



UPDATES ON MINDANAO POWER SITUATION

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3 October 2017
Davao City



PRESENTATION OUTLINE

I. MINDANAO POWER SITUATION

II. WESM MINDANAO UPDATES

III. MARAWI POWER UPDATES



MINDANAO POWER SITUATION

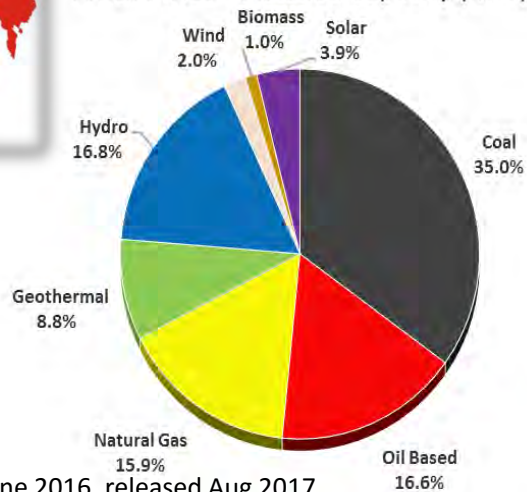


1st HALF 2017 PHILIPPINES CAPACITY MIX

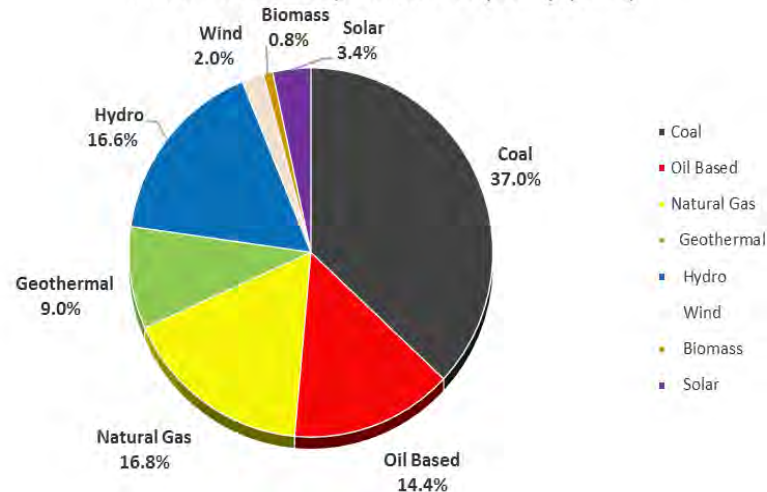


FUEL TYPE	PHILIPPINES			
	Capacity (MW)		Percent Share (%)	
	Installed	Dependable	Installed	Dependable
Coal	7,569	7,230	35.0	37.0
Oil Based	3,584	2,816	16.6	14.4
Natural Gas	3,431	3,291	15.9	16.8
Renewable Energy	7,038	6,199	32.5	31.7
<i>Geothermal</i>	<i>1,906</i>	<i>1,752</i>	<i>8.8</i>	<i>9.0</i>
<i>Hydro</i>	<i>3,637</i>	<i>3,241</i>	<i>16.8</i>	<i>16.6</i>
<i>Wind</i>	<i>427</i>	<i>383</i>	<i>2.0</i>	<i>2.0</i>
<i>Biomass</i>	<i>224</i>	<i>160</i>	<i>1.0</i>	<i>0.8</i>
<i>Solar</i>	<i>843</i>	<i>663</i>	<i>3.9</i>	<i>3.4</i>
TOTAL	21,621	19,536	100.0	100.0

PHILIPPINES - Installed Capacity (MW)



PHILIPPINES - Dependable Capacity (MW)



