

# Investment Opportunities in the Philippine Energy Sector



Usec. Zenaida Y. Monsada  
Officer-in-Charge  
Department of Energy

# Presentation Outline

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



# Power

# Power Sector Situation

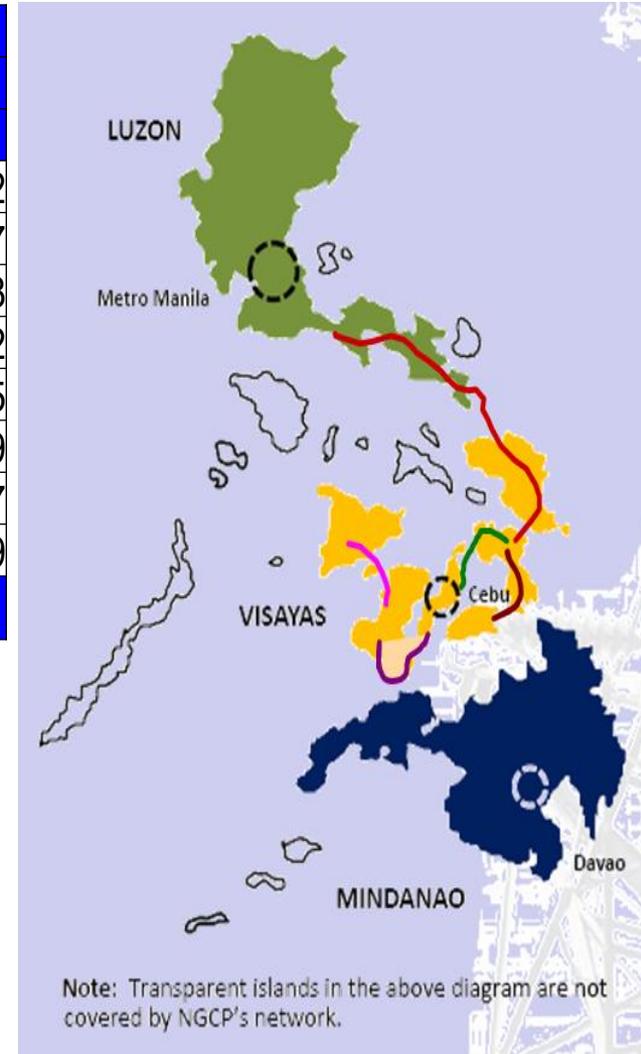
## Capacity by Plant type

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
<b>TOTAL</b>	<b>18,453</b>	<b>15,878</b>		

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

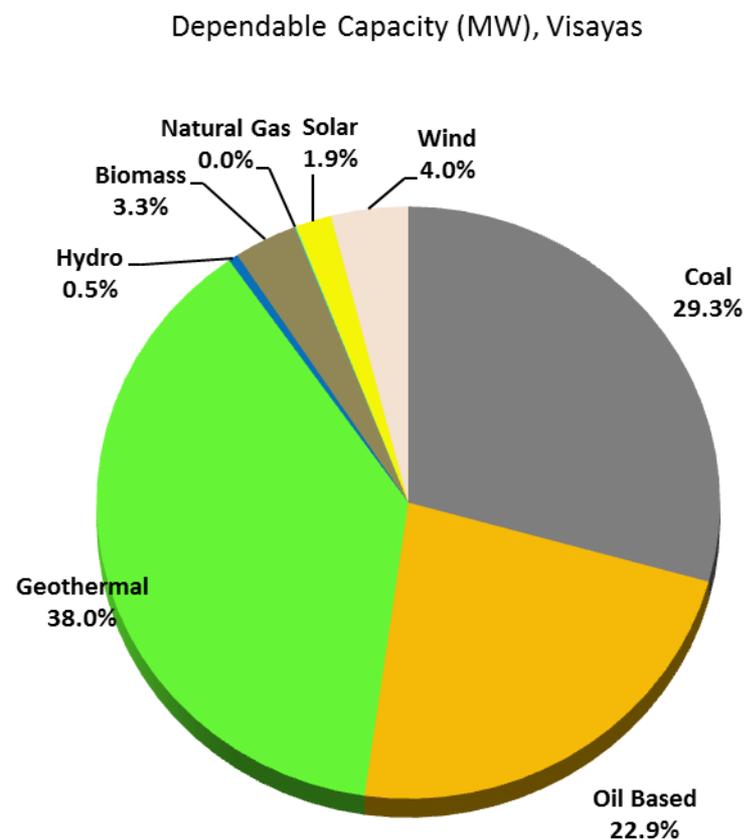
- Leyte-Luzon (440 MW)
- Leyte-Cebu (400 MW)
- Cebu-Negros (200 MW)
- Negros – Panay (100 MW)
- Leyte-Bohol (100 MW)



# Capacity Mix

## VISAYAS

FUEL TYPE	VISAYAS			
	Capacity (MW)		Percent Share (%)	
	Installed	Dependable	Installed	Dependable
Coal	806	630	29.93	29.31
Oil Based	670	493	24.90	22.93
<i>Diesel</i>	615	451	22.86	20.98
<i>Gas Turbine</i>	55	42	2.04	1.95
Geothermal	965	817	35.86	38.01
Hydro	11	11	0.42	0.50
Biomass	96	71	3.58	3.32
Natural Gas	1	1	0.04	0.05
Solar	52	41	1.93	1.88
Wind	90	86	3.34	4.00
<b>TOTAL</b>	<b>2,692</b>	<b>2,150</b>		



