

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	31.67	33.72
Oil Based	3,608	2,790	19.55	17.57
Natural Gas	2,862	2,760	15.51	17.38
Geothermal	1,918	1,607	10.39	10.12
Hydro	3,556	2,993	19.27	18.85
Wind	373	189	2.02	1.19
Solar	110	75	0.60	0.47
Biomass	183	110	0.99	0.69
TOTAL	18,453	15,878		

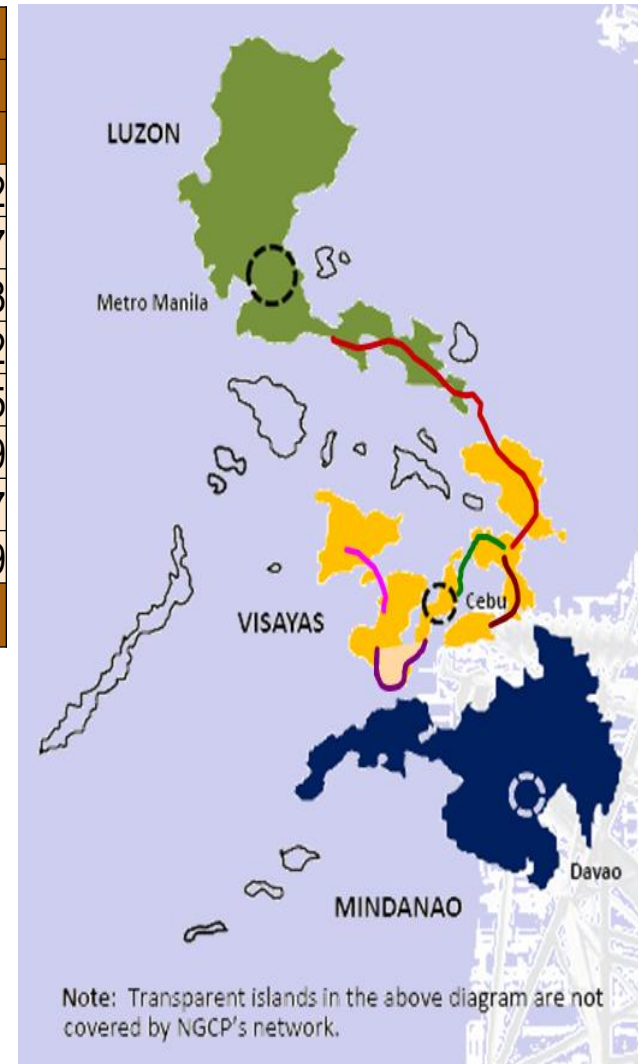
Note: Assuming all units of power plants are in operation.

Installed and Dependable capacity as of 30 June 2015

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

Interconnection Line Capacity

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

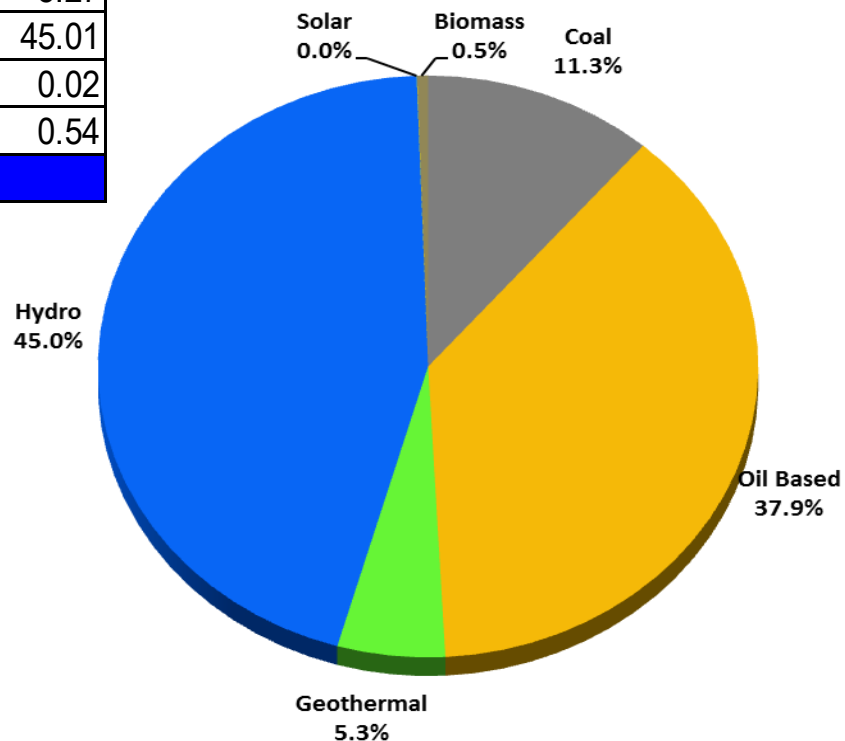


Capacity Mix

MINDANAO

FUEL TYPE	MINDANAO			
	Capacity (MW)		Percent Share (%)	
	Installed	Dependable	Installed	Dependable
Coal	232	210	10.37	11.29
Oil Based	799	705	35.72	37.88
<i>Diesel</i>	799	705	35.72	37.88
Geothermal	108	98	4.85	5.27
Hydro	1,061	837	47.41	45.01
Solar	1	0.3	0.04	0.02
Biomass	36	10	1.60	0.54
TOTAL	2,237	1,860		

Dependable Capacity (MW), Mindanao



Source: DOE List of Existing Power Plants, 30 June 2015

Mindanao Additional Capacities

(01 Jan 2014 to 18 September 2015)

Power Plant	Location	Installed Capacity (MW)	Dependable Capacity (MW)	Commercial Operation
SoEnergy DPP*	Bgry. Apopong, Gen. Santos City, South Cotabato	19	18.05	22-Mar-2014
MPC-Digos DPP*	Digos, Davao del sur	15	14.25	28-Mar-2014
KEGI - Panaon DPP*	Panaon, Ozamis City, Misamis Occ.	15	13.6	May-2014
Tudaya 1 Hydroelectric Power Project*	Sta. Cruz, Davao del Sur	6.6	6.53	9-May-2014
Tudaya 2 Hydroelectric Power Project*	Sta. Cruz, Davao del Sur	7	6.93	9-May-2014
KEGI Tandag*	Tandag, Surigao	7.5	6	Oct-2014
Mapalad Energy Generation Corp. DPP*	Iligan City	15	14.25	29-Dec-2014
Peak Power Soccsargen, Inc. (PSI) DPP*	Brgy.Apopong, General Santos City	20.9	19.6	26-Jan-2015
Peak Power ASELCO (PSFI) DPP*	San Francisco, Agusan del Sur	5.9	5	26-Feb-2015
Therma South Inc. Coal Fired Power Plant	Sta. Cruz, Davao del Sur	150	130	18-Sep-2015
Total Capacity		261.9	234.21	

