sur	1.5	Jul 2019 ^a
Biyao	AV Garcia Power Systems Corp	AV Garcia Power Systems Corp	Balbalan, Kalinga	0.8	Aug-2019
Abdao HEP	AV Garcia Power Systems Corp.		Tabaan Sur, Tuba, Benguet	2	Sep-2019
Barit (Irrigation Discharge) Hydroelectric Power Project	NASCENT Technologies Corporation		Buhi, Camarines Sur	0.4	Sep-2019
Tumauni (Lower Cascade)	Quadriver Energy Corp	Quadriver Energy Corp	Tumauni, Isabela	7.8	Oct-2019
Tumauni (Upper Cascade)	Quadriver Energy Corp	Quadriver Energy Corp	Tumauni, Isabela	14	Oct-2019

*Excluding Off-grid power projects

** New Entry from REMB's report

^a Revised based on REMB's report

TBD – to be determined

Power Outlook – Luzon Grid

Indicative Power Projects: 9,043.95 MW

Name of the Project	Project Proponent	Mother/ JV Company	Location	Rated Capacity (MW)	Target Commissioning
Tinoc 5	Philnew Hydro Power Corporation		Tinoc, Ifugao	6.9	Dec 2019 ^a
Tinoc 6	Philnew Hydro Power Corporation		Tinoc, Ifugao	8	Dec 2019 ^a
Alilem	Philnew Hydro Power Corporation		Alilem, Ilocos Sur	16.2	Dec 2019
Kapipian	Sunwest Water & Electric Co., Inc.		San Miguel, Catanduanes	2.4	Jan-2020
Ilaguen	Isabela Power Corporation		San Mariano & San Guillermo, Isabela	19	Feb-2020
Cawayan 2	Sunwest Water & Electric Co., Inc.		Sorsogon, Sorsogon	0.99	Apr 2020
Ilaguen 2	Isabela Power Corporation	Isabela Power Corporation	Dinapigue, Isabela	14.0	May 2020
Danac	Philnewriver Power Corp.	Philnewriver Power Corp.	Sugpon, Ilocos Sur	13.2	Jun 2020
Matuno	Epower Technologies Corporation		Bambang, Nueva Vizcaya	8	Jun 2020
Dibuluan	Greenpower Resources Corp		San Agustin, Isabela	5	Jun 2020
Man-Asok	Benguet Electric Cooperative		Buguias, Benguet	3.0	Sept 2020
Quirino	Philnewriver Power Corp		Quirino, Ilocos Sur	11.5	Sept 2020
100 MW Alimit	SN Aboitiz Power-Ifugao	Aboitiz Power Corporation	Lagawe, Ifugao	100	Jan-2021
240 MW Alimit	SN Aboitiz Power-Ifugao	Aboitiz Power Corporation	Ifugao	240	Jan-2021 ^b
Olilicon HEPP**	SN Aboitiz Power-Ifugao	Aboitiz Power Corporation	Ifugao	10	Jan-2021 ^b
Maris Main Canal 1 HEP	SN Aboitiz Power Generation	Aboitiz Power Corporation	Ramon, Isabela	6	Jan-2021 ^b
Maapon River Mini-Hydro Power Project (MHP)	Renesons Energy Corporation		Brgy. Piis, Lucban, Quezon	2.6	TBD
Maris Main Canal2 HEP	SN Aboitiz Power Generation	Aboitiz Power Corporation	Alfonso Lista, Ifugao	1.75	TBD
TOTAL HYDRO				536.8	

* Excluding Off-grid power projects

** New entry from REMB's report

TBD – to be determined

^a Revised based on REMB's report

^b Updated from proponent's submission

Power Outlook – Luzon Grid

Indicative Power Projects: 9,043.95 MW

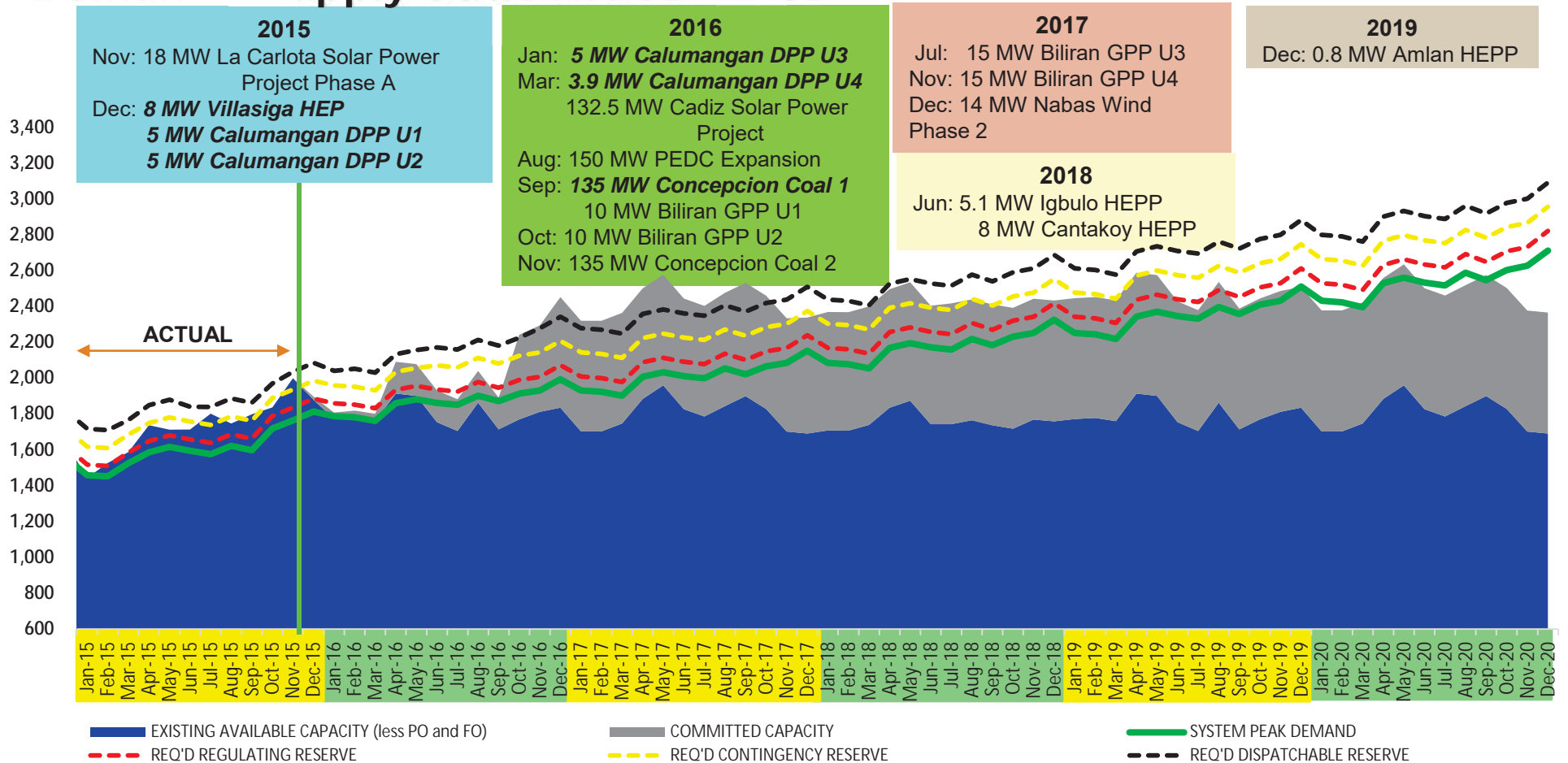
Name of the Project	Project Proponent	Mother/ JV Company	Location	Rated Capacity (MW)	Target Commissioning
Pasuquin East Wind Power Project (Phase 1)	Energy Logics Philippines, Inc.	Delgado Group of Companies	Pasuquin, Ilocos Norte	48.0	Jun 2016
Sembrano Wind Power Project (Formerly Mabitac Wind Power Project Phase 2)	Alternergy Sembrano Wind Corporation	Alternergy	Mt. Sembrano, Mabitac, Laguna	72.0	Apr 2017
Balaoi Wind Power Project	Northern Luzon UPC Asia Corporation	UPC Asia Corporation	Brgy. Balaoi, Pagudpud, Ilocos Norte	45.0	Aug 2017
Pagudpud Wind Power Project	EDC Pagudpud Wind Power Corporation	Energy Development Corporation	Brgy. Balaoi and Caunayan, Pagudpud, Ilocos Norte	84.0	Dec 2018
TOTAL WIND				249.0	
GGREC Rice Husk-Fired Biomass Power Plant Project	Grass Gold Renewable Energy Corp	Grass Gold Renewable Energy Corp	Nueva Ecija	10.8	Jan 2018
Napier Grass-Fired Biomass Power Plant Project	Cleangreen Energy Corporation	CleangreenEnergy Corporation	Bataan	10.8	Dec 2018
TOTAL BIOMASS				21.6	
Masinloc Advancion Energy Storage Array	AES Masinloc Power Partners Co., Inc.	AES Philippines Power Partners Co., LTD.	Masinloc, Zambales	10	Jun 2016
TOTAL BATTERY				10.0	
TOTAL INDICATIVE				9,043.95	

* Excluding Off-grid power projects
TBD – to be determined

^a Revised based on REMB's report

Power Outlook – Visayas Grid

Demand – Supply Outlook 2015 - 2020



- Reserve Margin (RM) i.e. 4% regulating reserve and largest online unit for contingency and dispatchable reserve requirement (100 MW to increase by 135 MW in 2016)
- 7% peak demand growth rate resulted from observed 1 elasticity ratio of demand for electric power with national economic growth applied to 7 percent GDP growth rate (GR) target for 2014-2015.
- 8% peak demand growth rate resulted from observed 1 elasticity ratio of demand for electric power with national economic growth applied to 8 percent GDP growth rate (GR) target for 2016-2020.