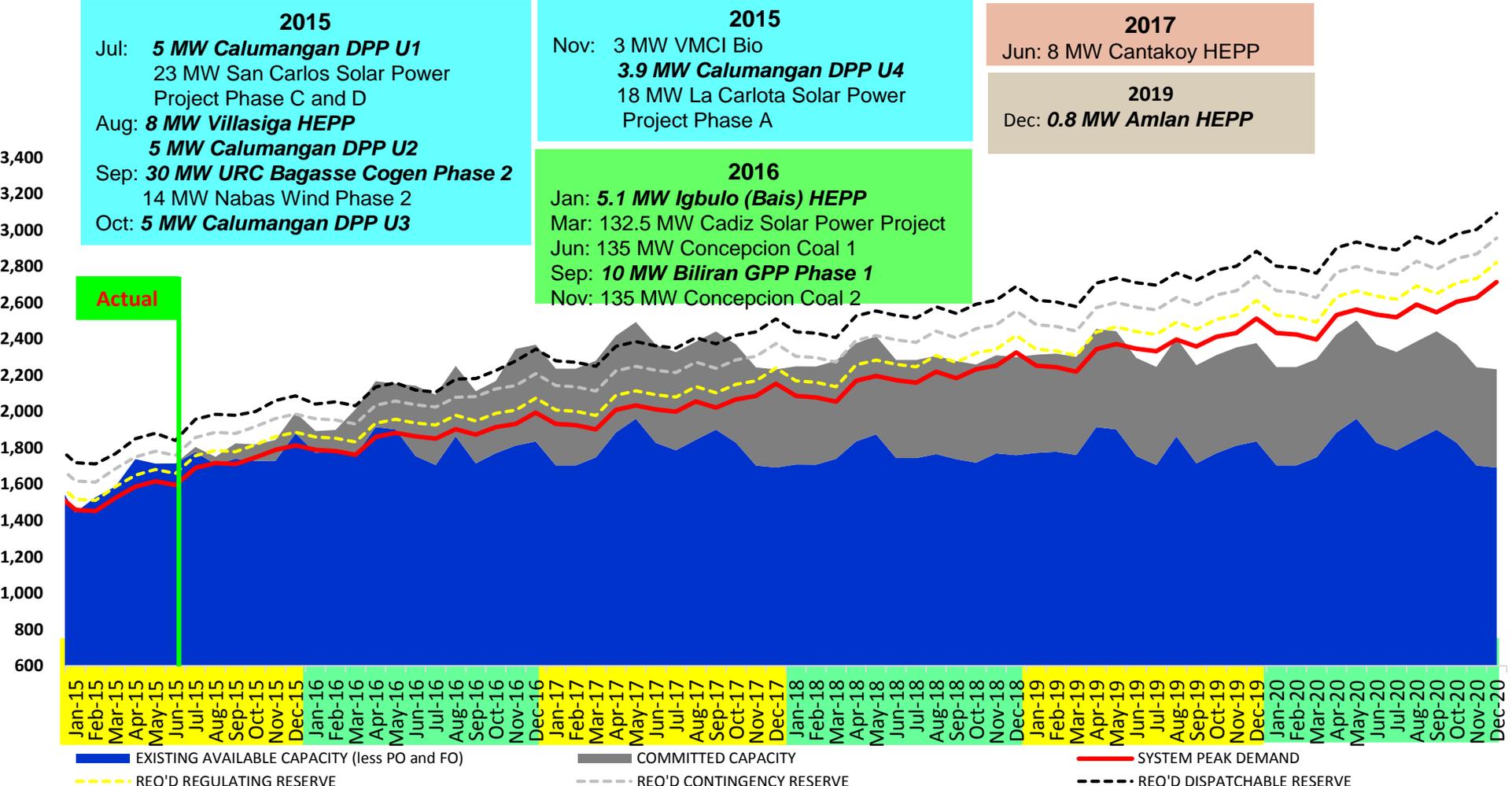
Source: DOE List of Existing Power Plants, 30 June 2015

# Visayas Additional Capacities

(01 Jan 2014 to 15 Jun 2015)

Power Plant	Location	Installed Capacity (MW)	Commercial Operation
San Carlos Solar Photovoltaic Power Project Phase 1	San Carlos City, Negros Occidental	13	15-May-2014
San Carlos Solar Photovoltaic Power Project Phase 2	San Carlos City, Negros Occidental	9	16-Aug-2014
Nasulo Geothermal Project	Valencia, Negros Oriental	49.37	26-Sep-2014
San Lorenzo Wind Farm Project (TAREC)	San Lorenzo, Guimaras	54	27-Dec-2014
Universal Robina Corporation Bagasse Cogeneration Facility - Phase 1	Kabankalan, Negros Occidental	16	20-Jan-2015
HPCo Bagasse Cogeneration Power Plant	Silay City, Negros Occidental	12	4-Feb-2015
PSFLI (SOLEQ) Solar Power Project	Ormoc, Leyte	30	4-Apr-2015
PetroWind Nabas Wind Farm Phase 1	Nabas, Aklan	36	10-Jun-2015
<b>Total RE</b>		<b>219.37</b>	
TPC – 1A Coal	Toledo City, Cebu	82	Ready for Commercial Operation
<b>Total Capacity</b>		<b>301.37</b>	

# Visayas Demand-Supply Outlook 2015-2020



## Notes

- 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

## Summary of Visayas Power Projects as of 15 July 2015

Type of Power Plant	Committed		Indicative	
	No. of Proponents	Capacity (MW)	No. of Proponents	Capacity (MW)
Coal	1	270.00	2	450.00
Oil-Based	1	18.9	-	-
Natural Gas	-	-	-	-
Renewable Energy	10	252.40	15	306.07
Geothermal	1	10.00	1	40.00
Hydro	4	21.9	7	73.00
Biomass	2	33.00	4	87.40
Solar	2	173.50	1	55.67
Wind	1	14.00	2	50.00
Battery Storage	-	-	1	40.00
<b>TOTAL</b>	<b>12</b>	<b>541.30</b>	<b>18</b>	<b>796.07</b>



# COMMITTED POWER PROJECTS

## Visayas Grid Committed Power Projects, 541.30 MW

Name of the Project	Project Proponent	Mother/ JV Company	Location	Rated Capacity (MW)	Target Testing & Commissioning	Target Commercial Operation
Concepcion Coal-fired Power Plant Unit 1	Palm Thermal Consolidated Holdings Corp.	AC Energy Holdings, Inc./ Palm Thermal Consolidated Holdings Corporation/ Jin Navitas Resource, Inc.	Brgy. Nipa, Concepcion, Iloilo	135.0	Apr-2016	Jun-2016
Concepcion Coal-fired Power Plant Unit 2	Palm Thermal Consolidated Holdings Corp.	AC Energy Holdings, Inc./ Palm Thermal Consolidated Holdings Corporation/ Jin Navitas Resource, Inc.	Brgy. Nipa, Concepcion, Iloilo	135.0	Sep-2016	Nov-2016
<b>TOTAL COAL</b>				<b>270.0</b>		
Calumangan Diesel Power Plant	Energreen Power Development & Management, Inc.		Brgy. Calumangan, Bago City, Negros Occidental	18.9	U1 – Jul 2015	U1 – Jul 2015
					U2 – Aug 2015	U2 – Aug 2015
					U3 – Oct 2015	U3 – Oct 2015
					U4 – Nov 2015	U4 – Nov 2015
<b>TOTAL OIL-BASED</b>				<b>18.9</b>		
Igbulo (Bais) Hydroelectric Power Project*	Century Peak Energy Corporation	Century Peak Energy Corporation	Igbaras, Iloilo	5.1	Dec 2015	Jan 2016
Villasiga HEPP	Sunwest Water & Electric Co. Inc. (SUWECO)	Sunwest Water & Electric Co. Inc. (SUWECO)	Brgy. Igsoro, Bugasong, Antique	8.0	Jul-2015 <sup>c</sup>	Aug-2015 <sup>c</sup>
Cantakoy HEP	Quadriver Energy Corp.	Quadriver Energy Corp.	Danao, Bohol	8.0	Jun-2017	Jun-2017
Amlan *	Natural Power Sources Integration, Inc.	Natural Power Sources Integration, Inc.	Amlan, Negros Oriental	0.8	Nov 2019	Dec 2019
<b>TOTAL HYDRO</b>				<b>21.9</b>		
Universal Robina Corporation Bagasse Cogeneration Phase 2 <sup>d</sup>	Universal Robina Corporation	Universal Robina Corporation	Kabankalan, Negros Occidental	30.0	Aug 2015	Sept 2015
VMCI Bagasse-Fired Cogeneration Plant	Victorias Milling Company Inc.	Victorias Milling Company Inc.	Negros Occidental	3.0	Oct-2015	Nov-2015
<b>TOTAL BIOMASS</b>				<b>33.0</b>		
Nabas Wind Power Project Phase 2	Petrogreen Energy Corporation	Petrogreen Energy Corporation	Brgy. Pawa, Nabas, Aklan	14.0	Sep-2015	Sep-2015 <sup>b</sup>
<b>TOTAL WIND</b>				<b>14.0</b>		