Mindanao Demand-Supply Outlook 2015-2020

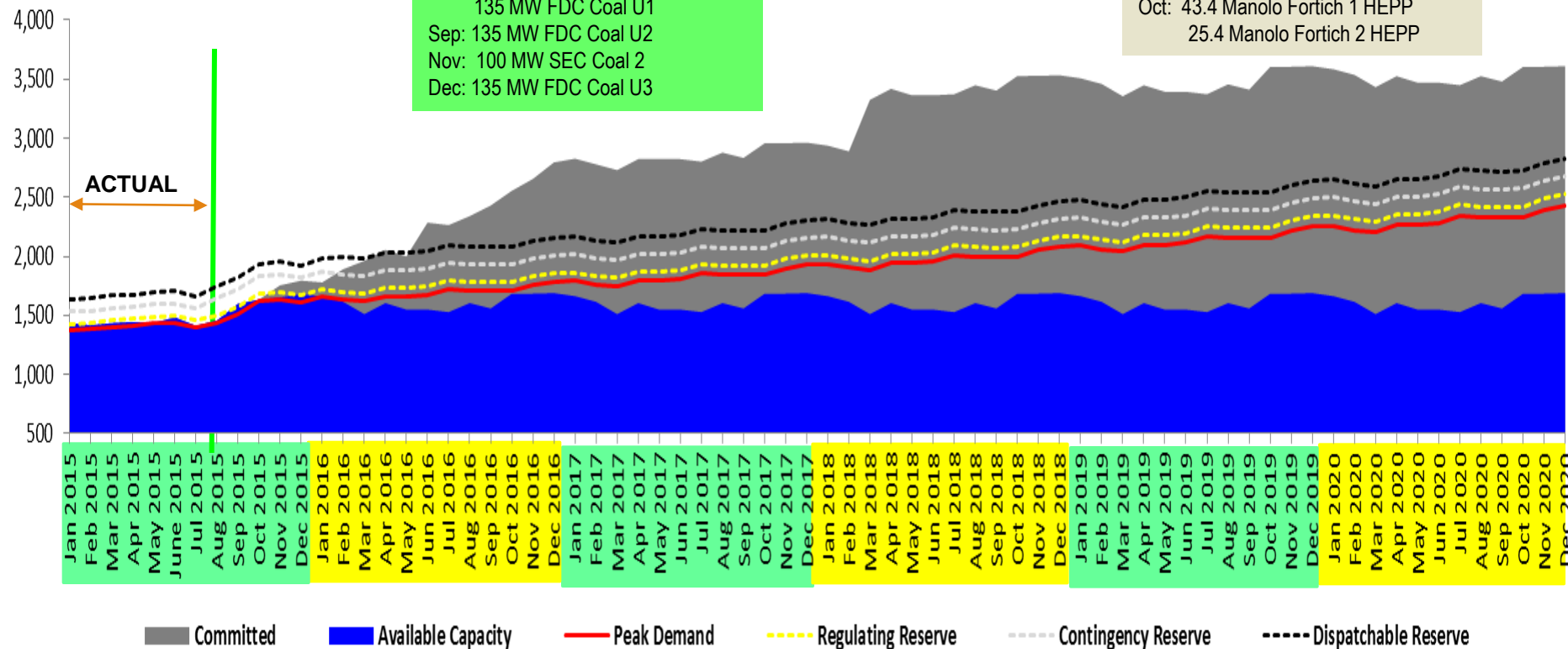
2015
 Sep: 1.6 MW PTCI Biomass
 Nov: 100 MW SEC Coal 1
 Dec: 2.6 MW GEEC Biomass Cogen
 11.9 MW SPC Koronadal DPP

2016
 Feb: 150 MW Therma South Coal 2
 10 MW LPC Biomass
 Mar: 150 MW SMC Davao Coal U1
 25 MW Lake Mainit HEPP
 Jun: 150 MW SMC Davao Coal U2
 135 MW FDC Coal U1
 Sep: 135 MW FDC Coal U2
 Nov: 100 MW SEC Coal 2
 Dec: 135 MW FDC Coal U3

2017
 Jan: 55 MW Minergy Coal 1
 2.4 MW New Bataan HEPP
 Mar: 55 MW Minergy Coal 2
 May: 55 MW Minergy Coal 3

2018
 Mar: **4x135 MW GPower Coal 1, 2, 3, 4**
 Jul: 30 MW Puyo HEPP

2019
 Aug: 8 MW Asiga HEPP
 Oct: 43.4 Manolo Fortich 1 HEPP
 25.4 Manolo Fortich 2 HEPP



- Notes**
- a. Required Reserve Margin (RM) i.e. 4% regulating reserve and contingency and dispatchable reserve requirement
 - b. 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.
 - c. 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
 - d. 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

Mindanao Summary of Power Projects

(as of 15 September 2015)

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	520.81
<i>Geothermal</i>	-	-	1	40.00
<i>Hydro</i>	5	134.20	9	352.39
<i>Biomass</i>	3	14.20	6	69.6
<i>Solar</i>	-	-	4	58.82
<i>Wind</i>	-	-	-	-
TOTAL	16	1,920.30	24	1,925.61

COMMITTED POWER PROJECTS

Mindanao Grid 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	Nov 2015
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 ^b
TOTAL COAL				1,760.00		

* on-going testing and commissioning

^b Updated from proponent's submission

As of 22 September 2015

COMMITTED POWER PROJECTS

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				16.7		
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
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 ^a	Oct 2019
Asiga HEPP	Asiga Green Energy Corp	Asiga Green Energy Corp	Santiago, Agusan Del Norte	8	Aug-2019	Aug-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	Sept-2015
GEEC Biomass Cogeneration System	Green Earth Enersource Corporation	Green Earth Enersource Corporation	Maguindanao	2.6	Sept-2015	Dec-2015
LPC Rice Husk-Fired Biomass Power Plant Project	Lamsan Power Corporation	Lamsan Power Corporation	Maguindanao	10	Feb-2016 ^a	Feb-2016
TOTAL BIOMASS				14.2		
TOTAL				1,920.3		

* New Entry from Indicative list

^a Revised based on REMB's report

^b Updated from proponent's submission

As of 22 September 2015

INDICATIVE POWER PROJECTS

Mindanao Grid Indicative Power Projects, 1925.61 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 - Sept 2018 Phase 2 - Dec 2018
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	
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

TBD – to be determined

^a Revised based on REMB's report

As of 22 September 2015

INDICATIVE POWER PROJECTS

Mindanao Grid Indicative Power Projects, 1925.61 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 ²	Philnewriver Power Corp.	Philnewriver Power Corp.	Malitbog, Bukidnon	3.29	Jun 2020
Agus III ²	Maranao Energy Corporation	Maranao Energy Corporation	Pantar & Balo-I, Lanao del Sur & Lanao del Norte	225	Jul 2020
TOTAL HYDRO				352.39	
Digos Solar Photovoltaic Power Project	Enfinity Philippines Renewable Resources, Inc.	Enfinity	Digos City, Davao del Sur	10.0	Oct 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	

TBD – to be determined

As of 22 September 2015

^a Revised based on REMB's report

INDICATIVE POWER PROJECTS

Mindanao Grid Indicative Power Projects, 1925.61 MW

Name of the Project	Project Proponent	Mother/ JV Company	Location	Rated Capacity (MW)	Target Commissioning
EPC Woody Biomass Power Plant Project	Eastern Petroleum Corporation		Agusan del Norte	21.0	Dec 2017 ^a
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 ^a
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				1,925.61	