* On-going testing and commissioning
Bold & italicized – with changes on schedule

As of 15 November 2015

Power Outlook – Visayas Grid

Summary of Power Projects

Type of Power Plant	Committed		Indicative	
	No. of Proponents	Capacity (MW)	No. of Proponents	Capacity (MW)
Coal	2	420.00	2	300.00
Oil-Based	1	18.90	-	-
Natural Gas	-	-	-	-
Renewable Energy	8	236.40	15	261.11
<i>Geothermal</i>	1	50.00	1	40.00
<i>Hydro</i>	4	21.90	7	78.64
<i>Biomass</i>	-	-	4	61.80
<i>Solar</i>	2	150.50	1	30.67
<i>Wind</i>	1	14.00	2	50.00
Battery Energy Storage	-	-	1	40.00
TOTAL	11	675.30	18	601.11

Power Outlook – Visayas Grid

Committed Power Projects: 675.30 MW

Name of the Project	Project Proponent	Mother/ JV Company	Location	Rated Capacity (MW)	Target Testing & Commissioning	Target Commercial Operation
PEDC Expansion	Panay Energy Development Corporation	Global Business Power Corporation	Brgy. Ingore, La Paz, Iloilo	150.0	Aug 2016	Aug 2016 ^b
Concepcion Coal-fired Power Plant Unit 1	Palm Thermal Consolidated Holdings Corp.	AC Energy Holdings, Inc./ Palm Thermal Consolidated Holdings Corporation	Brgy. Nipa, Concepcion, Iloilo	135.0	Apr-2016	Sept 2016 ^c
Concepcion Coal-fired Power Plant Unit 2	Palm Thermal Consolidated Holdings Corp.	AC Energy Holdings, Inc./ Palm Thermal Consolidated Holdings Corporation	Brgy. Nipa, Concepcion, Iloilo	135.0	Sep-2016	Nov-2016
TOTAL COAL				420.00		
Calumangan Diesel Power Plant	Energreen Power Development & Management, Inc.		Brgy. Calumangan, Bago City, Negros Occidental	18.9	U1 – Nov 2015 ^b	U1 – Dec 2015 ^b
					U2 – Dec 2015 ^b	U2 – Dec 2015 ^b
					U3 – Dec 2015 ^b	U3 – Jan 2015 ^b
					U4 – Feb 2015	U4 – Mar 2016
TOTAL OIL-BASED				18.90		
Villasiga HEPP	Sunwest Water & Electric Co. Inc. (SUWECO)	Sunwest Water & Electric Co. Inc. (SUWECO)	Brgy. Igsoro, Bugasong, Antique	8.0	Jul-2015	Dec-2015 ^a
Igbulo (Bais) Hydroelectric Power Project*	Century Peak Energy Corporation	Century Peak Energy Corporation	Igbaras, Iloilo	5.1	June 2018 ^a	June 2018 ^a
Cantakoy HEP	Quadriver Energy Corp.	Quadriver Energy Corp.	Danao, Bohol	8.0	June 2018 ^a	June 2018
Amlan	Natural Power Sources Integration, Inc.	Natural Power Sources Integration, Inc.	Amlan, Negros Oriental	0.8	Nov 2019	Dec 2019
TOTAL HYDRO				21.90		
Nabas Wind Power Project Phase 2	Petrogreen Energy Corporation	Petrogreen Energy Corporation	Brgy. Pawa, Nabas, Aklan	14.0	Dec 2017	Dec 2017
TOTAL WIND				14.00		

* New Entry from Indicative List

^a Revised based on REMB's report

^c Revised based from DOE-VFO

^b Updated from proponent's submission

^d New Entry to Committed Project

Power Outlook – Visayas Grid

Committed Power Projects: 675.30 MW

Name of the Project	Project Proponent	Mother/ JV Company	Location	Rated Capacity (MW)	Target Testing & Commissioning	Target Commercial Operation
Biliran Geothermal Plant Project Phase 1*	Biliran Geothermal Incorporated	Orka Energy Philippine (Iceland)	Biliran, Biliran	50.0	Aug 2016	U1 – Sept 2016 ^b
						U2 – Oct 2016 ^b
						U3 – Jul 2017 ^b
						U4 – Nov 2017 ^b
TOTAL GEOTHERMAL				50.00		
La Carlota Solar Power Project Phase A (SACASOL II-A)	San Carlos Solar Energy Inc.	Bronzeoak Philippines	La Carlota City, Negros Occidental	18.0	Nov 2015	Nov 2015
Cadiz Solar Power Project	Philippine Power Solar Energy Corp. (formerly Phil.Power Exploration & Development Corporation)	SOLEQ	Brgy., Tinampa-an Cadiz City, Negros Occidental	132.5	Mar 2016	Mar 2016
TOTAL SOLAR				150.50		
TOTAL COMMITTED				675.30		

^a Revised based on REMB's report

^b Updated from proponent's submission

^c Revised based from DOE-VFO

^d New Entry to Committed Project

Power Outlook – Visayas Grid

Indicative Power Projects: 601.11 MW

Name of the Project	Project Proponent	Mother/ JV Company	Location	Rated Capacity (MW)	Target Commissioning
Therma Visayas Energy	Therma Visayas Inc.	Aboitiz Power Corporation	Brgy. Bato, Toledo City, Cebu	U1-150.0 U2-150.0	U1 – Dec 2017 U2 – Mar 2018
TOTAL COAL				300.00	
Dauin Geothermal Project	Energy Development Corporation (EDC)	Energy Development Corporation (EDC)	Dauin, Negros Oriental	40.0	Dec 2021
TOTAL GEOTHERMAL				40.00	
Miag-ao Solar Power Project	COSMO Solar Energy, Inc.	COSMO Solar Energy, Inc.	Miag-ao, Iloilo	5.67	Nov 2015
Grid Tied Solar Farm Project	E&P Green Energy, Inc.		Biliran, Biliran	25.0	Jun 2016
TOTAL SOLAR				30.67	
Pulupandan Wind Power Project	First Maxpower International Corporation	First Maxpower International Corporation	Pulupandan, Negros Occidental	50.0	Dec 2016
TOTAL WIND				50.00	

^a Revised based on REMB's report

Power Outlook – Visayas Grid

Indicative Power Projects: 601.11 MW

Name of the Project	Project Proponent	Mother/ JV Company	Location	Rated Capacity (MW)	Target Commissioning
Timbaban Hydroelectric Power Project	Oriental Energy and Power Generation Corporation	Oriental Peninsula Resources Group Inc (ORE)	Madalag, Aklan	18.0	May 2018
Loboc Hydro Power Project	Sta Clara Power Corporation	Sta Clara Int'l Corporation	Loboc, Bohol	1.2	Jun 2018
Hilabangan (Upper Cascade)	Century Peak Energy Corporation	Century Peak Metals Holdings Corp	Kabankalan, Negros Occidental	4.8	Aug 2018
Hilabangan (Lower Cascade)	Century Peak Energy Corporation	Century Peak Metals Holdings Corp	Kabankalan, Negros Occidental	3.0	Aug 2018
Main Aklan River Hydroelectric Power Project	Sunwest Water & Electric Co. Inc. (SUWECO)	Sunwest Water & Electric Co. Inc. (SUWECO)	Libacao, Aklan	15.0	Sept 2018
Maninila (Lower Cascade)	Century Peak Energy Corporation	Century Peak Metals Holdings Corp	San Remigio, Antique	4.5	Oct 2018
Maninila (Upper Cascade)	Century Peak Energy Corporation	Century Peak Metals Holdings Corp	San Remigio, Antique	3.1	Oct 2018
Sibalom (Upper Cascade)	Century Peak Energy Corporation	Century Peak Metals Holdings Corp	San Remigio, Antique	4.2	Oct 2018
Sibalom (Middle Cascade)	Century Peak Energy Corporation	Century Peak Metals Holdings Corp	San Remigio, Antique	4.0	Oct 2018
Sibalom (Lower Cascade)	Century Peak Energy Corporation	Century Peak Metals Holdings Corp	San Remigio, Antique	4.0	Oct 2018
Basak II	Meadowland Developers, Inc.		Badian, Cebu	0.5	Apr 2019
Amlan (Plant B)	Natural Power Sources Integration, Inc.		Amlan, Negros Oriental	1.5	Jul 2019
Amlan (Plant A)	Natural Power Sources Integration, Inc.		Amlan, Negros Oriental	3.2	Sept 2019
Amlan (Plant C)	Natural Power Sources Integration, Inc.		Amlan, Negros Oriental	0.80	Sept 2019
Malugo	Vivant-Malogo Hydropower, Inc		Silay City, Negros	6	Oct 2019
Lower Himogaan**	LGU of Sagay		Sagay, Negros Occidental	4.0	Sept 2020
Caroan**	Antique Electric Cooperative		Sebaste, Antique	0.84	Sept 2020
TOTAL HYDRO				78.64	