\* New Entry from Indicative List

<sup>a</sup> Revised based on REMB's report

<sup>c</sup> Revised based from DOE-VFO

<sup>b</sup> Updated from proponent's submission

<sup>d</sup> New Entry to Committed Project

As of 15 July 2015

# COMMITTED POWER PROJECTS

## Visayas Grid Committed Power Projects, 541.30 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	10.0	Aug 2016	Sept 2016 <sup>a</sup>
<b>TOTAL GEOTHERMAL</b>				<b>10.00</b>		
San Carlos Solar Power Project Phase C-10 Phase D-13	San Carlos Solar Energy Inc.	Bronzeoak Philippines	San Carlos City, Negros Occidental	23.0	Jul 2015	Jul 2015
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 <sup>a</sup>	Mar 2016	Mar 2016
<b>TOTAL SOLAR</b>				<b>173.5</b>		
<b>TOTAL</b>				<b>541.30</b>		

\* New Entry from Indicative list

<sup>a</sup> Revised based on REMB's report

As of 15 July 2015

# INDICATIVE POWER PROJECTS

## Visayas Grid Indicative Power Projects, 796.07 MW

Name of the Project	Project Proponent	Mother/ JV Company	Location	Rated Capacity (MW)	Target Commissioning
PEDC Expansion	Panay Energy Development Corporation	Global Business Power Corporation	Brgy. Ingore, La Paz, Iloilo	150.0	July 2016
Therma Visayas Energy	Therma Visayas Inc.	Aboitiz Power Corporation	Brgy. Bato, Toledo City, Cebu	U1-150.0 U2-150.0	U1 – Dec 2017 <sup>b</sup> U2 – Mar 2018 <sup>b</sup>
<b>TOTAL COAL</b>				<b>450.0</b>	
Dauin Geothermal Project	Energy Development Corporation (EDC)	Energy Development Corporation (EDC)	Dauin, Negros Oriental	40.0	Dec 2021 <sup>b</sup>
<b>TOTAL GEOTHERMAL</b>				<b>40.0</b>	
Biliran Grid Tied Solar Farm	E & P Green Energy, Inc.		Biliran, Biliran	50.0	Mar 2016
Miag-ao Solar Power Project	COSMO Solar Energy, Inc.	COSMO Solar Energy, Inc.	Miag-ao, Iloilo	5.67	Jul 2015
<b>TOTAL SOLAR</b>				<b>55.67</b>	
Pulupandan Wind Power Project	First Maxpower International Corporation	First Maxpower International Corporation	Pulupandan, Negros Occidental	50.0	Dec 2016
<b>TOTAL WIND</b>				<b>50.0</b>	

<sup>b</sup> Updated from proponent's submission

As of 15 July 2015

# INDICATIVE POWER PROJECTS

Visayas Grid Indicative Power Projects, 796.07 MW

Name of the Project	Project Proponent	Mother/ JV Company	Location	Rated Capacity (MW)	Target Commissioning
Maninila (Lower Cascade)	Century Peak Energy Corporation	Century Peak Metals Holdings Corp	San Remigio, Antique	4.5	Oct 2016 <sup>a</sup>
Maninila (Upper Cascade)	Century Peak Energy Corporation	Century Peak Metals Holdings Corp	San Remigio, Antique	3.1	Oct 2016 <sup>a</sup>
Sibalom (Upper Cascade)	Century Peak Energy Corporation	Century Peak Metals Holdings Corp	San Remigio, Antique	4.2	Oct 2016 <sup>a</sup>
Sibalom (Middle Cascade)	Century Peak Energy Corporation	Century Peak Metals Holdings Corp	San Remigio, Antique	4.0	Oct 2016 <sup>a</sup>
Sibalom (Lower Cascade)	Century Peak Energy Corporation	Century Peak Metals Holdings Corp	San Remigio, Antique	4.0 <sup>a</sup>	Oct 2016 <sup>a</sup>
Basak II	Meadowland Developers, Inc.		Badian, Cebu	0.5	Apr 2017
Hilabangan (Upper Cascade)	Century Peak Energy Corporation	Century Peak Metals Holdings Corp	Kabankalan, Negros Occidental	4.8	Aug 2017 <sup>a</sup>
Hilabangan (Lower Cascade)	Century Peak Energy Corporation	Century Peak Metals Holdings Corp	Kabankalan, Negros Occidental	3.0	Aug 2017 <sup>a</sup>
Timbaban Hydroelectric Power Project	Oriental Energy and Power Generation Corporation	Oriental Peninsula Resources Group Inc (ORE)	Madalag, Aklan	18.0	Aug 2017 <sup>a</sup>
Main Aklan River Hydroelectric Power Project	Sunwest Water & Electric Co. Inc. (SUWECO)	Sunwest Water & Electric Co. Inc. (SUWECO)	Libacao, Aklan	15.0	July 2018 <sup>a</sup>
Malugo	Vivant-Malogo Hydropower, Inc		Silay City, Negros	6	Oct 2018 <sup>a</sup>
Amlan (Plant B)	Natural Power Sources Integration, Inc.		Amlan, Negros Oriental	1.5	Jul 2019 <sup>a</sup>
Amlan (Plant A)	Natural Power Sources Integration, Inc.		Amlan, Negros Oriental	3.2	Sept 2019
Loboc Hydro Power Project	Sta Clara Power Corporation	Sta Clara Int'l Corporation	Loboc, Bohol	1.2	TBD
<b>TOTAL HYDRO</b>				<b>73.0</b>	

<sup>a</sup> Revised based on REMB's report

TBD – to be determined

As of 15 July 2015

# INDICATIVE POWER PROJECTS

Visayas Grid Indicative Power Projects, 796.07 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 <sup>a</sup>	Nov 2015 <sup>a</sup>
South Negros Biomass Power Plant	South Negros Biopower Inc.		Brgy. Cubay, La Carlota City, Negros Occidental	22.4	Apr 2017
Mina Multi-Fuel Biomass Power Generation Facility	Green Power Panay Phils., Inc.		Iloilo	Phase 1 – 17.5 <sup>a</sup> Phase 2 – 17.5 <sup>a</sup>	Phase 1- May 2017 <sup>a</sup> Phase 2 – May 2018 <sup>a</sup>
MCEI Multi-Feedstock Biomass Power Plant Project	Megawatt Clean Energy, Inc.		Negros Occidental	12	May 2018
<b>TOTAL BIOMASS</b>				<b>87.4</b>	
AES Battery Storage Project	AES Philippines Power Partners Co., LTD.	AES Philippines Power Partners Co., LTD.	Kabankalan, Negros Occidental	40.0	Oct 2016
<b>TOTAL BATTERY</b>				<b>40.0</b>	
<b>TOTAL</b>				<b>796.07</b>	

<sup>a</sup> Revised based on REMB's report

**TBD** – to be determined

As of 15 July 2015

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# Oil & Gas



# AREAS OF OPPORTUNITIES

## Philippines:

- **16** Sedimentary basins representing an area of over 700,000 sq km
- Combined potential of 4,777 million barrels of fuel equivalent (MMBFOE)