^a Revised based on REMB's report

As of 22 September 2015

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

Oil & Gas

Areas of Opportunities

Philippines:

- **16** Sedimentary basins representing an area of over 700,000 sq km
- Combined potential of **4,777 MMBFOE**

Mindanao:

1. Cotabato Basin

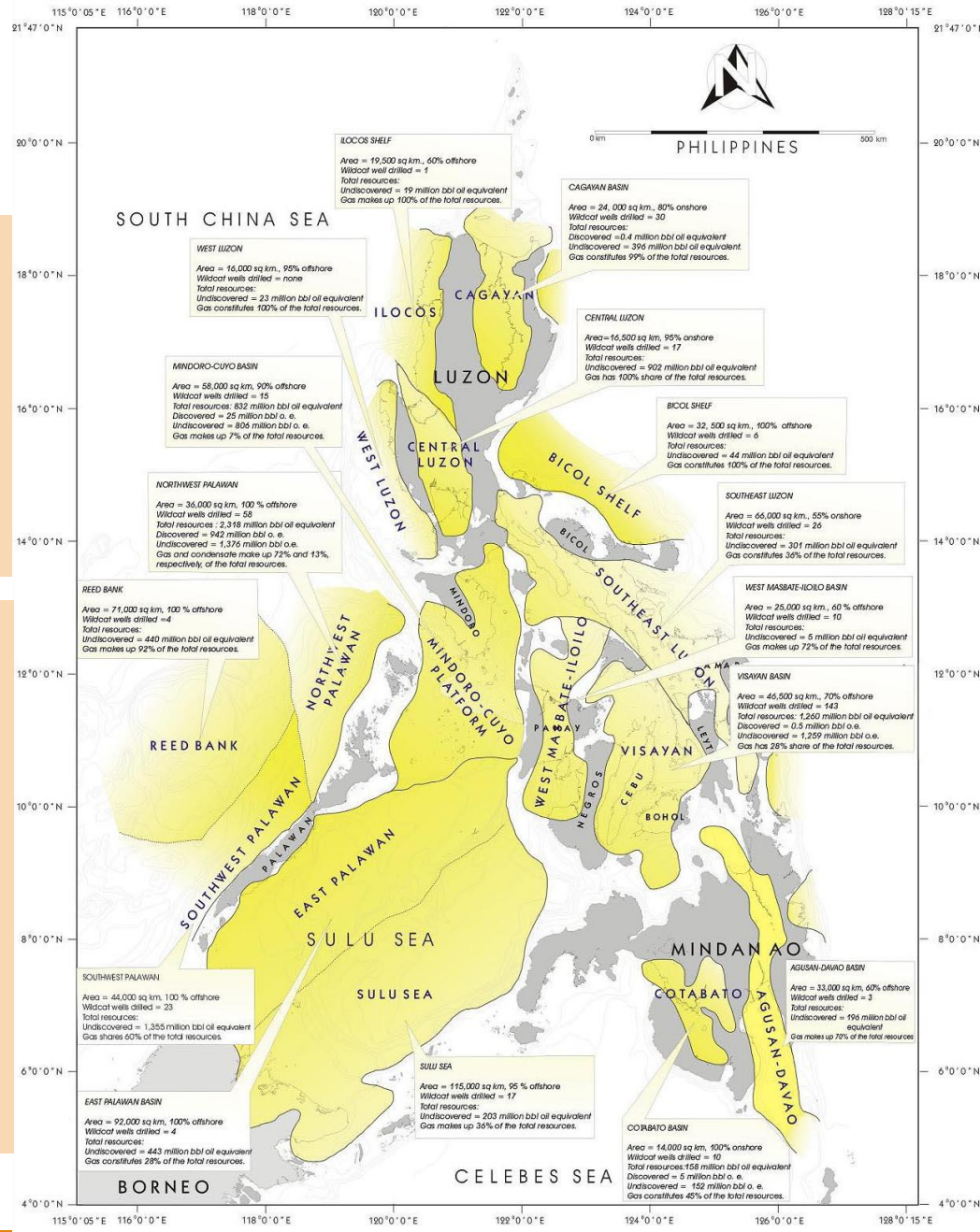
33,000 sq. km., 60% offshore
196 MMBFOE

2. Agusan – Davao Basin

14,000 sq. km., 100% onshore
158 MMBFOE

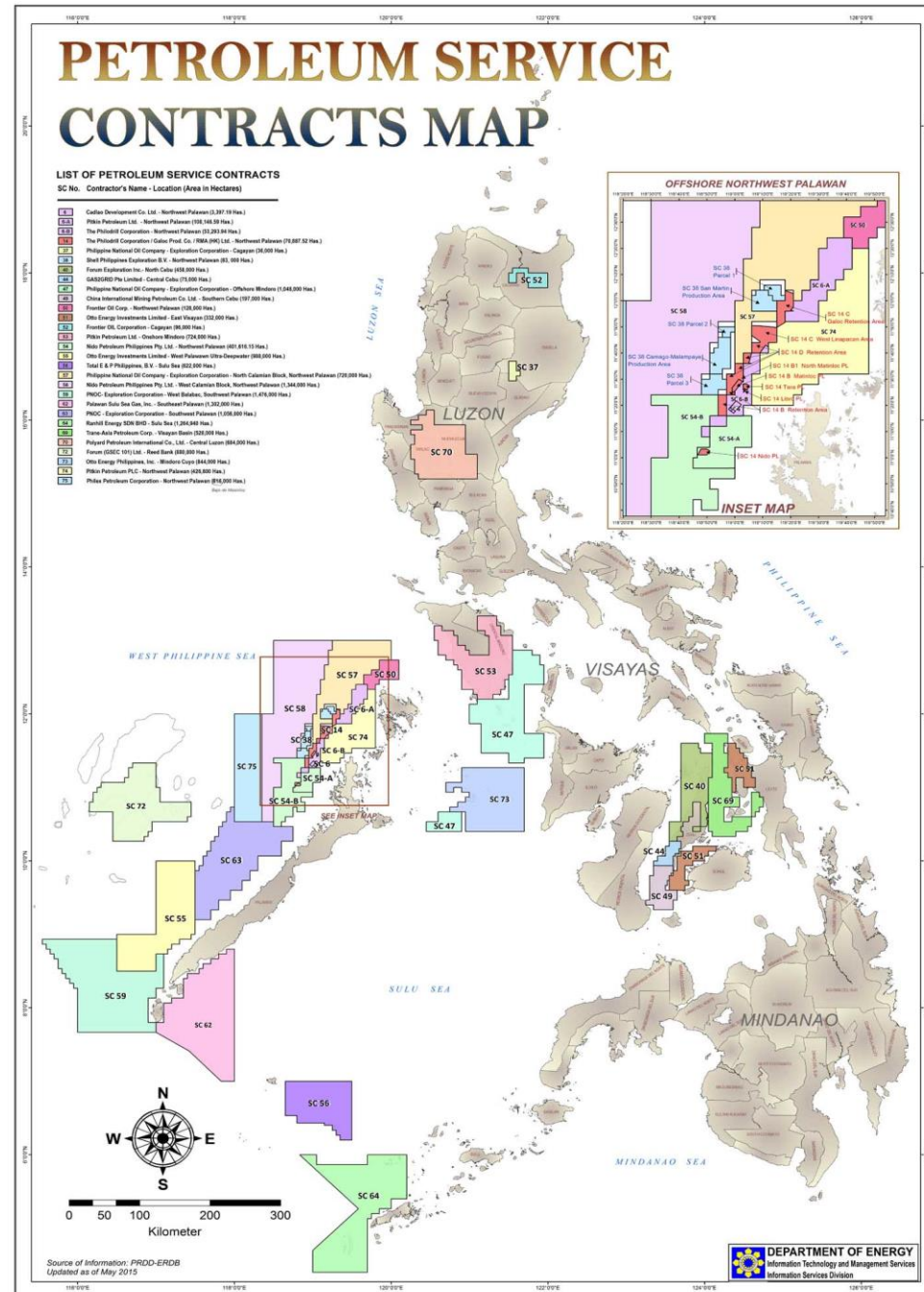
3. Sulu Sea Basin

115,000 sq. km., 95% offshore
203 MMBFOE



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 alone (January to July 2015)