^a Revised based on REMB's report

Power Outlook – Visayas Grid

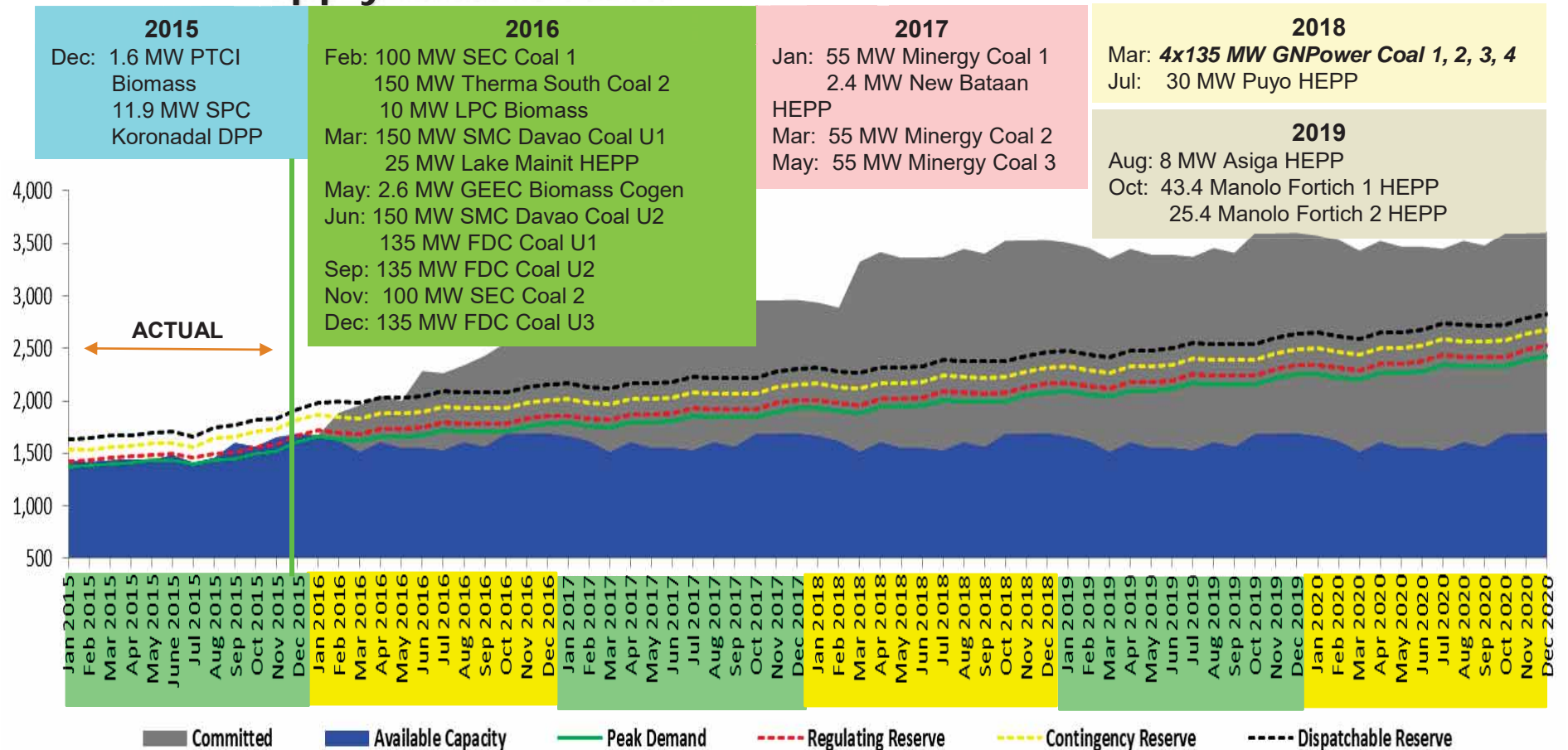
Indicative Power Projects: 601.11 MW

Name of the Project	Project Proponent	Mother/ JV Company	Location	Rated Capacity (MW)	Target Commissioning
SCBiopower Bagasse-Fired Power Generation Project	San Carlos Biopower Inc.	Bronzeoak Philippines	Negros Occidental	18.0	Nov-2015
Mina Multi-Fuel Biomass Power Generation Facility	Green Power Panay Phils., Inc.		Iloilo	Phase 1 – 16.5 ^a Phase 2 – 16.5 ^a	Phase 1- May 2017 Phase 2 – May 2018
MCEI Multi-Feedstock Biomass Power Plant Project	Megawatt Clean Energy, Inc.		Negros Occidental	10.8	May 2018
TOTAL BIOMASS				61.80	
AES Battery Storage Project	AES Philippines Power Partners Co., LTD.	AES Philippines Power Partners Co., LTD.	Kabankalan, Negros Occidental	40.0	Oct 2016
TOTAL BATTERY				40.00	
TOTAL INDICATIVE				601.11	

^a Revised based on REMB's report

Power Outlook – Mindanao Grid

Demand – Supply Outlook 2015 - 2020



- Required Reserve Margin (RM) i.e. 4% regulating reserve and contingency and dispatchable reserve requirement
- 5.6 % peak demand growth rate resulted from observed 0.8 elasticity ratio of demand for electric power with national economic growth applied to 7 percent GDP growth rate (GR) target for 2014-2015.
- 12.8 % peak demand growth rate resulted from observed 1.6 elasticity ratio of demand for electric power with national economic growth applied to 8 percent GDP growth rate (GR) target for 2016
- 8 % peak demand growth rate resulted from observed 1 elasticity ratio of demand for electric power with national economic growth applied to 8 percent GDP growth rate (GR) target for 2017-2020

* On-going testing and commissioning
Bold & italicized – with changes on schedule; new entry

As of 15 November 2015

Power Outlook – Mindanao Grid

Summary of Power Projects

Type of Power Plant	Committed		Indicative	
	No. of Proponents	Capacity (MW)	No. of Proponents	Capacity (MW)
Coal	7	1,760.00	4	1,400.00
Oil-Based	1	11.9	1	4.8
Natural Gas	-	-	-	-
Renewable Energy	8	148.40	20	572.06
<i>Geothermal</i>	-	-	1	40.00
<i>Hydro</i>	5	134.20	9	403.64
<i>Biomass</i>	3	14.20	6	69.6
<i>Solar</i>	-	-	4	58.82
<i>Wind</i>	-	-	-	-
TOTAL	16	1,920.30	25	1,976.86

Power Outlook – Mindanao Grid

Committed Power Projects: 1,920.30 MW

Name of the Project	Project Proponent	Mother/ JV Company	Location	Rated Capacity (MW)	Target Testing & Commissioning	Target Commercial Operation
Southern Mindanao Coal Fired Power Station Unit 1	Sarangani Energy Corporation (SEC)	Alsons Power Corporation	Brgy, Kamanga, Maasim, Sarangani	100	Sept-2015 ^b	Feb 2016
Therma South Inc.Coal-Fired Energy Project Unit 2	Therma South Inc. (TSI)	Aboitiz Power Corporation	Brgy. Binugao, Toril, Davao City and Brgy. Inawayan, Sta. Cruz, Davao Del Sur	150	Jan-2016	Feb-2016
SMC Davao Power Plant Project Phase I Unit 1	San Miguel Consolidated Power Corporation	San Miguel Consolidated Power Corporation	Brgy. Culaman, Malita, Davao del Sur	150	Dec-2015 ^b	March-2016
SMC Davao Power Plant Project Phase I Unit 2	San Miguel Consolidated Power Corporation	San Miguel Consolidated Power Corporation	Brgy. Culaman, Malita, Davao del Sur	150	May-2016	Jun-2016
FDC-Misamis Circulating Fluidized Bed (CFB) Coal-Fired Power Plant Project	FDC Utilities, Inc.	FDC Utilities, Inc.	Phividec Industrial Estate, Villanueva, Misamis Oriental	405	U1 – Dec 2015	U1 – Jun 2016
					U2 – Mar 2016	U2 – Sep 2016
					U3 – Jun 2016	U3 – Dec 2016
Southern Mindanao Coal Fired Power Station Unit 2	Sarangani Energy Corporation (SEC)	Alsons Power Corporation	Brgy, Kamanga, Maasim, Sarangani	100	Feb-2016	Nov-2016
Balingasag Thermal Power Plant (Circulating Fluidized Bed Combustion (CFBC) Coal-Fired Power Plant Plant)	Minergy Coal Corporation	Mindanao Energy Systems, Inc.	Brgy. Mandangoa, Balingasag, Misamis Oriental	165	U1 – July 2016 ^b U2 – Sept 2016 ^b U3 – Nov 2016 ^b	U1 – Jan 2017 U2 – Mar 2017 U3 – May 2017
GNPower Kauswagan Ltd. 540MW Clean Coal-Fired Power Plant	GN Power Kauswagan Ltd. Co.	GNPower Ltd. Co	Kauswagan, Lanao del Norte	540	Dec-2017	Mar-2018
TOTAL COAL				1,760.00		