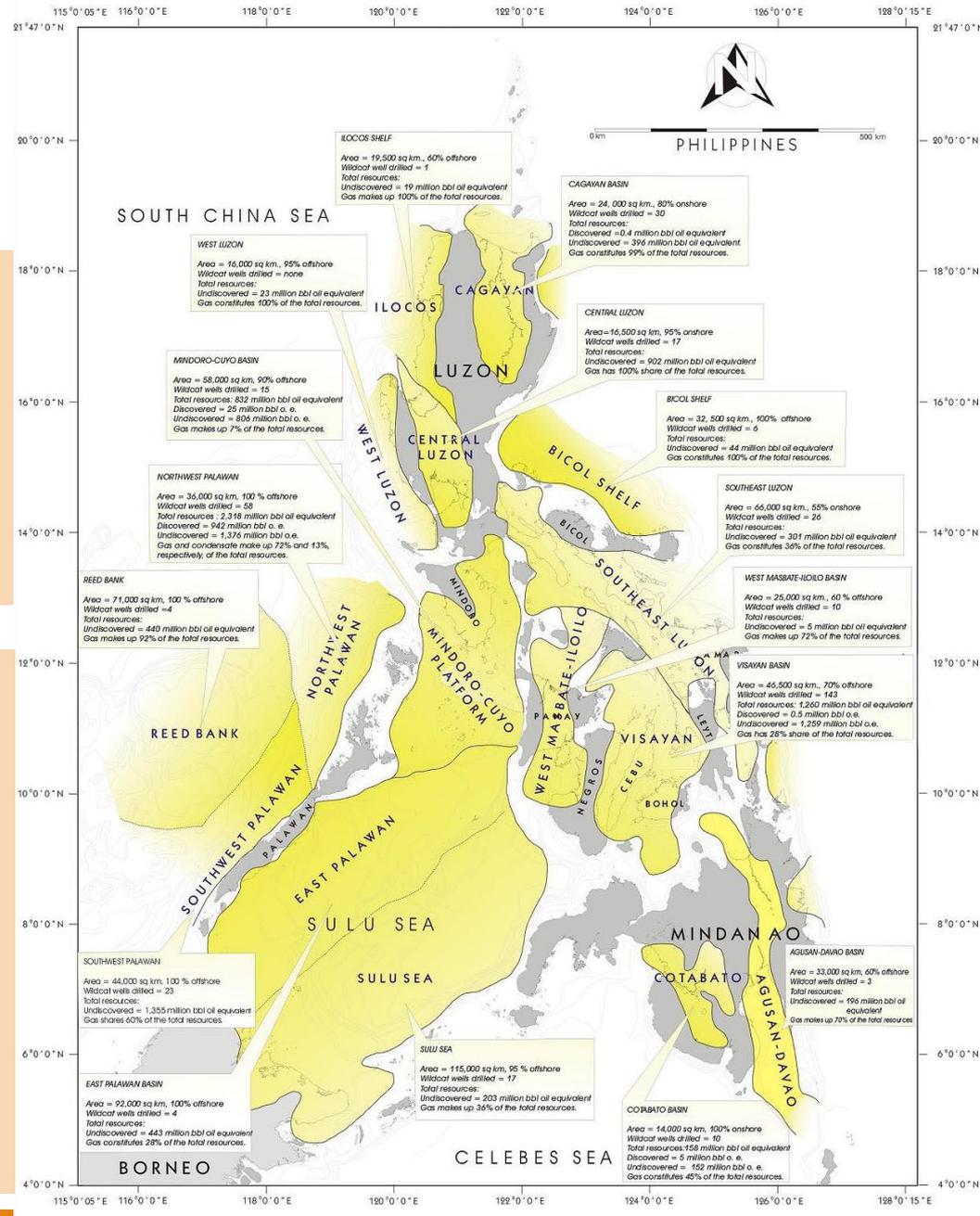
## Visayas:

### 1. Visayan Basin

46,500 sq. km.  
1,260 MMBFOE

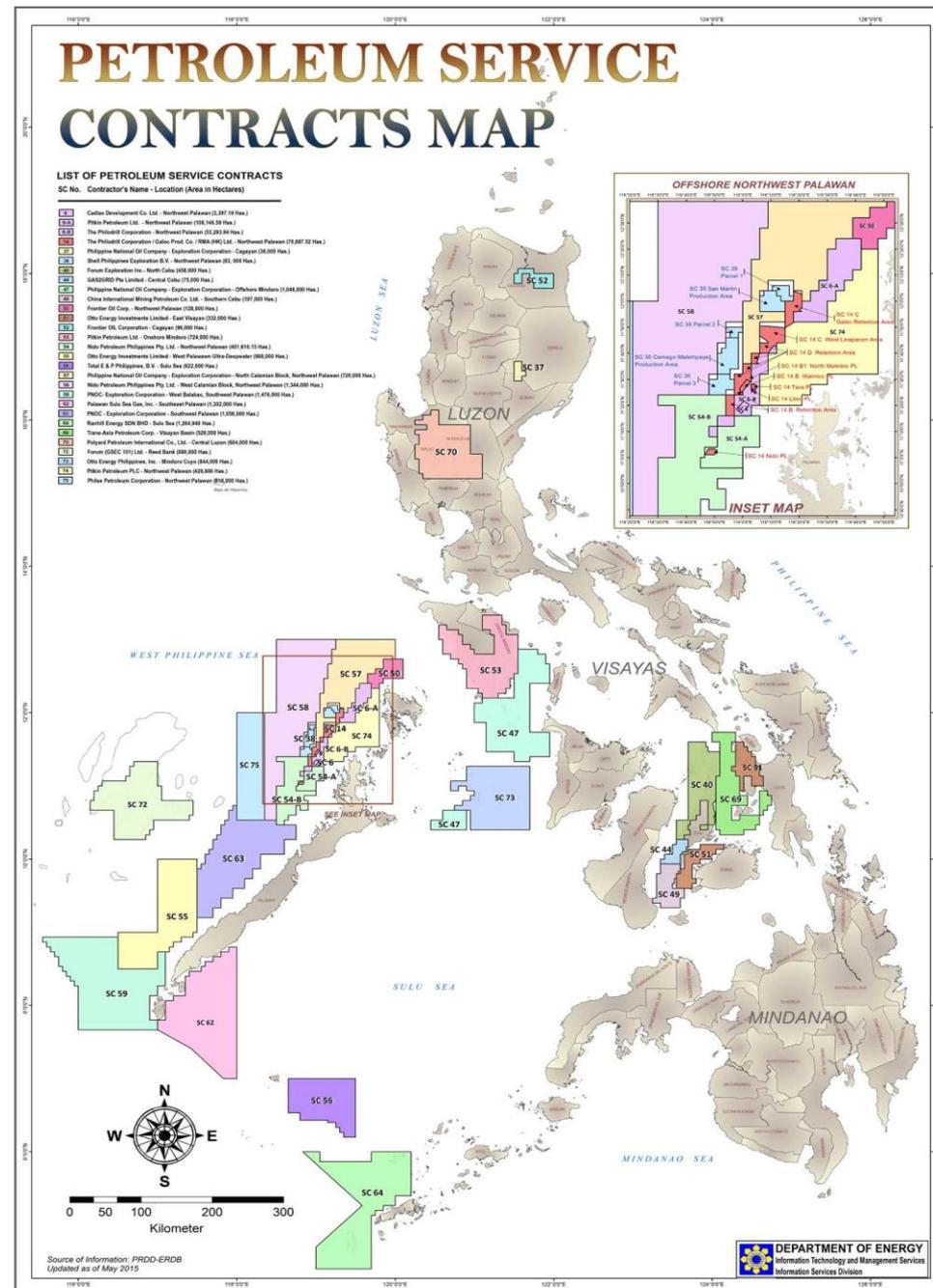
### 2. West Masbate – Iloilo Basin

25,000 sq. km.  
5 MMBFOE



# Upstream Oil & Gas Exploration

- 26 Active Petroleum Service Contracts
- Produced 1.2 MB of oil, 53.38 BCF of gas & 1.69 MB condensate in 2015 alone (January to June 2015)