Source: List of Existing Power Plants as of 30 June 2016, released Aug 2017

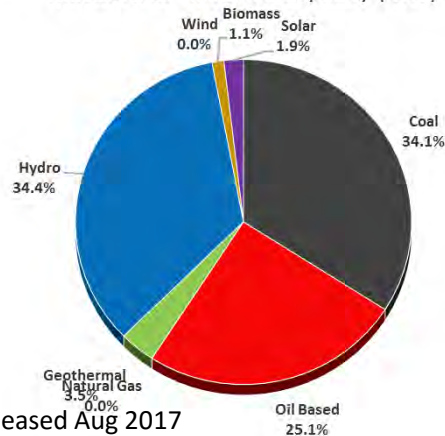


1st HALF 2017 MINDANAO CAPACITY MIX

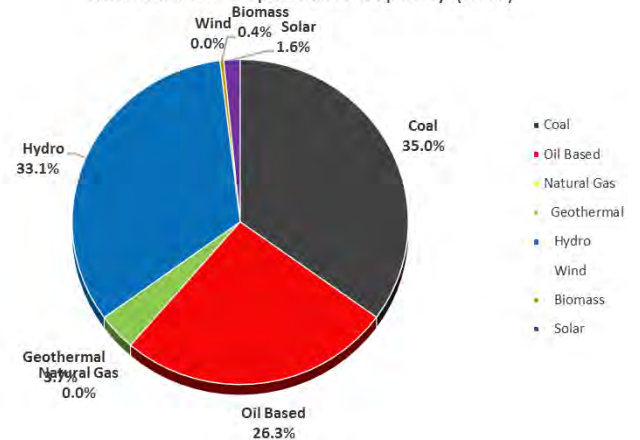


FUEL TYPE	MINDANAO			
	Capacity (MW)		Percent Share (%)	
	Installed	Dependable	Installed	Dependable
Coal	1,070	950	34.1	35.0
Oil Based	788	715	25.1	26.3
<i>Diesel</i>	788	715	25.1	26.3
Natural Gas	0	0	0.0	0.0
Renewable Energy	1,283	1,051	40.8	38.7
<i>Geothermal</i>	108	100	3.5	3.7
<i>Hydro</i>	1,080	899	34.4	33.1
<i>Wind</i>	0	0	0.0	0.0
<i>Biomass</i>	36	10	1.1	0.4
<i>Solar</i>	59	43	1.9	1.6
TOTAL	3,141	2,716	100.0	100.0

MINDANAO - Installed Capacity (MW)



MINDANAO - Dependable Capacity (MW)

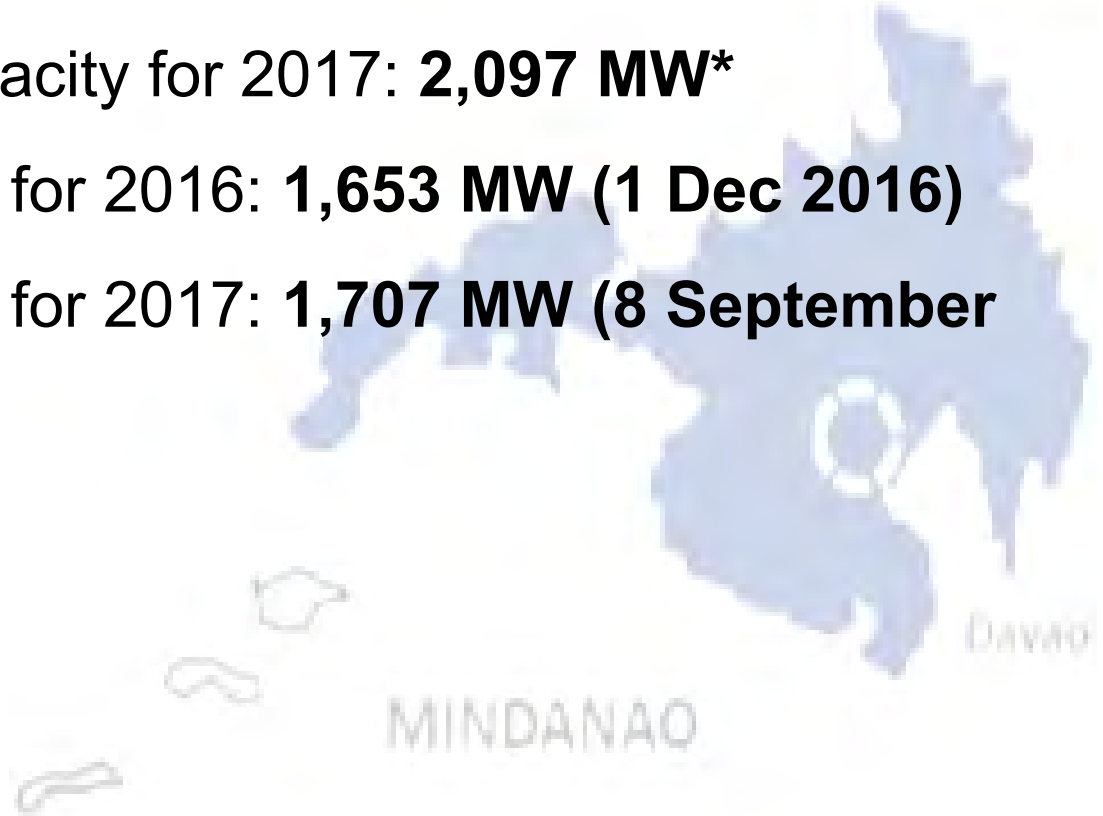


Source: List of Existing Power Plants as of 30 June 2016, released Aug 2017



MINDANAO POWER SITUATION as of 13 September 2017

- Total Installed Capacity: **3,141 MW**
- Average Available Capacity for 2017: **2,097 MW***
- Highest Peak Demand for 2016: **1,653 MW (1 Dec 2016)**
- Highest Peak Demand for 2017: **1,707 MW (8 September 2017)**