* on-going testing and commissioning

^b Updated from proponent's submission

Power Outlook – Mindanao Grid

Committed Power Projects: 1,920.30 MW

Name of the Project	Project Proponent	Mother/ JV Company	Location	Rated Capacity (MW)	Target Testing & Commissioning	Target Commercial Operation
SPC Koronadal Diesel Power Plant	Supreme Power Corporation		Purok Garfin, Brgy. Paraiso, Koronadal, South Cotabato	11.9	Sept-2015	Dec-2015 ^b
TOTAL DIESEL				11.9		
Lake Mainit	Agusan Power Corporation	Tranzen Group Inc.	Jabonga, Agusan del Norte	25	Mar-2016	Mar-2016
New Bataan	Euro Hydro Power (Asia) Holdings, Inc.		New Bataan, Compostela Valley	2.4	Jan 2017	Jan 2017
Puyo Hydroelectric Power Project	First Gen Mindanao Hydropower Corp.	First Gen Power Corporation	Jabonga, Agusan del Norte	30	Jul-2018	Jul-2018
Asiga HEPP	Asiga Green Energy Corp	Asiga Green Energy Corp	Santiago, Agusan Del Norte	8	Aug-2019	Aug-2019
Manolo Fortich 1	Hedcor Bukidnon, Inc.	Hedcor Bukidnon, Inc.	Santiago, Bukidnon	43.40	Oct 2019 ^a	Oct 2019
Manolo Fortich 2	Hedcor Bukidnon, Inc	Hedcor Bukidnon, Inc	Santiago, Bukidnon	25.40	Oct 2019	Oct 2019
TOTAL HYDRO				134.2		
PTCI Rice Husk-Fired Biomass Cogeneration Facility	Philippine Trade Center, Inc.	Philippine Trade Center, Inc.	Maguindanao	1.6	Aug-2015	Dec-2015 ^b
GEEC Biomass Cogeneration System	Green Earth Enersource Corporation	Green Earth Enersource Corporation	Maguindanao	10	Feb-2016 ^a	Feb-2016
LPC Rice Husk-Fired Biomass Power Plant Project	Lamsan Power Corporation	Lamsan Power Corporation	Maguindanao	2.6	Sept-2015	May 2016 ^b
TOTAL BIOMASS				14.2		
TOTAL COMMITTED				1,920.30		

* New Entry from Indicative list

^a Revised based on REMB's report

Power Outlook – Mindanao Grid

Indicative Power Projects: 1,976.86 MW

Name of the Project	Project Proponent	Mother/ JV Company	Location	Rated Capacity (MW)	Target Commissioning
SMC Davao Power Plant Project Phase III	San Miguel Consolidated Power Corporation	San Miguel Consolidated Power Corporation	Brgy. Culaman, Malita, Davao del Sur	U1 - 150.0 U2 – 150.0 U3 – 300.0	U1 - Jan 2016 U2 - June 2016 U3 – Dec 2016
Sibuguey Power Plant Project	Philippine National Oil Company (PNOC-EC)	Philippine National Oil Company (PNOC)	Sibugay, Zamboanga	100.0	Sep 2016
Ozamiz Power Coal Fired Power Plant Phase 1 - 2 x 100MW Phase 2 - 1 x 100MW	Ozamiz Power Generation, Inc.	Ozamiz Power Generation, Inc.	Brgy. Pulot, Ozamiz City, Misamis Occidental	300.0	Phase 1 – May 2018 ^b Phase 2 – Dec 2018 ^b
SMC Davao Power Plant Project Phase II	San Miguel Consolidated Power Corporation	San Miguel Consolidated Power Corporation	Brgy. Culaman, Malita, Davao del Sur	300.0	Dec 2018
SRPI Circulating Fluidized Bed (CFB) Coal-Fired Power Station	San Ramon Power Inc.	Mapalad Power Corporation	Sitio San Ramon, Brgy. Talisayan, Zamboanga City	100.0	TBD
TOTAL COAL				1,400.0	
4.8 MW Fuel Power Plant Project	Bukidnon Power Corporation	Bukidnon Power Corporation	Bukidnon	4.8	Nov 2015
TOTAL DIESEL				4.8	
Mindanao 3 Geothermal	Energy Development Corporation	Energy Development Corporation	Kidapawan, North Cotabato	40.0	Jun 2018
TOTAL GEOTHERMAL				40.0	
Bubunawan Hydroelectric Power Project	First Gen Mindanao Hydropower Corp.	First Gen Mindanao Hydropower Corp.	Baungon and Libona, Bukidnon	23	July 2016
Limbatangon Hydroelectric Power Project	Turbines Resource & Development Corp.	Turbines Resources and Development Corp. (TRDC)	Cagayan de Oro City, Misamis Oriental	9.0	Jan-2018
Tagoloan	First Gen Mindanao Hydropower Corp.	First Gen Mindanao Hydropower Corp.	Impasugong & Sumilao, Bukidnon	39.0	Jun-2018
Culaman Hydroelectric Power Project	Oriental Energy and Power Generation Corporation	Oriental Energy and Power Generation Corporation	Manolo Fortich, Bukidnon	10.0	Jun 2018
Cabadbaran Hydroelectric Power Project	First Gen Mindanao Hydropower Corp.	First Gen Power Corporation	Cabadbaran, Agusan del Norte	9.75	Jul 2018
Tumalaong Hydroelectric Power Project	First Gen Mindanao Hydropower Corp.	First Gen Power Corporation	Baungon, Bukidnon	9.0	Jul 2018

Power Outlook – Mindanao Grid

Indicative Power Projects: 1,976.86 MW

Name of the Project	Project Proponent	Mother/ JV Company	Location	Rated Capacity (MW)	Target Commissioning
Pasonanca	Philcarbon, Inc.	Philcarbon, Inc.	Zamboanga City	0.5	Jan 2019
Clarín	Philnew Hydro Power Corporation		Clarín, Misamis Occidental	5.0	Apr 2019
Mat-i-1	Philnew Hydro Power Corporation		Claveria, Cagayan de Oro	2.0	Apr 2019
Mat-i-2	Philnew Hydro Power Corporation		Cagayan de Oro, Misamis Oriental	1.6	Sept 2019
Mat-i-3	Philnew Hydro Power Corporation		Cagayan de Oro, Misamis Oriental	3.25	Sept 2019
Mangima Hydroelectric Power Project	Philnew Hydro Power Corporation		Manolo Fortich, Bukidnon	10.0	Sept 2019
Maladugao River (Upper Cascade) ²	UHPC Bukidnon Hydro Power I Corporation	UHPC Bukidnon Hydro Power I Corporation	Wao, Bukidnon	5.50	Jan 2020
Maladugao River (Lower Cascade) ²	UHPC Bukidnon Hydro Power I Corporation	UHPC Bukidnon Hydro Power I Corporation	Kalilangan & Wao, Bukidnon	10.0	Apr 2020
Lanon (Lam-alu) ²	Euro Hydro Power (Asia) Holdings, Inc.	Euro Hydro Power (Asia) Holdings, Inc.	Lake Sebu, South Cotabato	9.50	May 2020
Silo-o	Philnewriver Power Corp.	Philnewriver Power Corp.	Malitbog, Bukidnon	3.29	Jun 2020
Agus III	Maranao Energy Corporation	Maranao Energy Corporation	Pantar & Balo-I, Lanao del Sur & Lanao del Norte	225	Jul 2020
Malitbog**	Philnewriver Power Corp		Malitbog, Bukidnon	17.85	Sept 2020
Maramag**	Maramag Mini-Hydro Corp		Maramag, Bukidnon	1.40	Sept 2020
Manupali**	Matic Hydropower Corp		Valencia, Bukidnon	9.0	Sept 2020
TOTAL HYDRO				403.64	