# Existing Petroleum Service Contracts

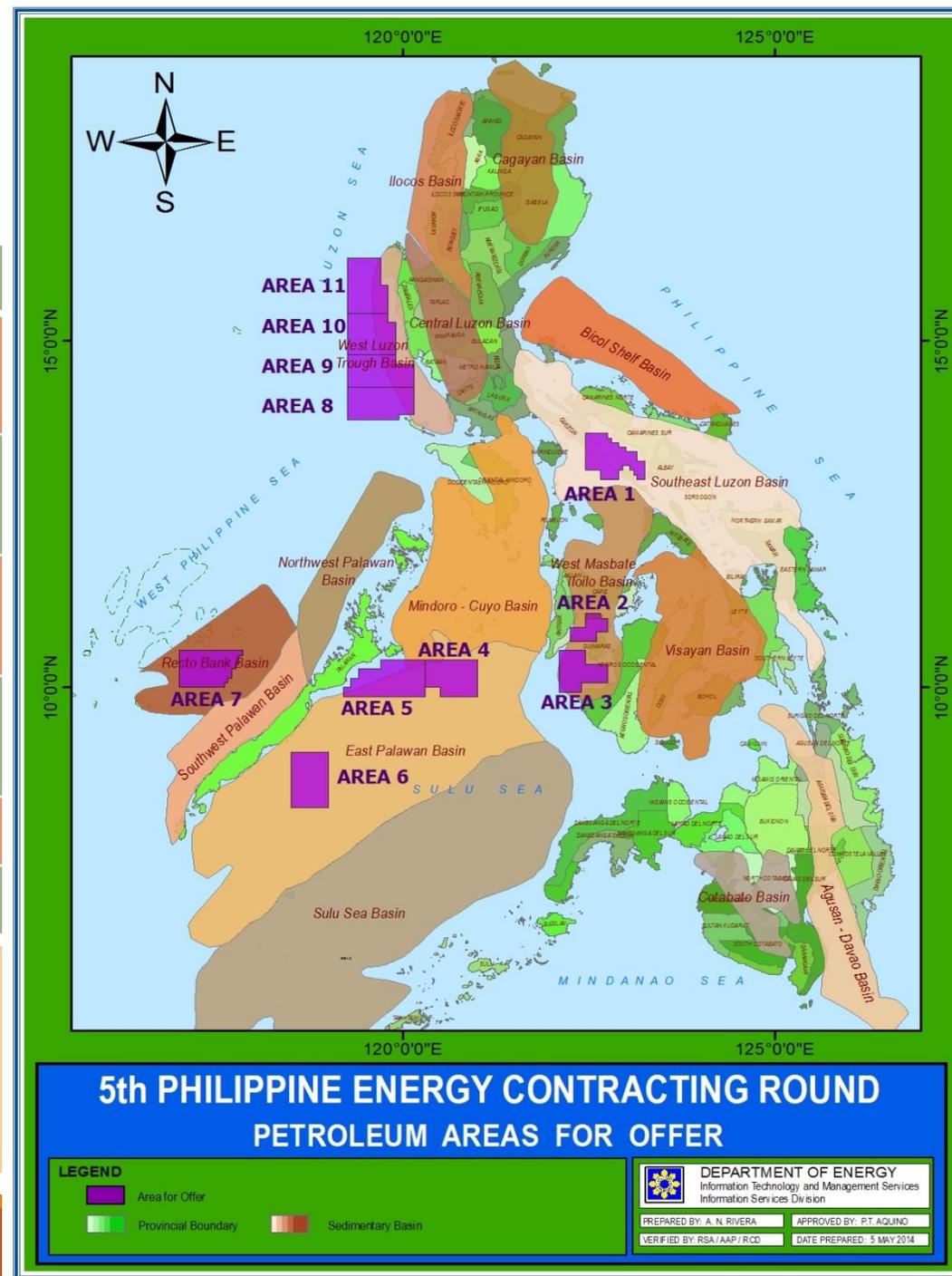
SERVICE CONTRACT NO.	NAME OF CONTRACTOR	LOCATION	ACREAGE (hectares)
SC 6 (Cadlao)	CADLAO DEVELOPMENT COMPANY LIMITED (CADCO)	NW Palawan	3,397.19
SC6A (Octon)	PITKIN Petroleum Inc.	NW Palawan	108,146.59
SC 6B (Bonita)	THE PHILODRILL CORP.	NW Palawan	53,293.95
SC 14	THE PHILODRILL CORP. / Galoc Production 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	Calautit, 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



# Petroleum Areas offered in PECR5

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

Out of the 11 areas offered, DOE received four (4) proposals for four (4) areas and three (3) proposals have qualified



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# Coal



# Summary of Regional Coal Reserves

(in 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

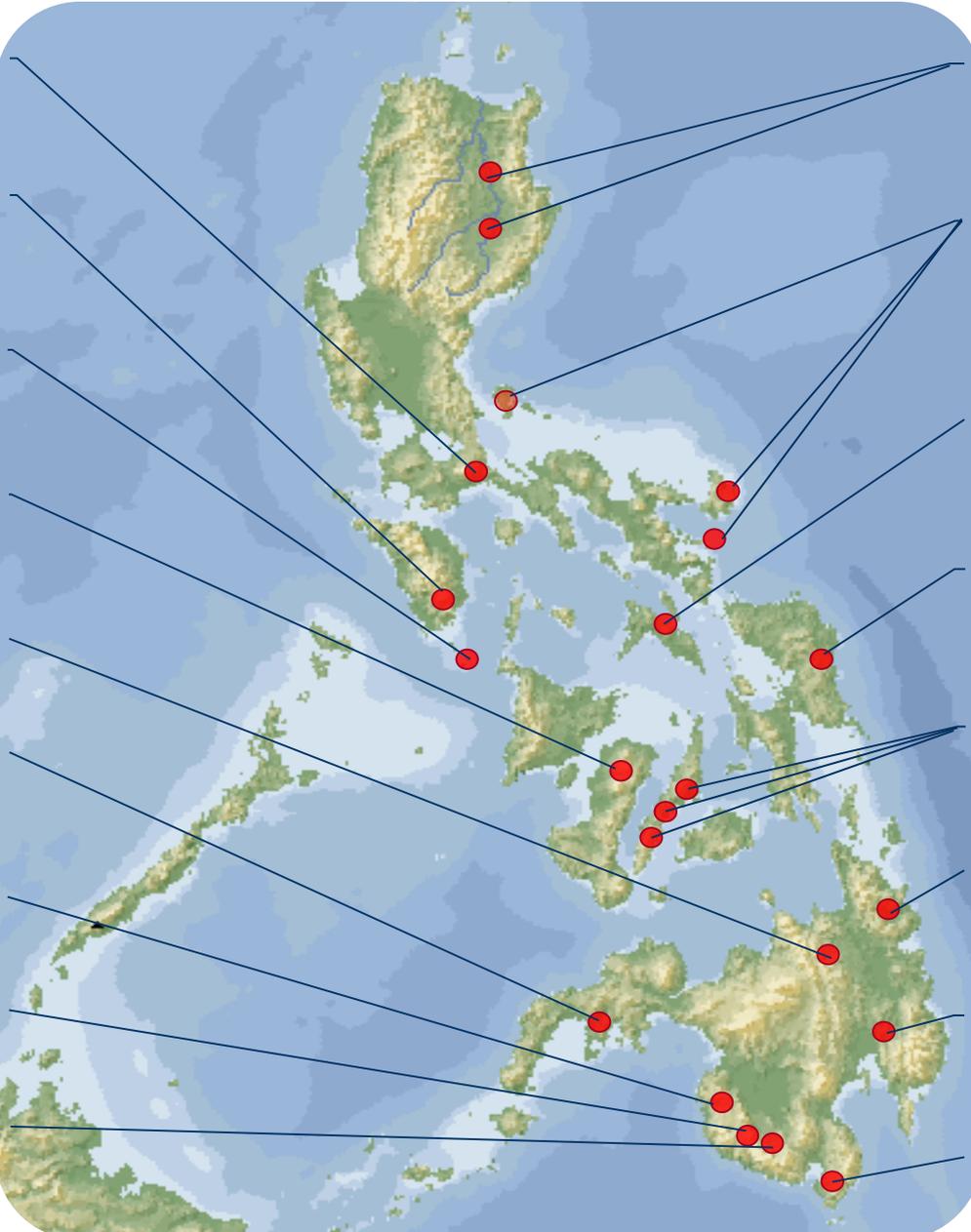
**BUKIDNON**  
 Resource Potential - 50.00