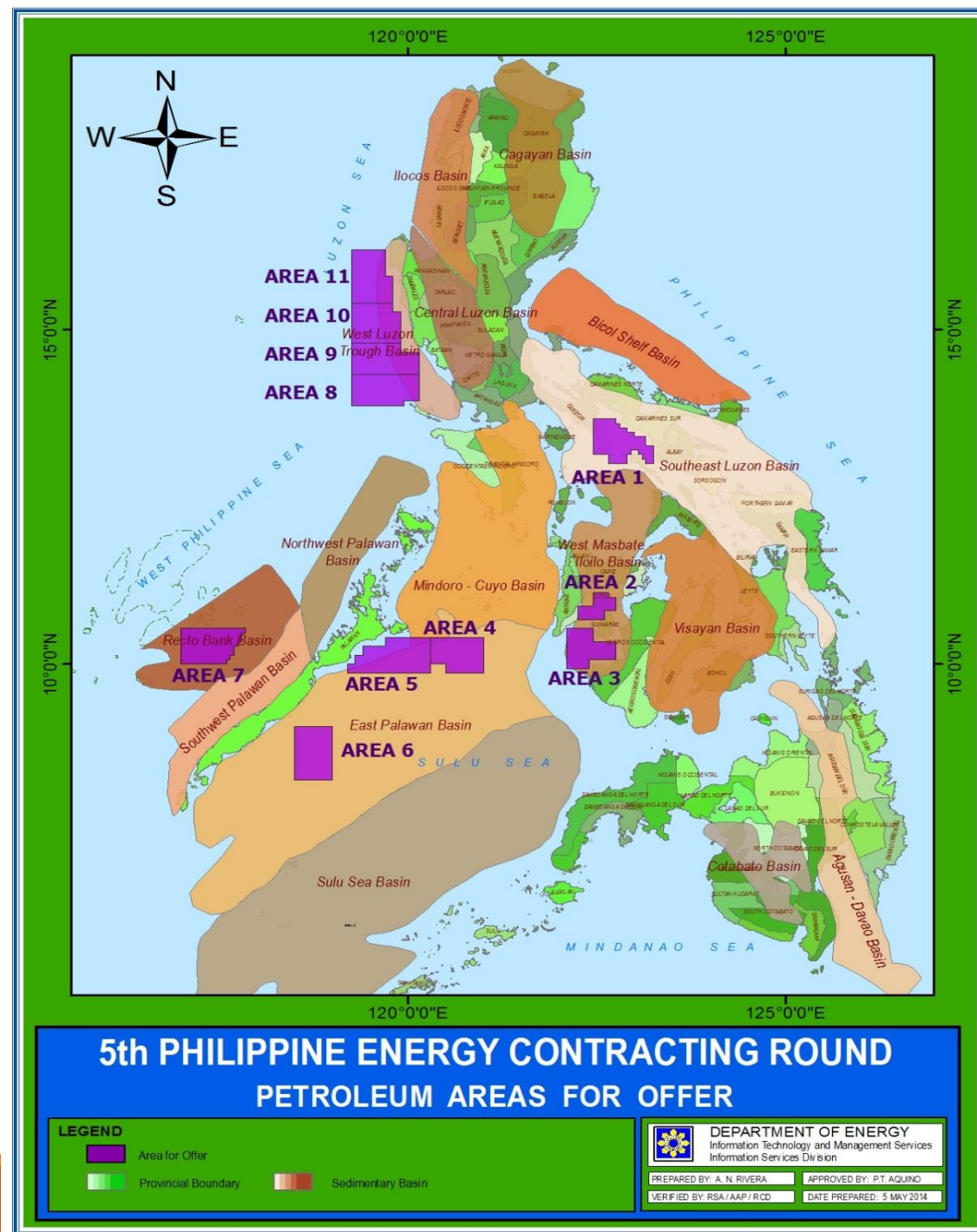
Existing Petroleum Service Contracts

SERVICE CONTRACT NO.	NAME OF CONTRACTOR	LOCATION	ACREAGE (hectares)
SC 6 (Cadlao)	CADLAO DEVELOPMENT COMPANY LIMITED (CADCO)	NW Palawan	3,397.19
SC6A (Octon)	PITKIN Petroleum Inc.	NW Palawan	108,146.59
SC 6B (Bonita)	THE PHILODRILL CORP.	NW Palawan	53,293.95
SC 14	THE PHILODRILL CORP. / Galoc Production Co. WLL	NW Palawan	70887.52
SC 37	PNOC-EC	Cagayan	36,000
SC 38	Shell Philippines Exploration BV	NW Palawan	83,000
SC 40	FORUM	North Cebu	458,000
SC 44	GAS 2 GRID	Central Cebu	75,000
SC 47	PNOC-EC	Offshore Mindoro	1,048,000
SC 49	China International Mining and Petroleum Inc.	South Cebu	197,000
SC 50	FRONTIER OIL CORPORATION	Calauit, NW Palawan	128,000
SC 51	Otto Energy Investments LTD.	East Visayan Basin	332,000
SC 52	FRONTIER OIL CORP.	Piat San Jose, Cagayan	96,000
SC 53	PITKIN PETROLEUM LTD.	Onshore Mindoro	724,000
SC54	NIDO PETROLEUM	NW Palawan	401,616.15
SC 55	Otto Energy Investments LTD.	West Palawan	988,000
SC 56	Total E&P Philippines BV	Sulu Sea	430,000
SC 57	PNOC-EC	Calamian Block/ NW Palawan	712,000
SC 58	NIDO PETROLEUM	West Calamian Block, NW Palawan	1,344,000
SC 59	BHP BILLITON	West Balabac Block, SW Palawan	1,476,000
SC 63	PNOC-EC	SW Palawan	1,056,000
SC 69	Frontier Gasfields Ltd.	Visayan Basin	528,000
SC 70	POLYARD PETROLEUM INTERNATIONAL CO. LTD.	Central Luzon Basin	684,000
SC 72	FORUM LTD.	Reed Bank	880,000
SC 74	PITKIN PETROLEUM LTD.	NW Palawan	426,800
SC 75	PHILEX PETROLEUM CORPORATION	NW Palawan	616,000