^a Revised based on REMB's report

** New Entry from REMB's report

TBD – to be determined

² New Entry to Indicative Project based from REMB's report

Power Outlook – Mindanao Grid

Indicative Power Projects: 1,976.86 MW

Name of the Project	Project Proponent	Mother/ JV Company	Location	Rated Capacity (MW)	Target Commissioning
Digos Solar Photovoltaic Power Project	Enfinity Philippines Renewable Resources, Inc.	Enfinity	Digos City, Davao del Sur	10.0	Nov 2015
Digos Solar Photovoltaic Power Project II**	Enfinity Philippines Renewable Resources, Inc.	Enfinity	Digos City, Davao del Sur	19.58	Dec 2015
Kibawe Solar Power Project	Asian GreenEnergy Corp.	Asian GreenEnergy Corp	Brgy. Labuagon, Kibawe, Bukidnon	10.49	Jan 2016
Kirahon Solar Power Project Phase 1	Kirahon Solar Energy Corporation		Brgy. Kirahon, Villanueva, Misamis Oriental	12.5	Jul 2016
Centralla Solar Power Project	NV Vogt Philippines Solar Energy One, Inc.		Brgy. Centralla, Surallah, South Cotabato	6.25	TBD
TOTAL SOLAR				58.82	
EPC Woody Biomass Power Plant Project	Eastern Petroleum Corporation		Agusan del Norte	21.0	Dec 2017
Kalilangan Bio-Energy Corporation Multi-Feedstock Power Generating Facility	Kalilangan Bio-Energy Corporation		Bukidnon	9.0	Aug 2016
Don Carlos Bio-Energy Corporation Multi-Feedstock Power Generating Facility	Don Carlos Bio-Energy Corporations		Bukidnon	9.0	Aug 2016
Malay-balay Bio-Energy Corporation Multi Feedstock	Malaybalay Bio-Energy Corporation	Malaybalay Bio-Energy Corporation	Bukidnon	9.0	Dec 2017
Biomass Power Plant Project	Misamis Oriental Bio-Energy Corporations	Misamis Oriental Bio-Energy Corporations	Misamis Oriental	10.8	Oct 2017
Napier Grass-Fired Biomass Power Plant Project ²	Manolo Fortich Biomass Energy Corporation	Manolo Fortich Biomass Energy Corporation	Bukidnon	10.8	Jan 2018
TOTAL BIOMASS				69.6	
TOTAL INDICATIVE				1,976.86	

² New Entry to Indicative Project based from REMB's report

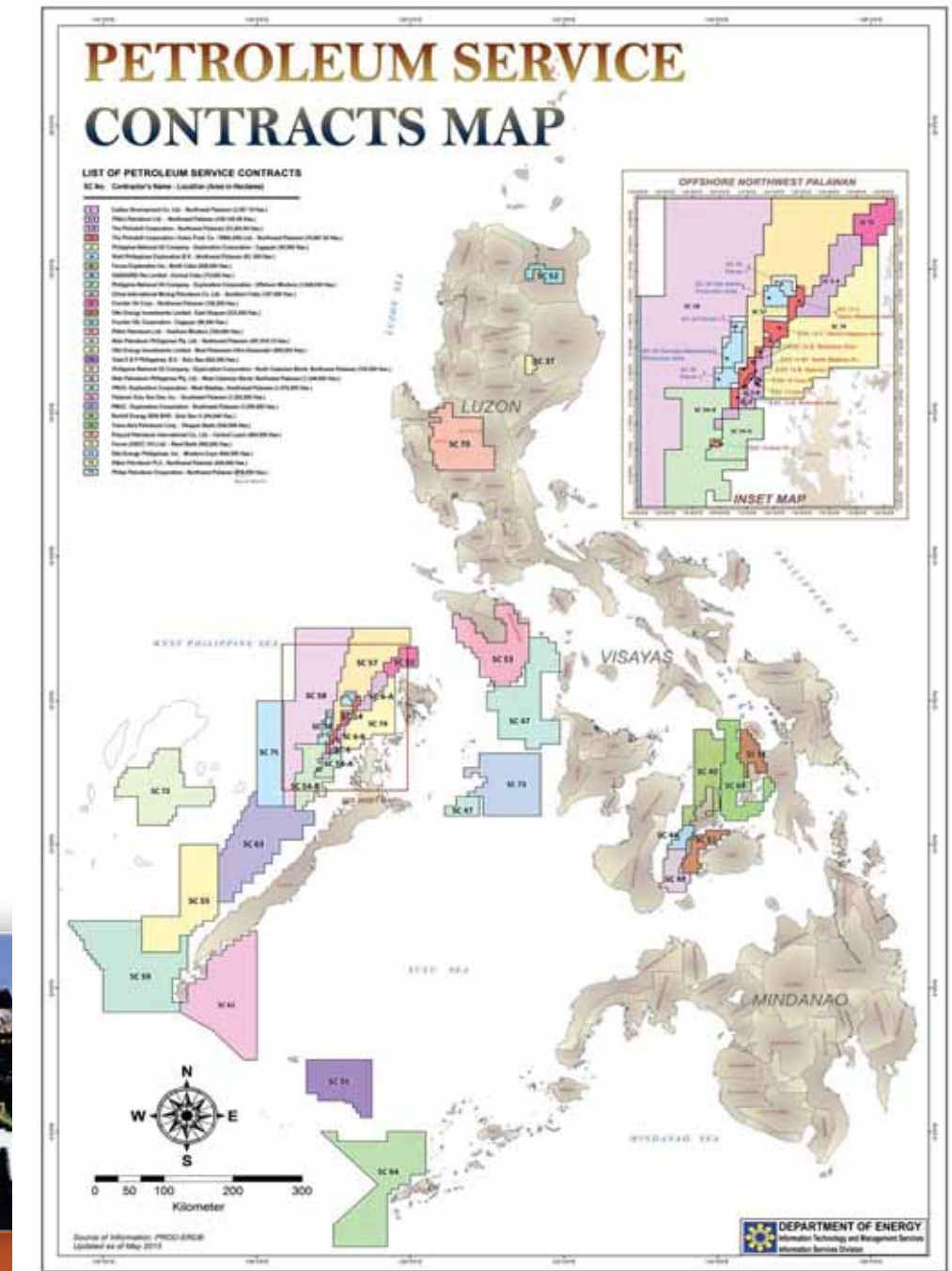
^a Revised based on REMB's report

Oil & Gas



Upstream Oil & Gas Exploration

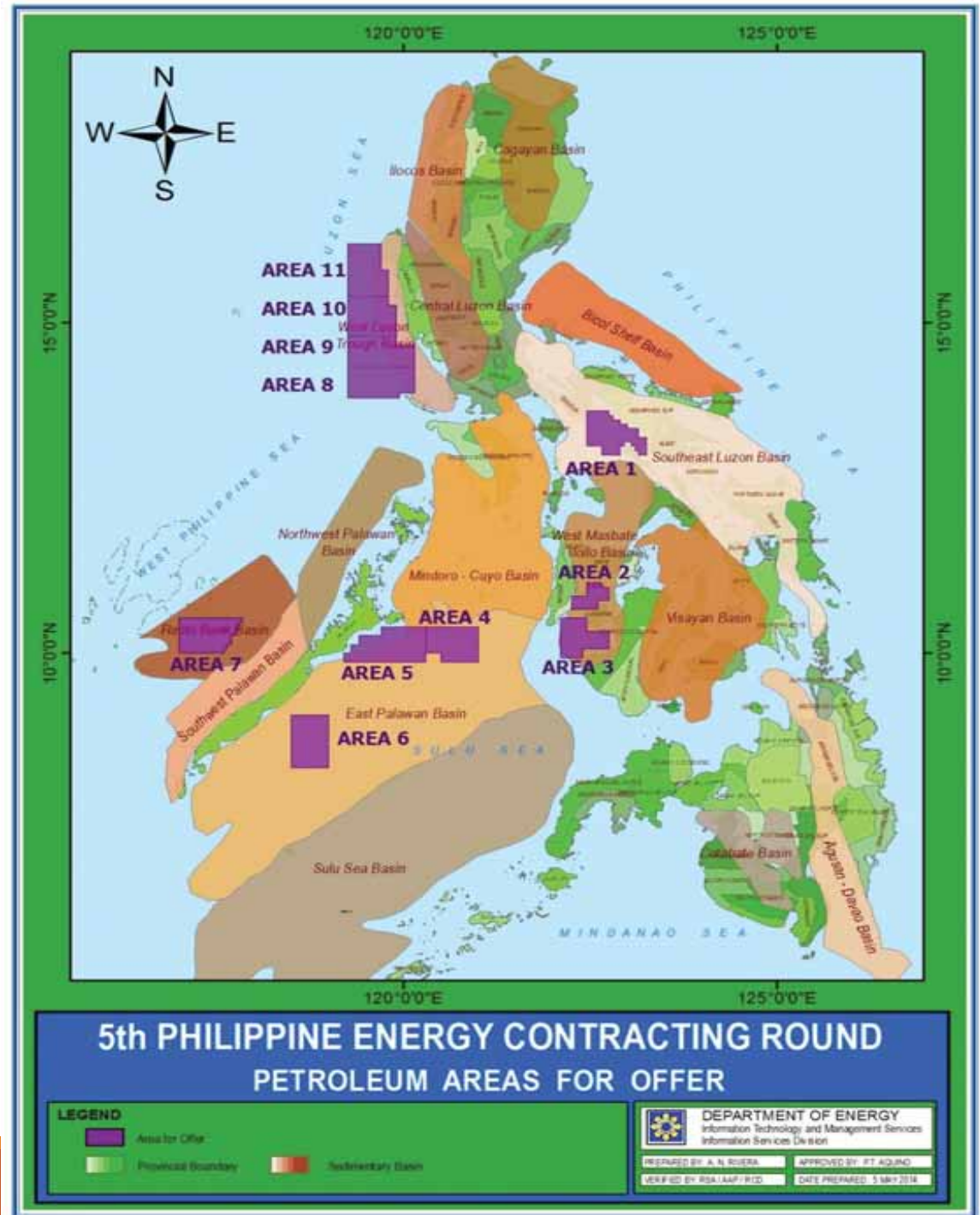
- 29 Active Petroleum Service Contracts
- Produced 1.42 MMB of oil, 63.66 BCF of gas & 1.97 MMB condensate in 2015 (January to July 2015)



5th Philippine Energy Contracting Round (PECR5)

- Launched in 9 May 2014
- 11 Areas offered, with a total area of 4,824,000 hectares
- Potential resources in the 11 areas: 8,807.97 MMB of oil 18,119.43 BCF of gas

BASIN	AREAS
SOUTHEAST LUZON	AREA 1
MASBATE-ILOILO	AREAS 2 & 3
NORTHEAST PALAWAN	AREAS 4 & 5
SOUTHEAST PALAWAN	AREA 6
RECTO BANK	AREA 7
WEST LUZON	AREAS 8,9,10 & 11



Energy Investment Forum, 04 December 2015
 Intercontinental Hotel, Makati City

5th Philippine Energy Contracting Round (PECR5)

PECR 5 Applications

AREA 1 – Southeast Luzon

424,000 hectares

Yulaga Oil Exploration Corp.