**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

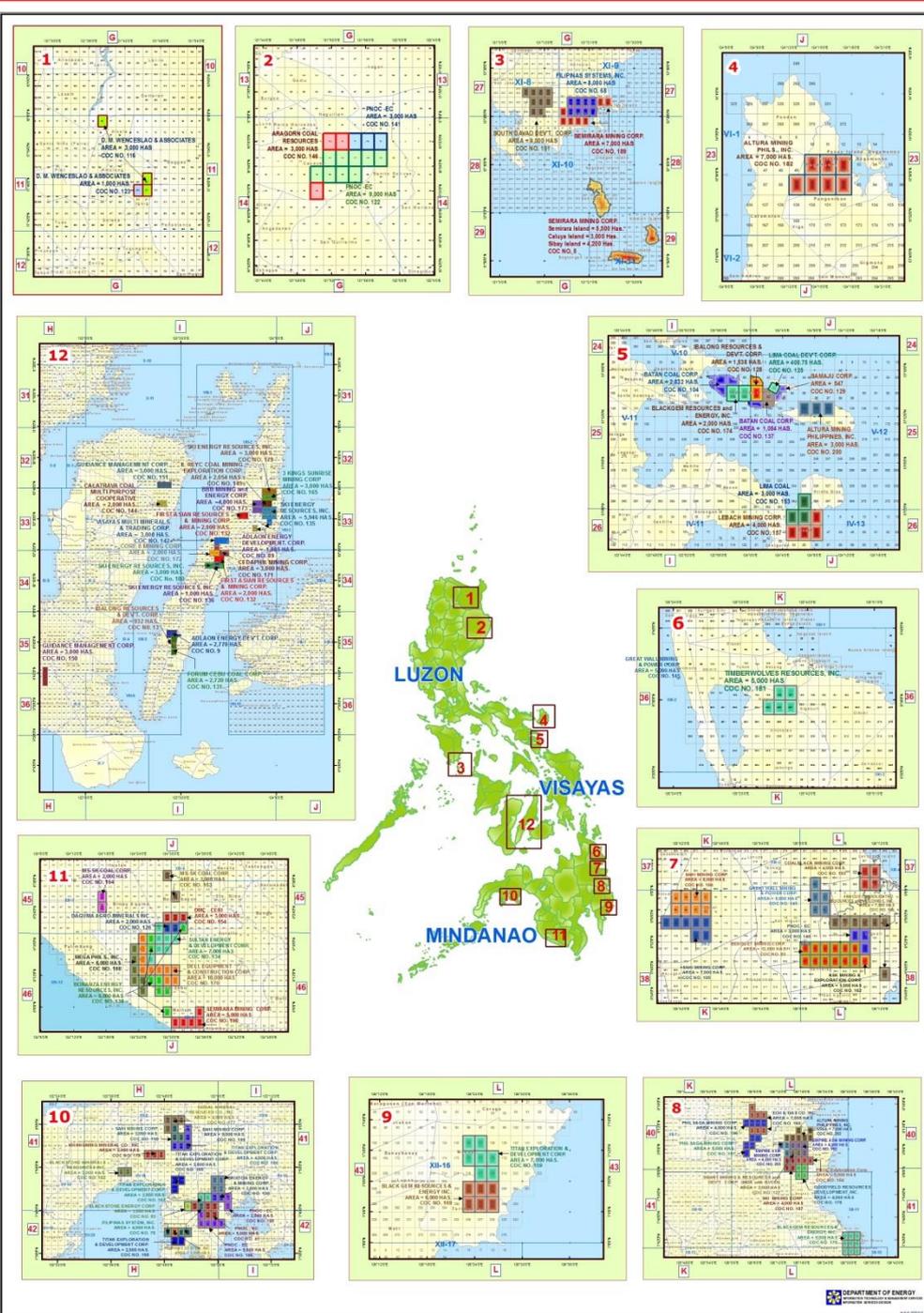
**DAVAO**  
 Resource Potential - 100.00  
 In-situ Reserves - 0.21