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



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

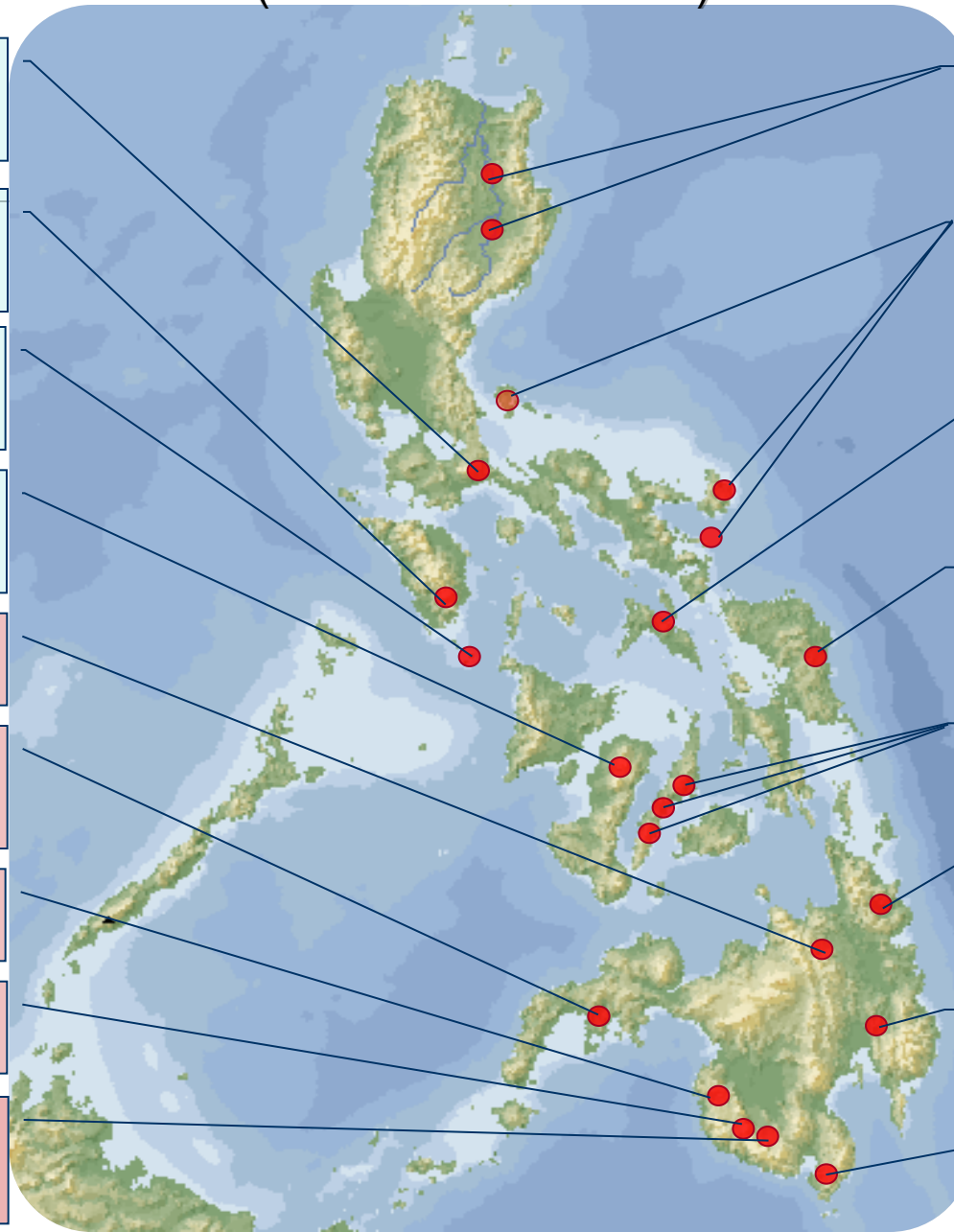
Colossal Petroleum Corp.



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)

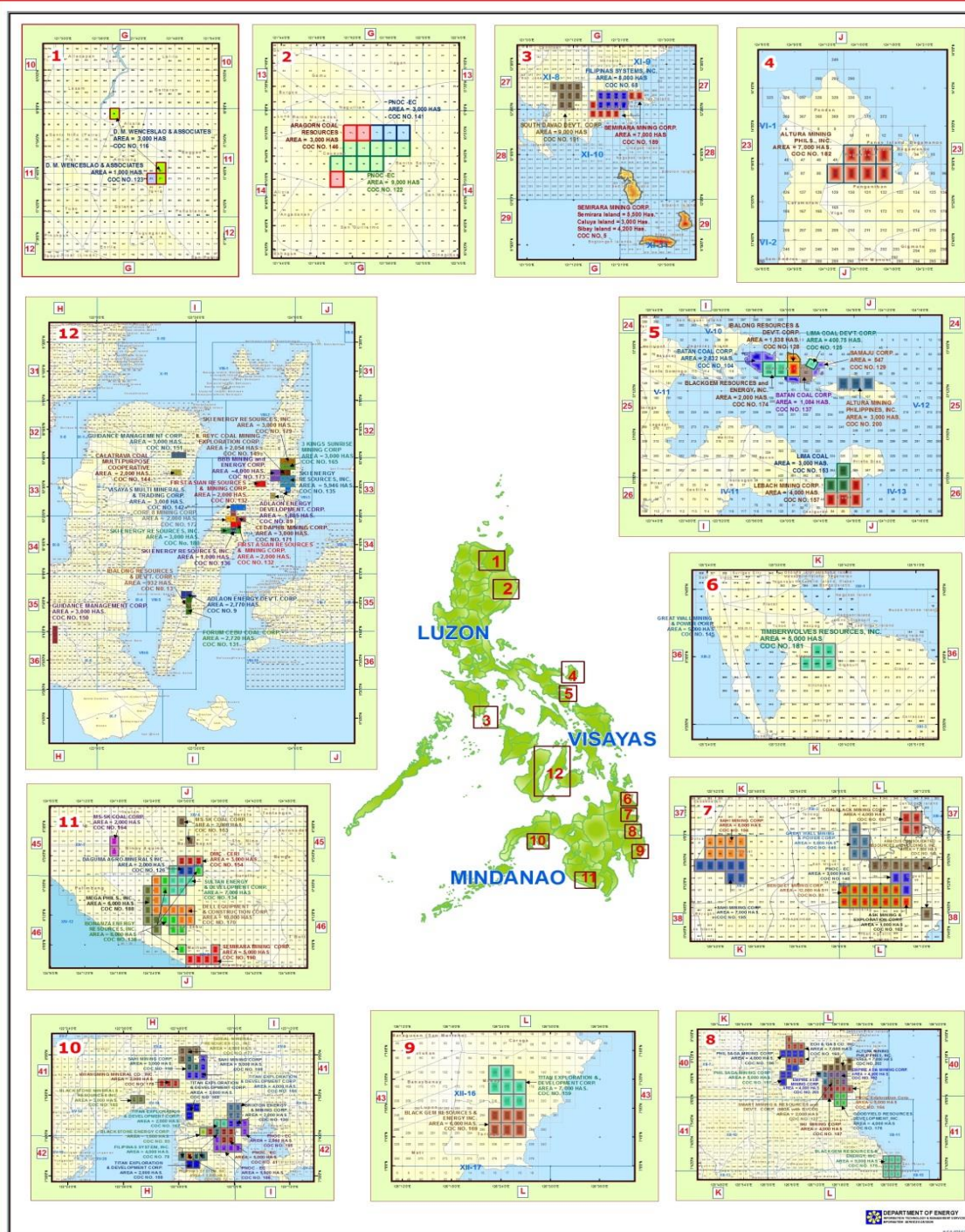
As of September 2015

Philippines

Exploration: 46
 Dev't & Production: 30
Total COCs 76
 (As of September 30, 2015)