AREA 4 – East Palawan

416,000 hectares

Ratio Petroleum Ltd.

AREA 5 – East Palawan

576,000 hectares

Colossal Petroleum Corp.

AREA 7 – Recto Bank

468,000 hectares

Colossal Petroleum Corp.

Qualified for Evaluation

AREA 4 – East Palawan

416,000 hectares

Ratio Petroleum Ltd.

AREA 5 – East Palawan

576,000 hectares

Colossal Petroleum Corp.

AREA 7 – Recto Bank

468,000 hectares

Colossal Petroleum Corp.



Coal



Summary of Regional Coal Reserves

(in Million Metric Tons)

QUEZON
Resource Potential - 2.00
In-situ Reserves - 0.09

MINDORO
Resource Potential - 100.00
In-situ Reserves - 1.44

SEMIRARA
Resource Potential - 570.00
In-situ Reserves - 112.32

NEGROS
Resource Potential - 4.50
In-situ Reserves - 2.01

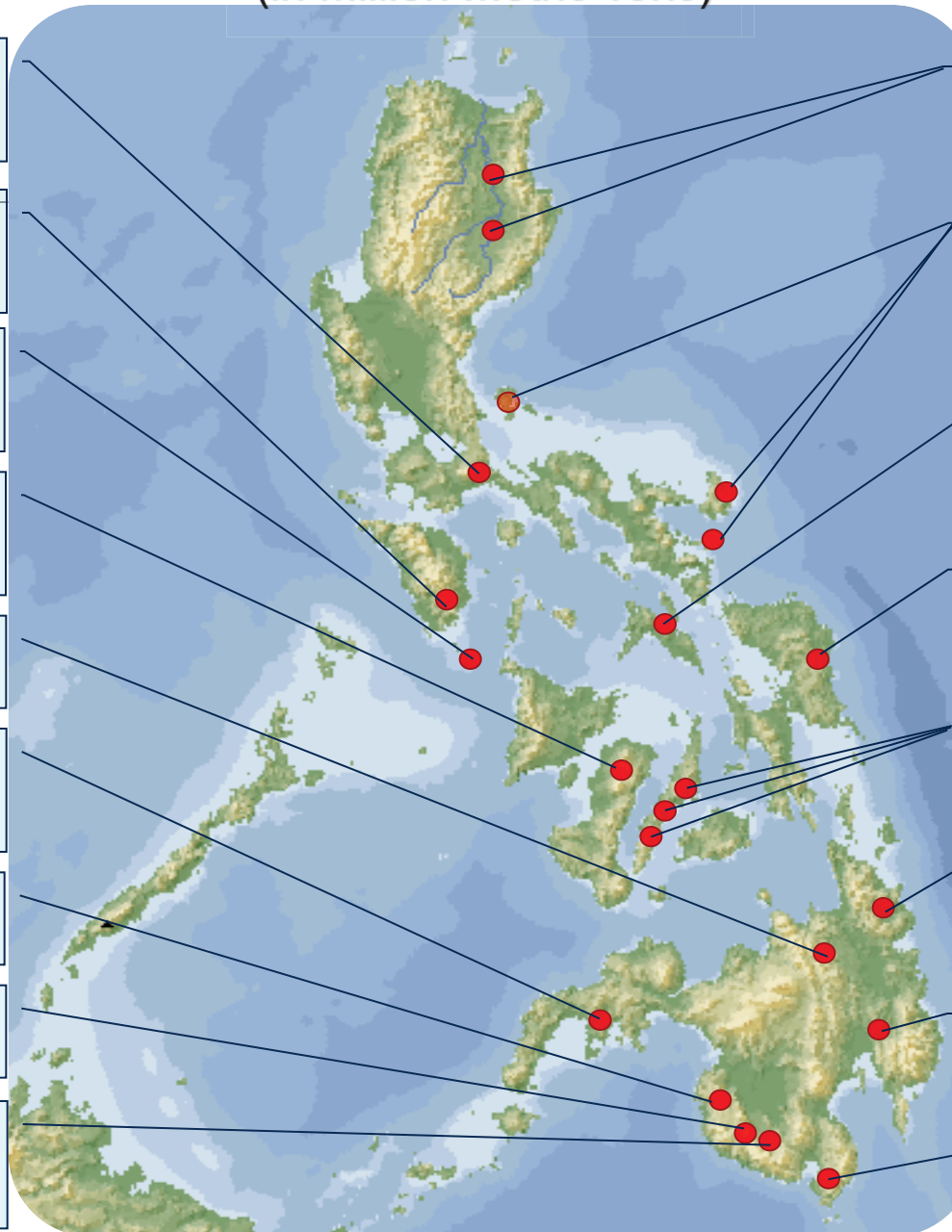
BUKIDNON
Resource Potential - 50.00

ZAMBOANGA
Resource Potential - 45.00
In-situ Reserves - 37.99

MAGUINDANAO
Resource Potential - 108.00

SULTAN KUDARAT
Resource Potential - 300.30

SOUTH COTABATO
Resource Potential - 230.40
In-situ Reserves - 81.07



CAGAYAN VALLEY
Resource Potential - 336.00
In-situ Reserves - 82.57

BATAN-POLILLO-CATANDUANES
Resource Potential - 17.00
In-situ Reserves - 6.02

MASBATE
Resource Potential - 2.50
In-situ Reserves - 0.08

SAMAR
Resource Potential - 27.00
In-situ Reserves - 8.59

CEBU
Resource Potential - 165.00
In-situ Reserves - 11.63

SURIGAO
Resource Potential - 209.00
In-situ Reserves - 69.55

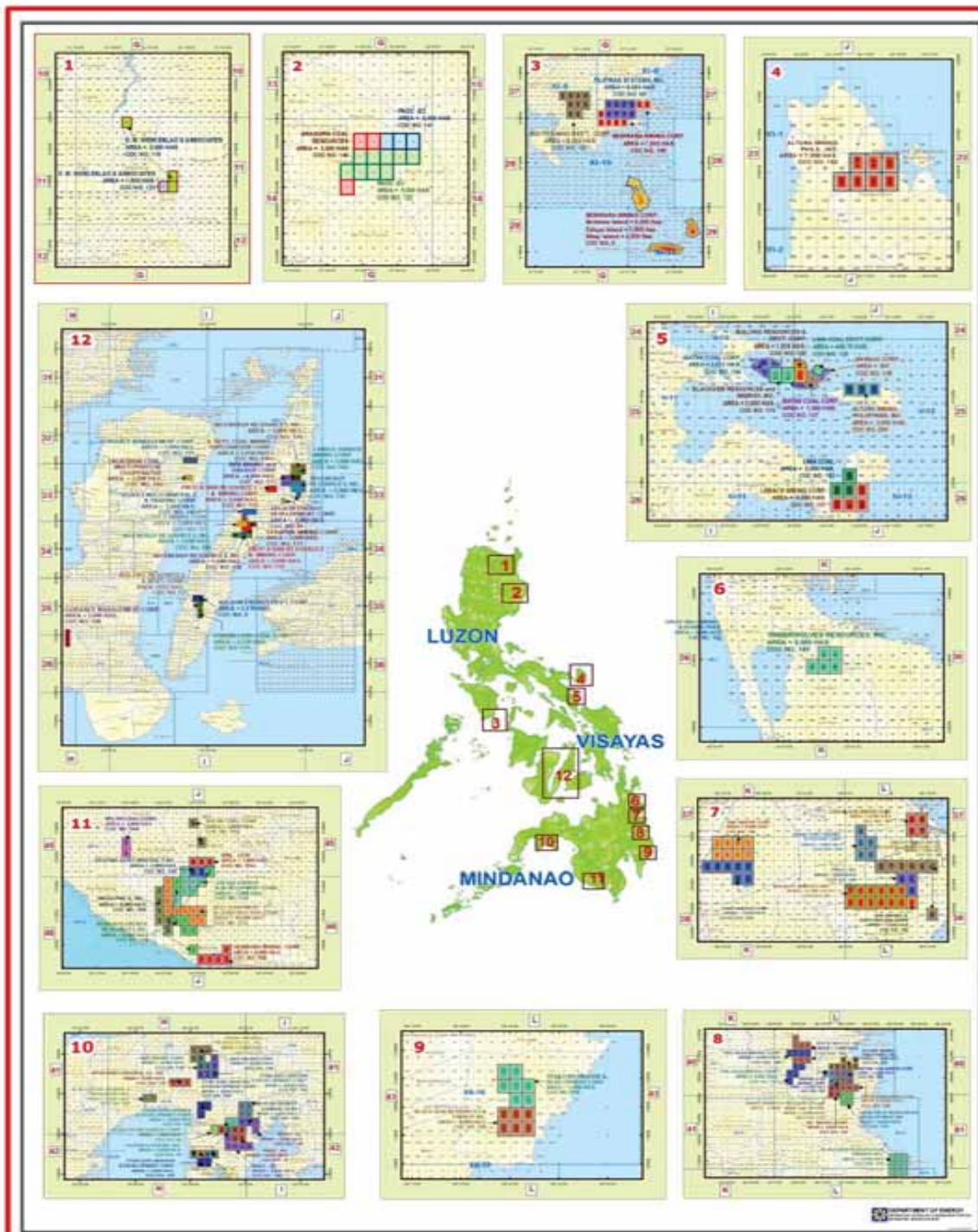
DAVAO
Resource Potential - 100.00
In-situ Reserves - 0.21