**SARANGANI**  
 Resource Potential - 120.00

# Coal Operating Contracts (COC)s

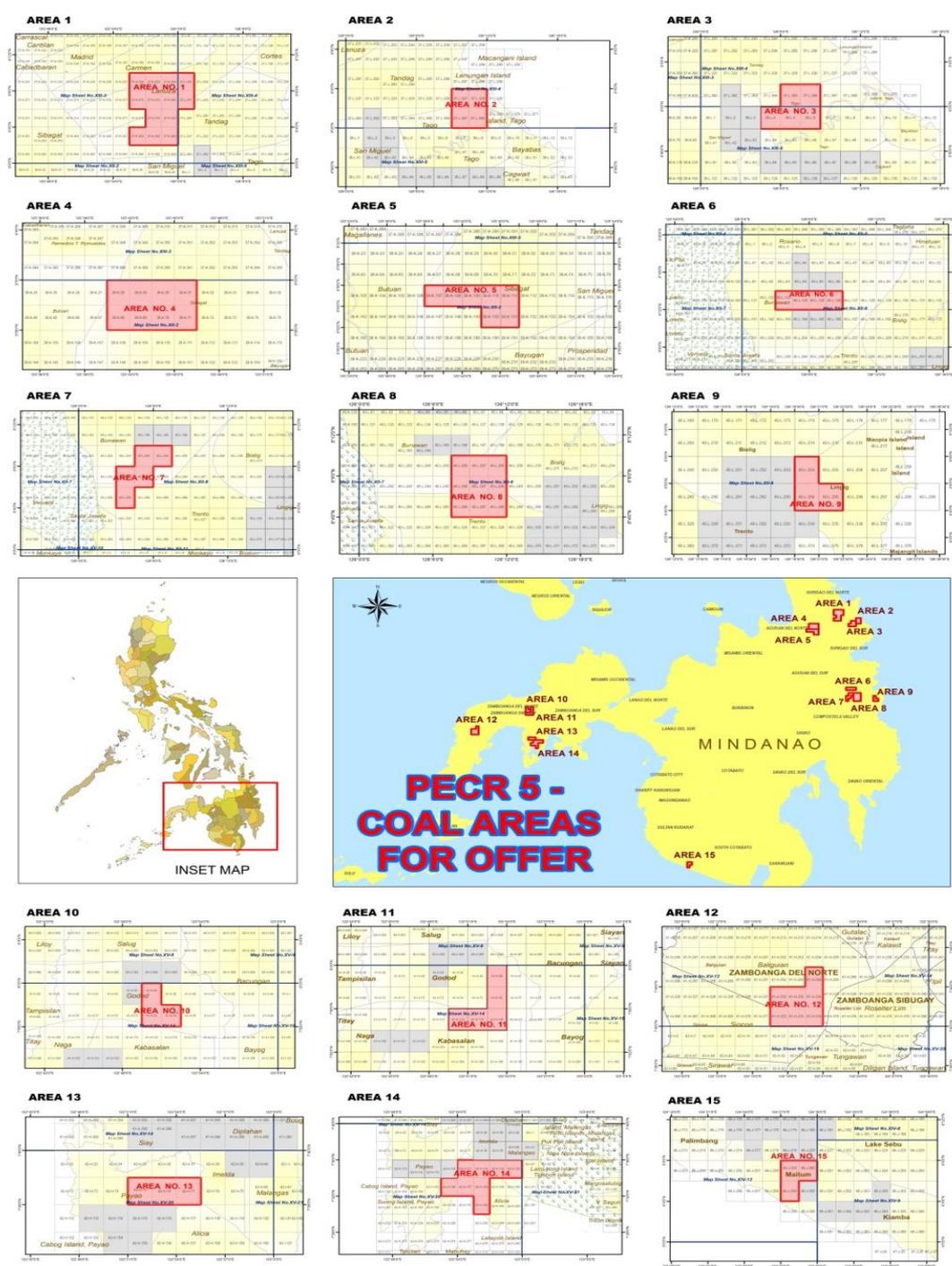
As of July 2015

Exploration: 41  
 Dev't & Production: 30  
**Total COCs 71**  
 (As of July 2015)



# Areas Offered for Coal - PECR 5

- 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

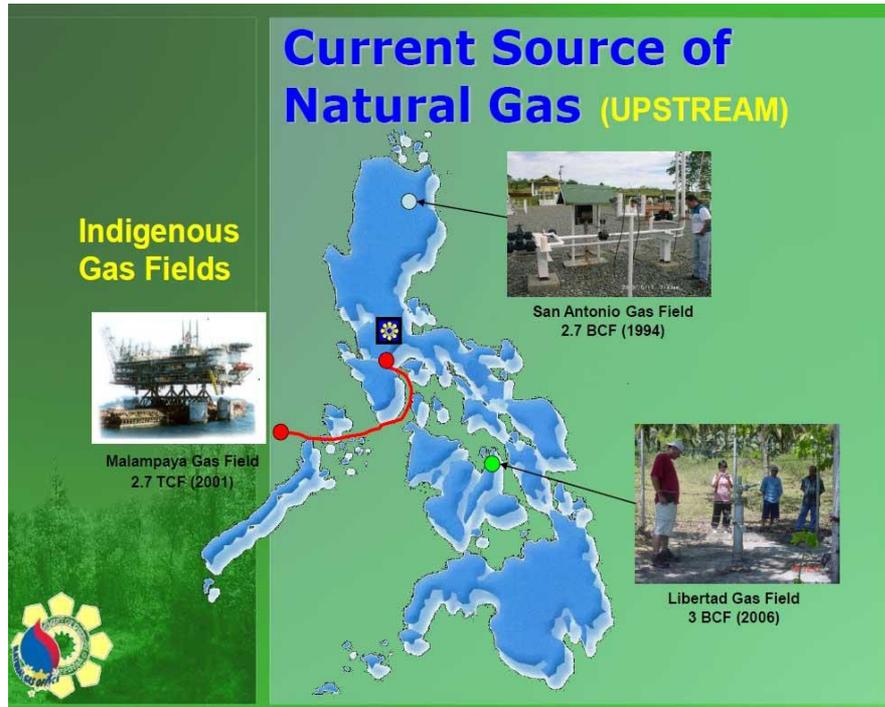
Company	COC No.	Date Awarded	Contact Area
CoalBlack Mining Corp. (CMC)	193	December 29, 2014	Tandag & Tago, Surigao del Sur
Sahi Mining Corp. (SMC)	194	December 29, 2014	Sibagat, Agusan del Sur & Butuan City, Agusan del Norte
Sahi Mining Corp. (SMC)	195	December 29, 2014	Sibagat, Agusan del Sur & Butuan 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