Mindanao

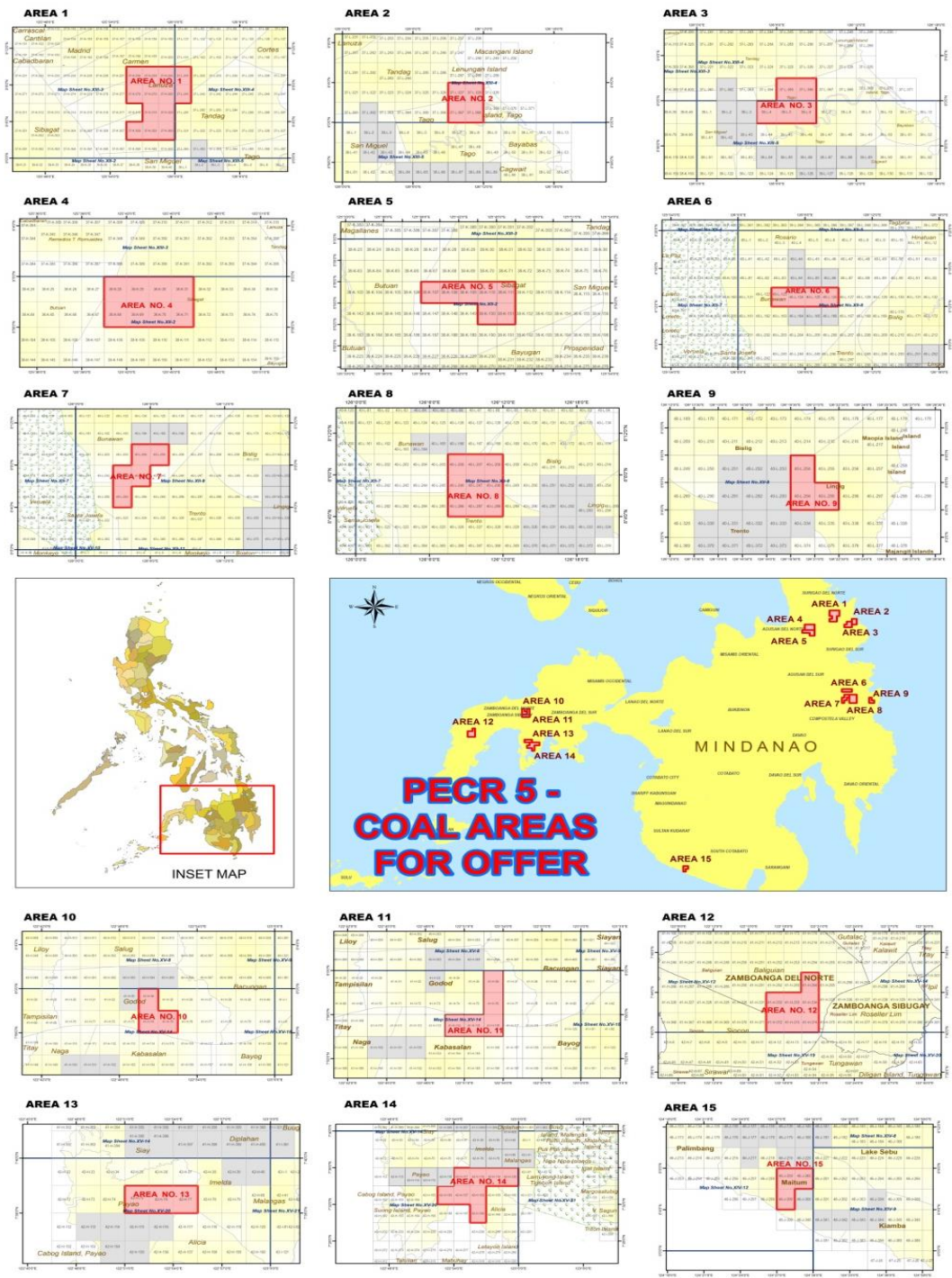
Region	Exploration	Development & Production	Total
IX	6	5	11
XI	3		3
XII	4	3	7
CARAGA	17	4	21
Total	30	12	42