SARANGANI
Resource Potential - 120.00

Coal Operating Contracts (COCs)

As of September 2015

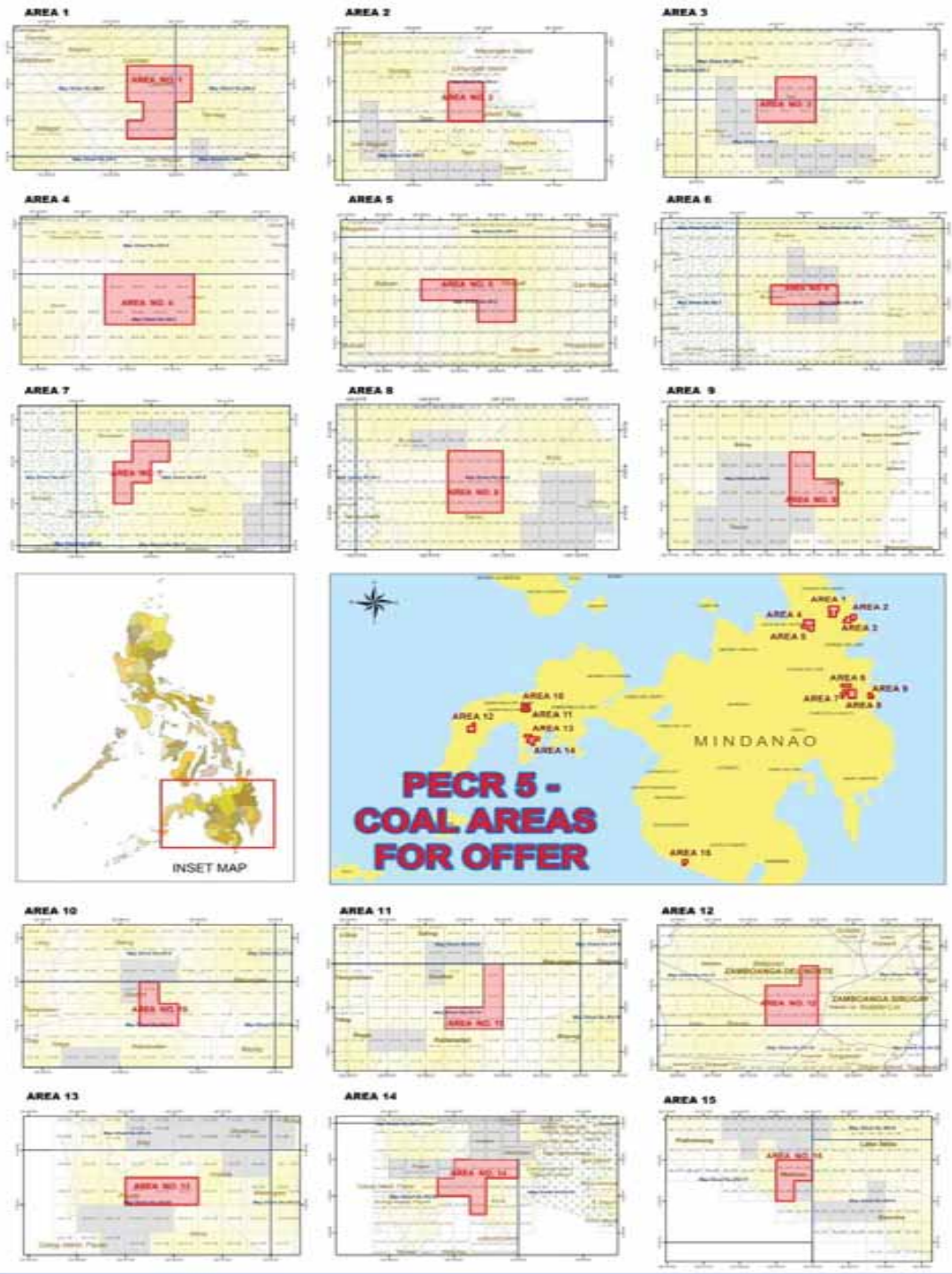
Region	Exploration	Development & Production	Total
II	1	3	4
IV-B	2	1	3
V	5	5	10
Luzon	8	9	17
VI	1	1	2
VII	7	8	15
Visayas	8	9	17
IX	6	5	11
XI	3	0	3
XII	4	3	7
CARAGA	17	4	21
Mindanao	30	12	42
Philippines	46	30	76



5th Philippine Energy Contracting Round (PECR5)

Areas Offered

- Nominated by private companies
- Previously offered areas in PECR 4 with no winning applicants
- Located in traditional coal mining provinces in the following Coal Regions in Mindanao:
 - a. Surigao Coal Region
 - b. Agusan-Davao Coal Region
 - c. Zamboanga Coal Region
 - d. Cotabato-Saranggani Coal Region



COCs Awarded from PECR 5 Offered Areas

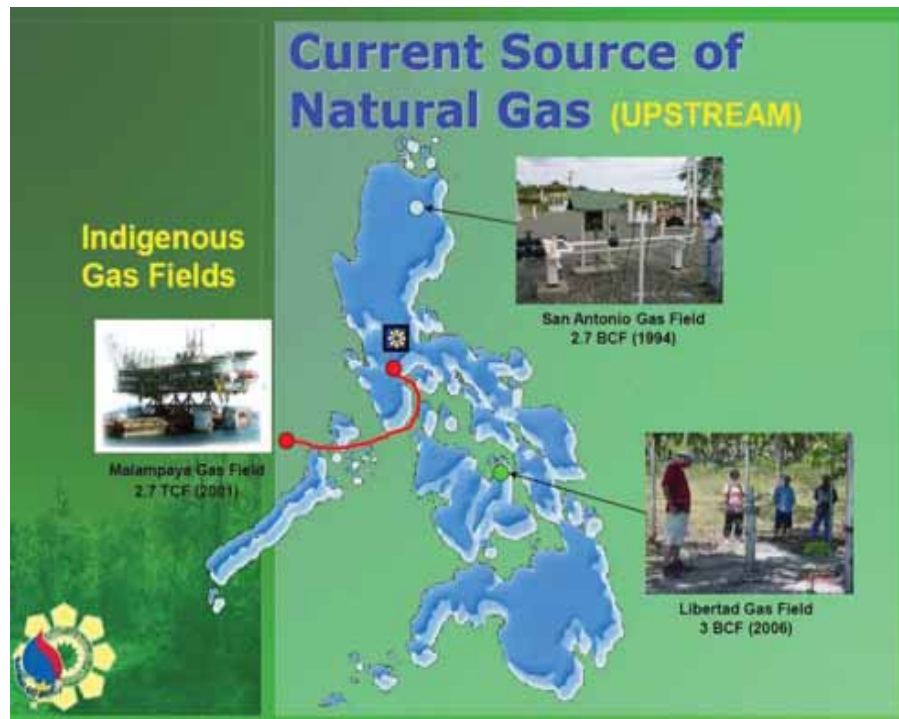
Company	COC No.	Date Awarded	Contact Area
CoalBlack Mining Corp. (CMC)	193	December 29, 2014	Tandag & Tago, Surigao del Sur
Sahi Mining Corp. (SMC)	194	December 29, 2014	Sibagat, Agusan del Sur & Butuan City, Agusan del Norte
Sahi Mining Corp. (SMC)	195	December 29, 2014	Sibagat, Agusan del Sur & Butuan City, Agusan del Norte
Philsaga Mining Corp	196	December 29, 2014	Bunawan, Agusan del Sur
Philsaga Mining Corp	197	December 29, 2014	Bunawan & Trento, Agusan del Sur
Sahi Mining Corp. (SMC)	198	December 29, 2014	Godod, Zamboanga del Norte & Kabasalan, Zamboanga Sibugay
Sahi Mining Corp. (SMC)	199	December 29, 2014	Godod, Zamboanga del Norte & Kabasalan, Zamboanga Sibugay