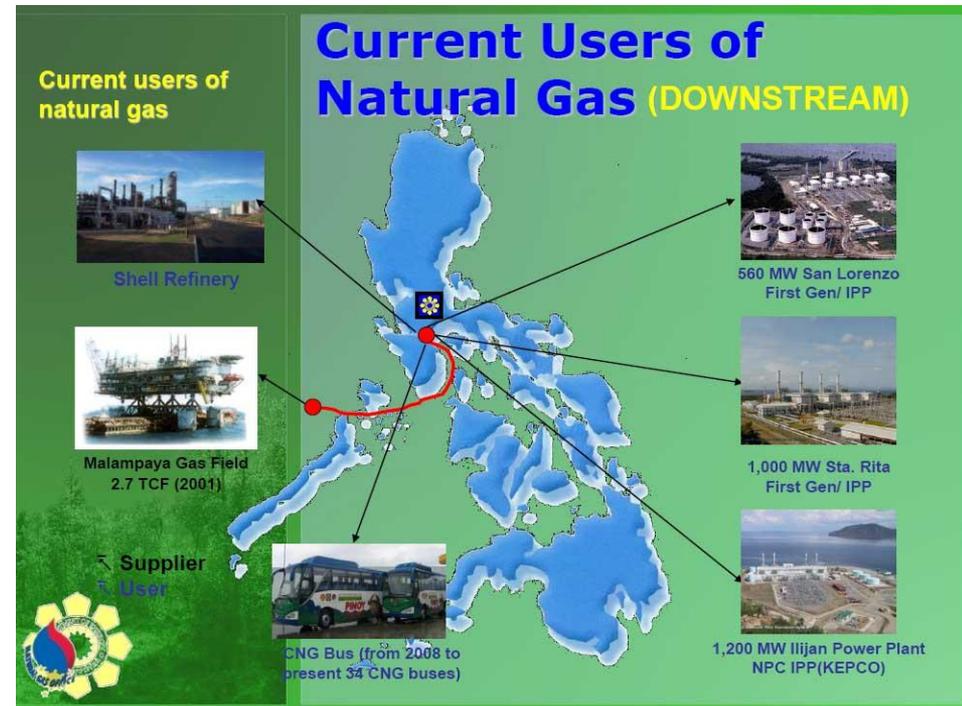


# Natural Gas Industry

## Natural Gas Supply

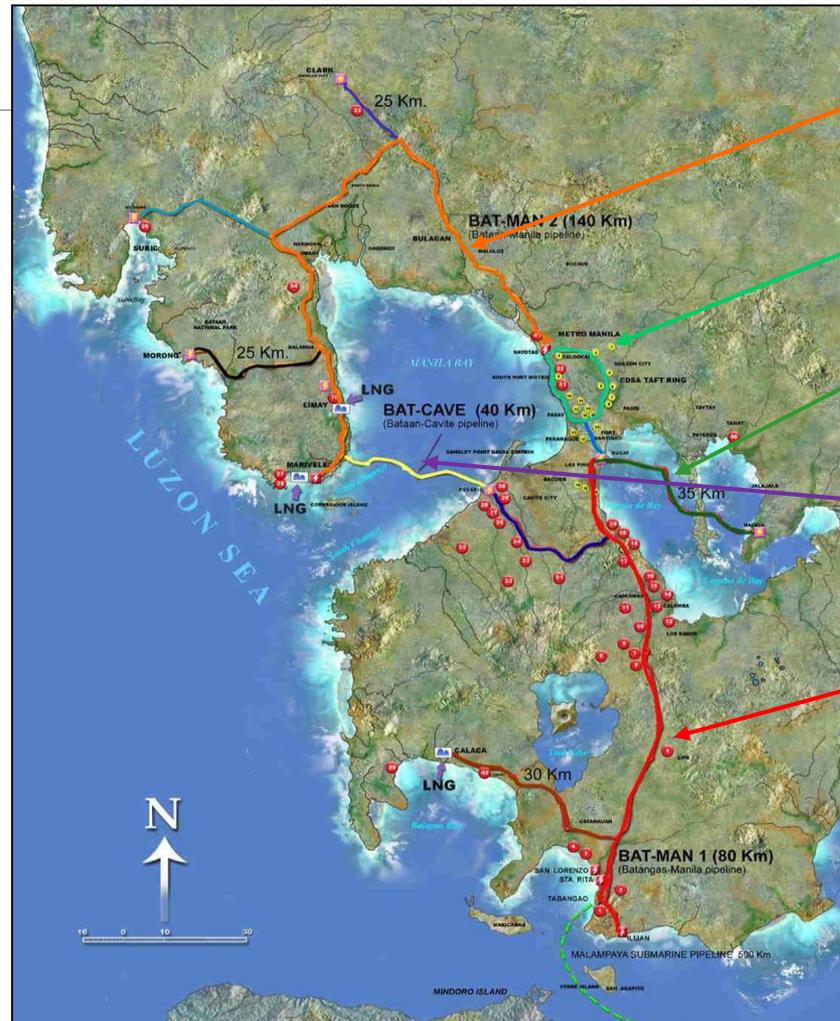


## Natural Gas Demand



# NATURAL GAS

- 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	PROJECT LOCATION	REGISTERED CAPACITY
<b>AWARDED</b>		
1 Chemrez Technologies, Inc.	Bagumbayan, Quezon City	90
2 Mt. Holly Coco Industrial Co., Ltd.	Lucena City, Quezon	60
3 Pure Essence International, Inc.	Bagong Ilog, Pasig City	72
4 Golden Asian Oil International, Inc.	Bagong Ilog, Pasig City	60
5 Bioenergy 8 Corporation	Sasa, Davao City	30
6 Tantuco Enterprises	Tayabas, Quezon	60
7 Phil.Biochem Products, Inc.	Barangay Buli, Muntinlupa City	12
8 Freyvonne Milling Services	Toril, Davao City	15.6
9 JNJ Oleochemicals, Inc.	Lucena City, Quezon	63.3
10 Phoenix Petroleum Philippines, Inc.	Villanueva, Misamis Oriental	24
11 Econergy Corporation	General Santos City	30
<b>TOTAL</b>		<b>516.9</b>

ACTUAL ANNUAL CME REPORT (in million liters)		
YEAR	SALES	PRODUCTION
2007	48.48	49.10
2008	64.48	65.67
2009	130.93	136.52
2010	124.51	123.55
2011	122.96	132.99
2012	137.47	137.88
2013	152.50	154.95
2014	163.46	171.65

<b>BIODIESEL DEMAND</b>			
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)
<b>ACCREDITED</b>			
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
<b>TOTAL</b>			<b>222.12</b>
<b>REGISTRATION WITH NOTICE TO PROCEED</b>			
1	Cavite Biofuels Producers Inc.	Magallanes, Cavite	38
2	Canlaon Alcogreen Agro Industrial Corp.	Bago City, Negros Occidental	45
<b>TOTAL</b>			<b>83</b>
<b>with PENDING APPLICATION</b>			
1	Absolut Distillers, Inc.	Lian, Batangas	30
2	Emperador Distillers, Inc.	Nasugbu, Batangas	38.325
<b>TOTAL</b>			<b>68.325</b>

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
<b>TOTAL</b>	<b>5,438.0</b>	<b>2,155.0</b>	<b>5,156.5</b>	<b>2,468.8</b>	<b>85.0</b>	<b>9,865.3</b>	<b>15,304.3</b>

# AWARDED PROJECTS UNDER RENEWABLE ENERGY (RE) LAW

As of April 2015

RESOURCES	AWARDED PROJECTS		POTENTIAL CAPACITY MW		INSTALLED CAPACITY MW	
	Grid-Use	Own-Use	Grid-Use	Own-Use	Grid-Use	Own-Use
Hydro Power	403	1	7,621.54	1.50	122.73	-
Ocean Energy	8	-	31.00	-	-	-
Geothermal	42	-	750.00	-	1,896.19	-
Wind	50	1	1,272.00	0.006	336.90	-
Solar	82	11	1,749.53	3.580	108.90	-
Biomass	44	22	345.00	5.80	191.80	143.18
<b>Sub-Total</b>	<b>629</b>	<b>35</b>	<b>11,769.07</b>	<b>10.886</b>	<b>2,656.52</b>	<b>143.18</b>
<b>TOTAL</b>	<b>664</b>		<b>11,779.96</b>		<b>2,799.70</b>	



# Renewable Energy Development - Visayas

(as of 30 April 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)
<b>Hydro Power</b>	52	715.24	4.50	0	0	15	68.4
Grid – Use	52	715.24	4.50			15	68.4
Own - Use							
<b>Ocean Energy</b>	2						
<b>Geothermal</b>	7	70.00	945.18				
<b>Wind</b>	15	139.00	54.00	2	70.00	3	154.00
Grid – Use	15	139.00	54.00	2	70.00	3	154.00
Own - Use							
<b>Solar</b>	22	403.47	52.00	0	0	6	198.67
Grid – Use	21	403.37	52.00			6	198.67
Own - Use	1	0.096					
<b>Biomass</b>	19	110.00	183.21	0	0	4	41.829
Grid – Use	9		77.21			4	41.829
Own - Use	10	110.00	106.00				
<b>TOTAL</b>	<b>117</b>	<b>1,437.70</b>	<b>1,238.89</b>	<b>2</b>	<b>70.00</b>	<b>28</b>	<b>462.90</b>

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# THANK YOU

Energy Investment Forum  
30 July 2015  
Elizabeth Hotel, Cebu City