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



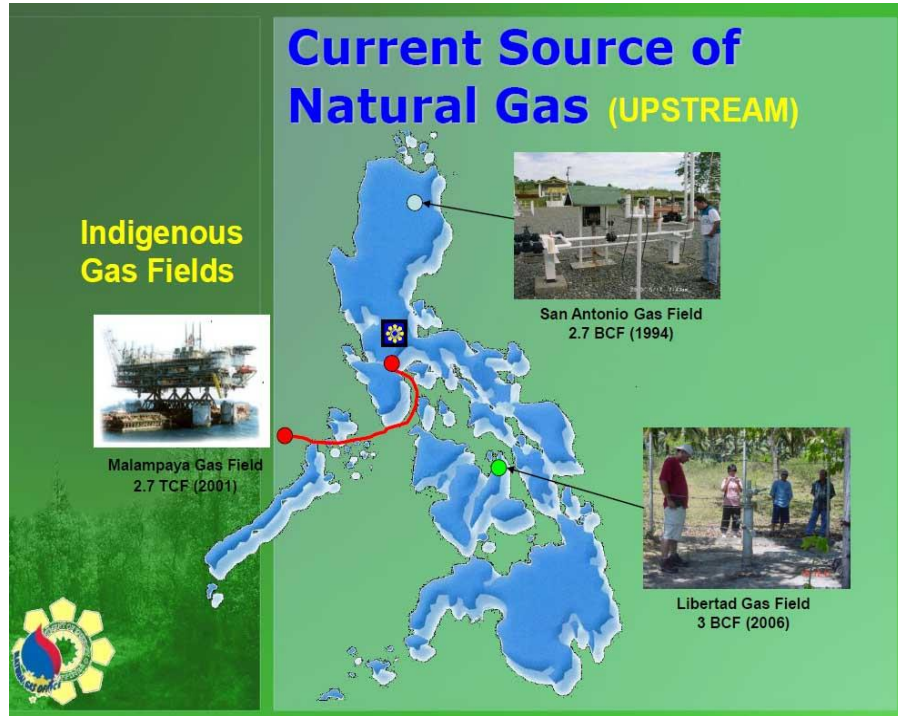
COCs Awarded from PECR 5 Offered Areas

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

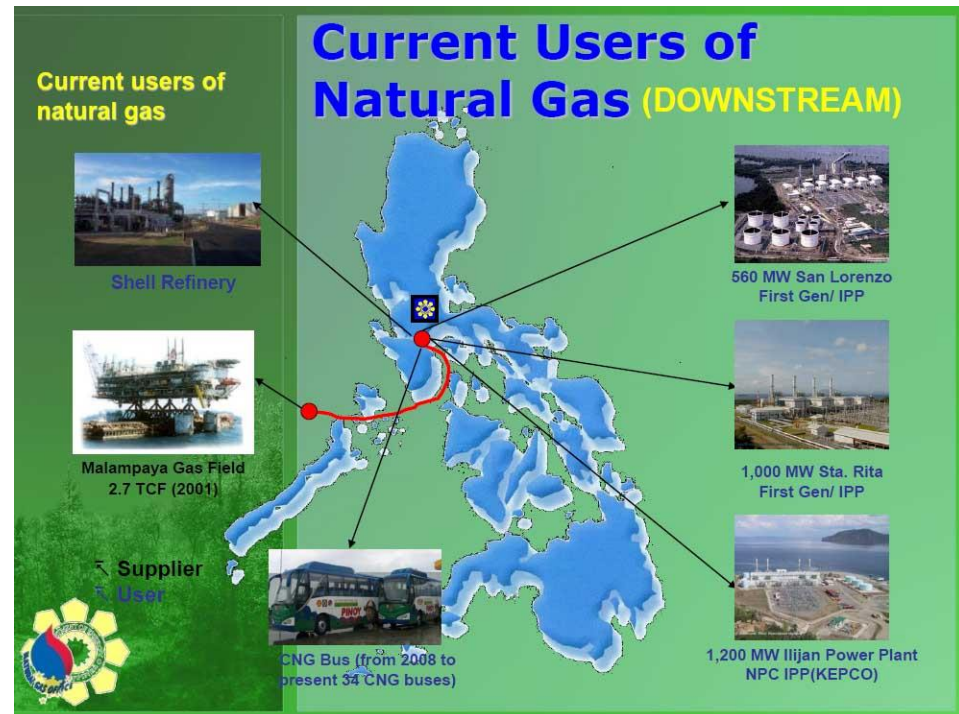
Natural Gas

Natural Gas Industry

Natural Gas Supply

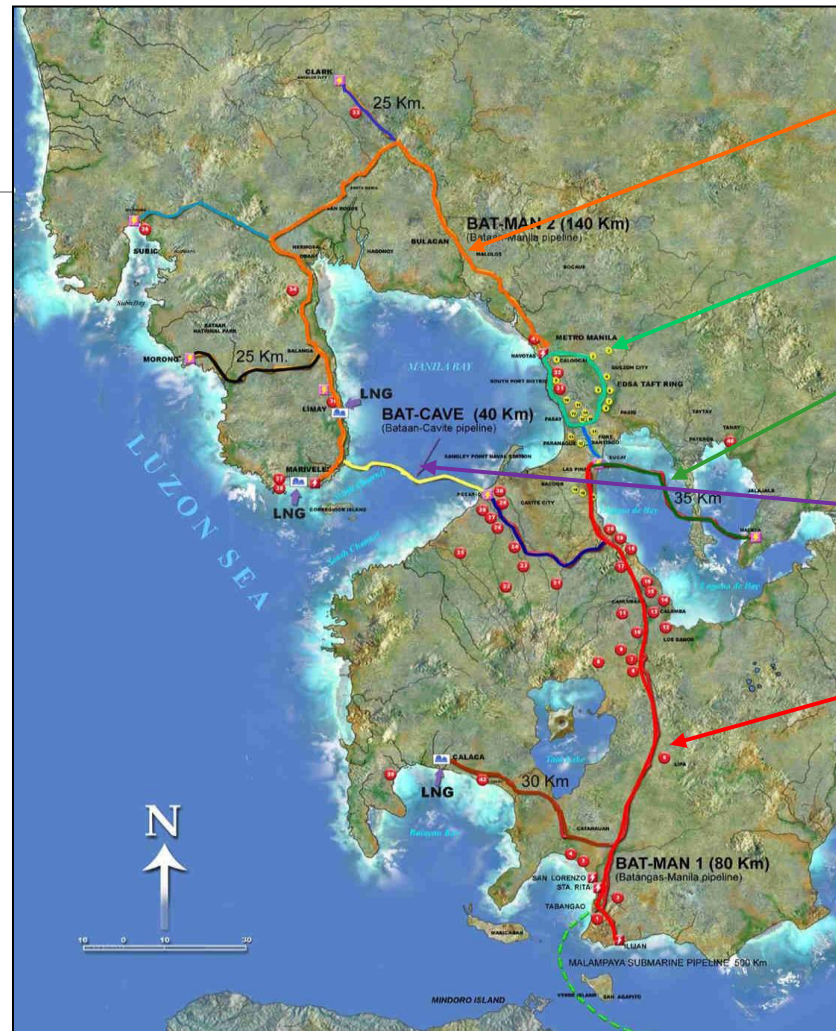


Natural Gas Demand



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

Biodiesel Supply-Demand

BIODIESEL PRODUCERS			ACTUAL ANNUAL CME REPORT (in million liters)				
PROJECT LOCATION			REGISTERED CAPACITY				
AWARDED			YEAR	SALES	PRODUCTION		
1	Chemrez Technologies, Inc.	Bagumbayan, Quezon City	90	2007	48.48	49.10	
2	Mt. Holly Coco Industrial Co., Ltd.	Lucena City, Quezon	60	2008	64.48	65.67	
3	Pure Essence International, Inc.	Bagong Ilog, Pasig City	72	2009	130.93	136.52	
4	Golden Asian Oil International, Inc.	Bagong Ilog, Pasig City	60	2010	124.51	123.55	
5	Bioenergy 8 Corporation	Sasa, Davao City	30	2011	122.96	132.99	
6	Tantuco Enterprises	Tayabas, Quezon	60	2012	137.47	137.88	
7	Phil.Biochem Products, Inc.	Barangay Buli, Muntinlupa City	12	2013	152.50	154.95	
8	Freyvonne Milling Services	Toril, Davao City	15.6	2014	163.46	171.65	
9	JNJ Oleochemicals, Inc.	Lucena City, Quezon	63.3	BIODIESEL DEMAND			
10	Phoenix Petroleum Philippines, Inc.	Villanueva, Misamis Oriental	24				
11	Econergy Corporation	General Santos City	30				
TOTAL			516.9	Year	Diesel Demand	Biodiesel Blends (Target)	Supply Requirement (in million liters)
				2016	7,176.41	5%	358.82
				2020	7,923.37	10%	792.34
				2025	8,693.73	20%	1,738.75
				2030	9,030.68	20%	1,806.14

Bioethanol Supply-Demand

BIOETHANOL PRODUCERS		PROJECT LOCATION	REGISTERED CAPACITY (in million liters)
ACCREDITED			
1	San Carlos Bioenergy, Inc.	San Carlos City, Negros Occ.	40
2	Leyte Agri Corp.	Ormoc City, Leyte	9
3	Roxol Bioenergy Corporation	La Carlota, Negros Occidental	30
4	Green Future Innovations, Inc.	San Mariano, Isabela	54
5	Balayan Distillery, Inc.	Batangas	30
6	Far East Alcohol Corp.	Pampanga	15
7	Kooll Company, Incorporated	Talisay City, Negros Occidental	14.12
8	Universal Robina Corporation	Negros Oriental	30
TOTAL			222.12
REGISTRATION WITH NOTICE TO PROCEED			
1	Cavite Biofuels Producers Inc.	Magallanes, Cavite	38
2	Canlaon Alcogreen Agro Industrial Corp.	Bago City, Negros Occidental	45
TOTAL			83
with PENDING APPLICATION			
1	Absolut Distillers, Inc.	Lian, Batangas	30
2	Emperador Distillers, Inc.	Nasugbu, Batangas	38.325
TOTAL			68.325