Natural Gas

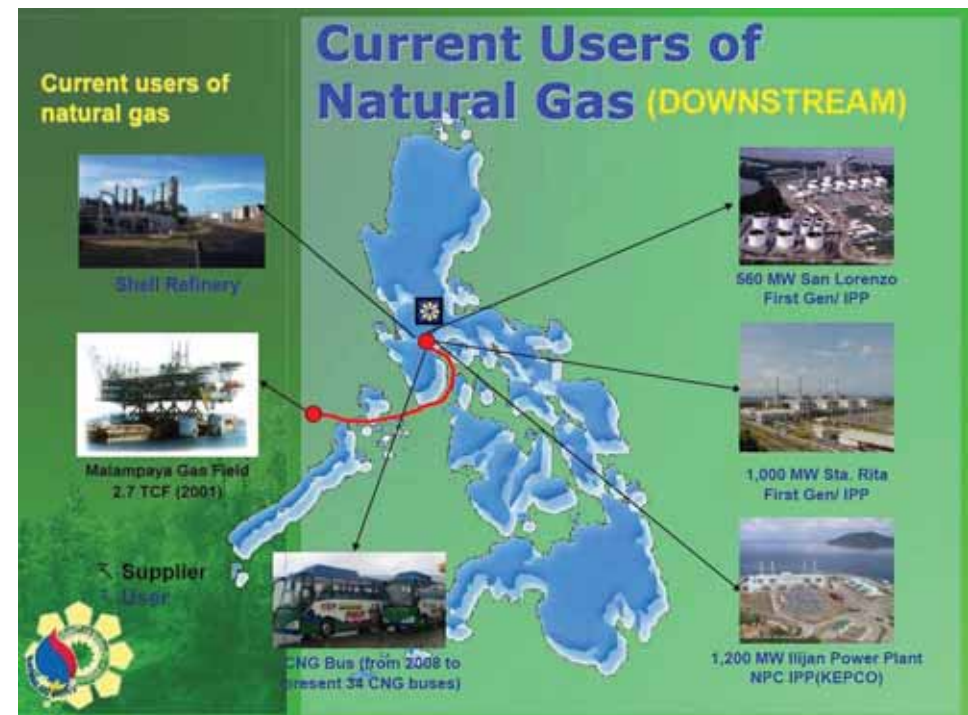


Natural Gas Industry

Natural Gas Supply



Natural Gas Demand



Natural Gas Infrastructure

- Develop strategic infrastructure for receiving, storage, transmission and distribution
- Promote use of natural gas beyond power
- Serve as major alternative fuel for transport especially public transport



BATMAN 2
(Bataan - Manila)
140 kms. (2020)

ET LOOP
(EDSA – Taft Loop)
40 kms. (2020)

SU-MA
(Sucat - Malaya)
35 kms. (2017)

BATCAVE
(Batangas – Cavite)
40 kms (2022)

BATMAN 1
(Batangas Manila)
80-100 kms. (2015-17)

Alternative Fuels



Biofuels Supply-Demand

BIODIESEL DEMAND				BIOETHANOL DEMAND			
Year	Diesel Demand	Biodiesel Blends (Target)	Supply Requirement (in million liters)	Year	Gasoline Demand	Bioethanol Blends (Target)	Supply Requirement
2016	7,176.41	5%	358.82	2015	3,818.61	10%	381.86
2020	7,923.37	10%	792.34	2020	4,328.87	20%	865.77
2025	8,693.73	20%	1,738.75	2025	4,712.28	20%	942.46
2030	9,030.68	20%	1,806.14	2030	5,084.05	20%/85%	1,016.81

Renewable Energy



Renewable Energy Development

National Renewable Energy Program

Develop Indigenous Energy Resources = Triple RE Installed Capacity by 2030

The estimated capacity addition of 9,865 MW is broken down as follows:

Sector	Installed Capacity, (MW) as of 2010	Target Capacity Addition by				Total Capacity Addition (MW) 2011-2030	Total Installed Capacity by 2030
		2015	2020	2025	2030		
Geothermal	1,966.0	220.0	1,100.0	95.0	80.0	1,495.0	3,461.0
Hydro	3,400.0	341.3	3,161.0	1,891.8	0.0	5,394.1	8,724.1
Biomass	39.0	276.7	0.0	0.0	0.0	276.7	315.7
Wind	33.0	1,048.0	855.0	442.0	0.0	2,345.0	2,378.0
Solar	1.0	269.0	5.0	5.0	5.0	284.0	285.0
Ocean	0.0	0.0	35.5	35.0	0.0	70.5	70.5
TOTAL	5,438.0	2,155.0	5,156.5	2,468.8	85.0	9,865.3	15,304.3

Renewable Energy Development

(as of 31 October 2015)

RESOURCES	AWARDED PROJECTS			FOR CONVERSION		WITH CERTIFICATE OF CONFIRMATION OF COMMERCIALITY		WITH CERTIFICATE OF ENDORSEMENT TO ERC	
	No. of Projects	Potential Capacity (MW)	Installed Capacity (MW)	No. of Projects	Capacity (MW)	No. of Projects	Capacity (MW)	No. of Projects	Capacity (MW)
Hydro Power	344	7,391.92	138.19	0	0.00	59	576.49	4	26.60
Grid – Use	343	7,390.42	138.19	0	0	59	576.49	4	26.60
Own - Use	1	1.50							
Ocean Energy	7	26.00	-	-	-	-	-		
Geothermal	43	750.00	1,906.19						
Wind	52	1,168.00	426.90	7	1,023.55	5	313.00	6	393.90
Grid – Use	51	1,168.00	426.90	7	1,023.55	5	313.00	6	393.90
Own - Use	1	-	-						
Solar	105	2,547.00	133.80	22	761.97	17	638.12	7	131.90
Grid – Use	93	2,544.81	131.90	22	761.97	17	638.12	7	131.90
Own - Use	12	2.19	1.90						
Biomass	65	255.49	344.48	0	-	6	44.37	9	56.75
Grid – Use	40	249.07	191.55			6	44.37	9	56.75
Own - Use	25	6.42	152.93						
Total Grid – Use	577	12,128.30	2,794.73	29	1785.52	87	1571.98	26	609.15
Total Own – Use	39	10.11	154.83	0	0.00	0	0.00	0	0.00
Total	616	12,138.41	2,949.56	29	1,785.52	87	1,571.98	26	609.15

Renewable Energy Development

Awarded RE Service / Operating Contracts

RESOURCES	LUZON			VISAYAS			MINDANAO			TOTAL		
	No. of Projects	Potential Capacity (MW)	Installed Capacity (MW)	No. of Projects	Potential Capacity (MW)	Installed Capacity (MW)	No. of Projects	Potential Capacity (MW)	Installed Capacity (MW)	No. of Projects	Potential Capacity (MW)	Installed Capacity (MW)
Hydro Power	196	5,256.02	104.07	45	703.98	4.50	103	1,431.92	30.92	344	7,391.92	139.485
Grid – Use	195	5,254.52	104.07	45	703.98	4.50	103	1,431.92	30.92	343	7,390.42	139.49
Own - Use	1	1.50								1	1.50	0.00
Ocean Energy	4	20.00	-	2	0.00	-	1	6.00	-	7	26.00	0.00
Geothermal	28	570.00	852.53	7	70.00	945.18	8	110.00	108.48	43	750.00	1,906.19
Wind	37	1,079.00	336.90	15	89.00	90.00	0	0.00	0.00	52	1,168.00	426.90
Grid – Use	36	1,079.00	336.90	15	89.00	90.00				51	1,168.00	426.90
Own - Use	1	-	-		-	-		-	-	1	0.00	0.00
Solar	59	1,341.11	58.70	23	807.07	75.10	23	398.82	0.00	105	2,547.00	133.796
Grid – Use	48	1,338.92	56.90	22	807.07	75.00	23	398.82		93	2,544.81	131.90
Own - Use	11	2.19	1.80	1		0.10				12	2.19	1.90
Biomass	34	99.12	105.37	21	80.12	190.71	10	76.25	48.40	65	255.49	344.48
Grid – Use	23	93.57	61.55	9	79.50	106.00	8	76.00	24.00	40	249.07	191.55
Own - Use	11	5.55	43.82	12	0.62	84.71	2	0.25	24.40	25	6.42	152.93
Total Grid – Use	334	12,128.30	1,411.95	100	12,128.30	1,220.68	143	12,128.30	163.40	577	36,384.90	2,796.025
Total Own – Use	24	9.24	45.62	13	0.62	84.81	2	0.25	24.40	39	10.107	154.826
Total	358	12,137.54	1,457.57	113	12,128.92	1,305.49	145	12,128.55	187.80	616	36,395.01	2,950.85

THANK YOU

Energy Investment Forum
04 December 2015
Intercontinental Hotel, Makati City