ACTUAL ANNUAL BIOETHANOL REPORT (in million liters)			
YEAR	LOCAL PRODUCTION	LOCAL SALES	IMPORTED
2008	0.97	0.42	12.56
2009	23.28	23.11	64.24
2010	10.17	9.17	140.40
2011	4.14	2.87	218.78
2012	35.09	38.18	246.88
2013	71.54	63.20	253.69
2014	115.11	118.89	301.58

BIOETHANOL DEMAND			
Year	Gasoline Demand	Bioethanol Blends (Target)	Supply Requirement
2015	3,818.61	10%	381.86
2020	4,328.87	20%	865.77
2025	4,712.28	20%	942.46
2030	5,084.05	20%/85%	1,016.81

Renewable Energy

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 30 September 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	415	8,898.80	138.19	0	0.00	60	594.49	4	26.60
Grid – Use	414	8,897.30	138.19	0	0	60	594.49	4	26.60
Own - Use	1	1.50							
Ocean Energy	8	31.00	-	-	-	-	-	-	-
Geothermal	43	750.00	1,906.19	-	-	-	-	-	-
Wind	52	1,168.00	426.90	6	282.55	5	313.00	6	393.90
Grid – Use	51	1,168.00	426.90	6	282.55	5	313.00	6	393.90
Own - Use	1	-	-	-	-	-	-	-	-
Solar	105	1,203.46	133.8	20	693.81	17	638.14	7	131.9
Grid – Use	93	2,544.81	131.90	20	693.81	17	638.14	7	131.90
Own - Use	12	2.19	1.90	-	-	-	-	-	-
Biomass	63	255.49	331.98	0	-	6	44.37	9	56.75
Grid – Use	40	249.07	191.55	-	-	6	44.37	9	56.75
Own - Use	23	6.42	140.43	-	-	-	-	-	-
Total Grid – Use	649	13,640.18	2,794.73	26	976.36	88	1590.00	26	609.15
Total Own – Use	37	10.11	142.33	-	-	-	-	-	-
Total	686	13,650.29	2,937.06	26	976.36	88	1,590.00	26	609.15

Renewable Energy Development - Mindanao

(as of 30 September 2015)

RESOURCES	NO. OF PROJECTS	POTENTIAL CAPACITY (MW)	INSTALLED CAPACITY (MW)	FOR CONVERSION		WITH CERTIFICATE OF CONFIRMATION OF COMMERCIALITY	
				No. of Projects	Capacity (MW)	No. of Projects	Declared Capacity (MW)
Hydro Power	122	1,556.06	30.42	0	0.00	22	269.09
Grid – Use	122	1,556.06	30.42	-	-	22	269.09
Own - Use	-	-	-	-	-	-	-
Ocean Energy	1	6.00	-	-	-	-	-
Geothermal	8	110.00	108.48	-	-	-	-
Wind	-	-	-	-	-	-	-
Grid – Use	-	-	-	-	-	-	-
Own - Use	-	-	-	-	-	-	-
Solar	24	398.82	0.00	3	226.10	6	142.32
Grid – Use	24	398.82	-	3	226.10	6	142.32
Own - Use	-	-	-	-	-	-	-
Biomass	8	76.00	24.00	-	-	1	1.77
Grid – Use	8	76.00	24.00	-	-	1	1.77
Own - Use	-	-	-	-	-	-	-
TOTAL	163	2,146.88	162.90	3	226.10	29	413.18

ENERGY SECTOR DEVELOPMENTS, PLANS AND PROGRAMS

- **Market Driven Policies**
 - **Transparency Initiatives**
 - **Investment Promotions**
-

Market Driven Policies

- Providing Power of Choice for 500kW to 750kW electricity end-users under the Retail Competition and Open Access (RCOA)
- Making mandatory participation of the existing one (1) MW Contestable Customers under the RCOA
- Standardization of PSA Contract Terms and Conditions
- Making Replacement Power and Penalty Provisions as Fixtures of PSA Contracts
- Continued study and improvements on WESM Design
- Addressing Demand Side Management through the Interruptible Load Program (ILP)



Market Driven Policies

- First Come – First Serve for Feed-In Tariff (FIT) Entitlement to hasten installations for Renewable Energy
- Streamlined Renewable Energy Service Contract applications to 45 days or less
- Maintaining share of RE to 30% of installed power generation capacity
- Energy Mix, RPS and RE Market Policy to follow after 30% Share of RE in the total installed power generation capacity



Transparency Initiatives

- Institutionalized websites providing information on the power sector
 - kuryente.org.ph / wattmatters.org.ph
 - FIT Monitoring Board
 - Fuel Price Posting
- Mandatory Competitive Selection Process (CSP) for Distribution Utilities in securing Power Supply Agreements (PSA) to instill transparency and competition in the supply of electricity to Captive Market.
- Open and Competitive Selection Process (OCSP) for Geothermal and Hydro Power Projects
- On going Fifth Philippine Energy Contracting Round (PECR 5) – Petroleum for the competitive auction of prospective on shore and offshore oil and gas blocks



Investment Promotions

- Assistance to Investors/Developer through dedicated personnel from the Investment Promotions Office in the securing of other government permits and licenses
- On-going development of online application and monitoring for selected processes
- Energy Virtual One Shared System (EVOSS) for ease in monitoring of energy projects
- Facilitating new investments in power generation and supply
 - CSP Policy for Power Supply
 - RCOA Full Implementation
 - Reserve Market
 - Ongoing study on WESM Mindanao
- Enhancing policies on Private Sector Participation (PSP) in Off-Grid Areas



Republic of the Philippines
DEPARTMENT OF ENERGY
(Kagawaran ng Enerhiya)

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RENEWABLE ENERGY REGISTRATION AND ACCREDITATION

AWARDED PROJECTS +
PENDING PROJECTS APPLICATIONS +
SUMMARY OF PROJECTS
FEED-IN-TARIFF MONITORING BOARD -

With Certificate of Confirmation of Commerciality
With Certificate of Confirmation of Commerciality

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BIOMASS PROJECTS UNDER FIT SYSTEM AS OF DECEMBER 31, 2014

FOR CONVERSION FROM PRE-DEVELOPMENT TO DEVELOPMENT/COMMERCIAL STAGE	Biomass Projects under FIT System (10th Certificate of Confirmation of Commerciality) as of December 31, 2014	Date added: 01/26/2015
WITH CERTIFICATE OF CONFIRMATION OF COMMERCIALITY		Filesize: 205.95 kB
		Downloads: 16

Download Details

THANK YOU

Mindanao Energy Investment Forum
28 October 2015
Marco Polo Hotel, Davao City