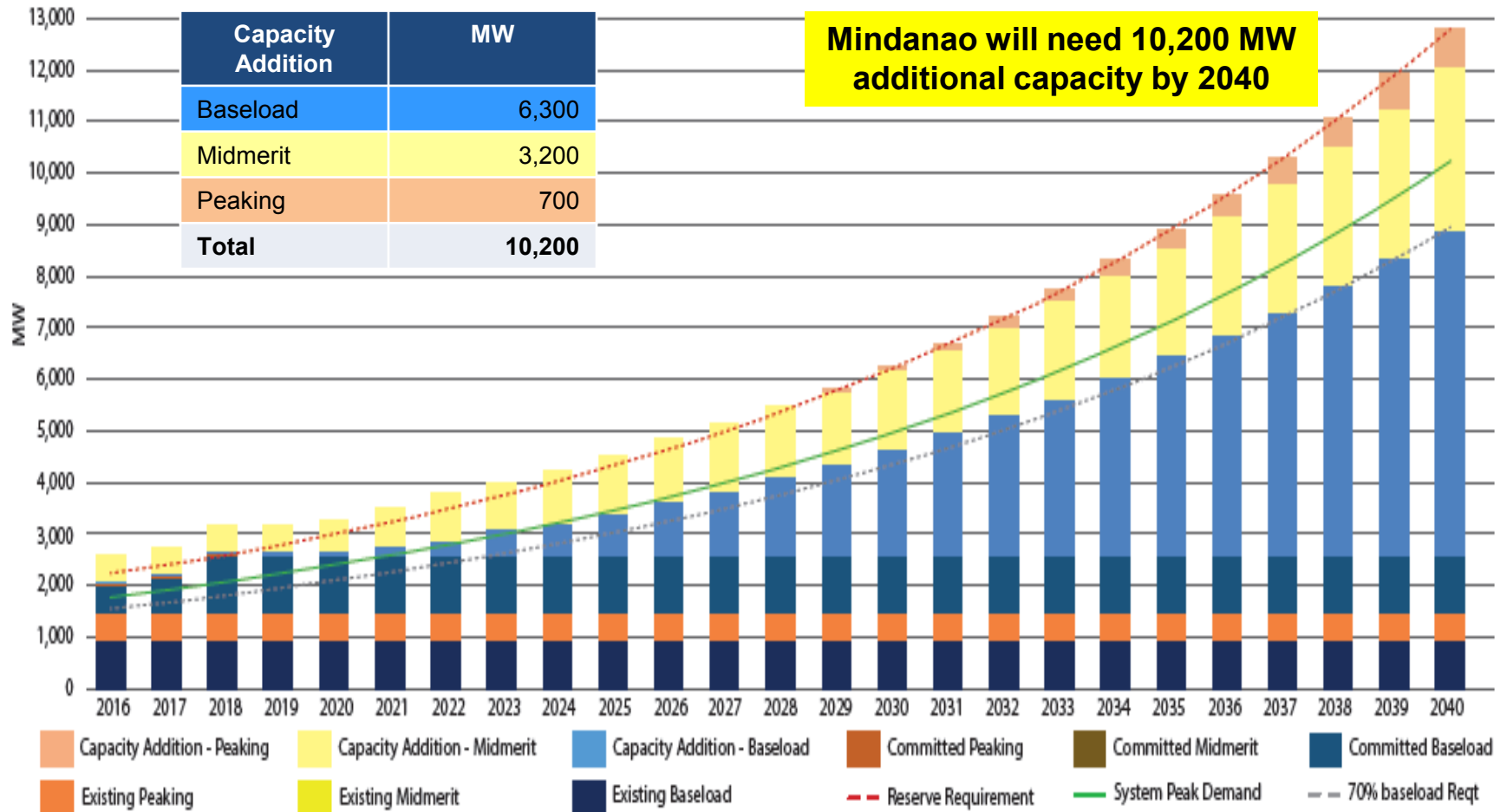


*NGCP Daily Operations Report



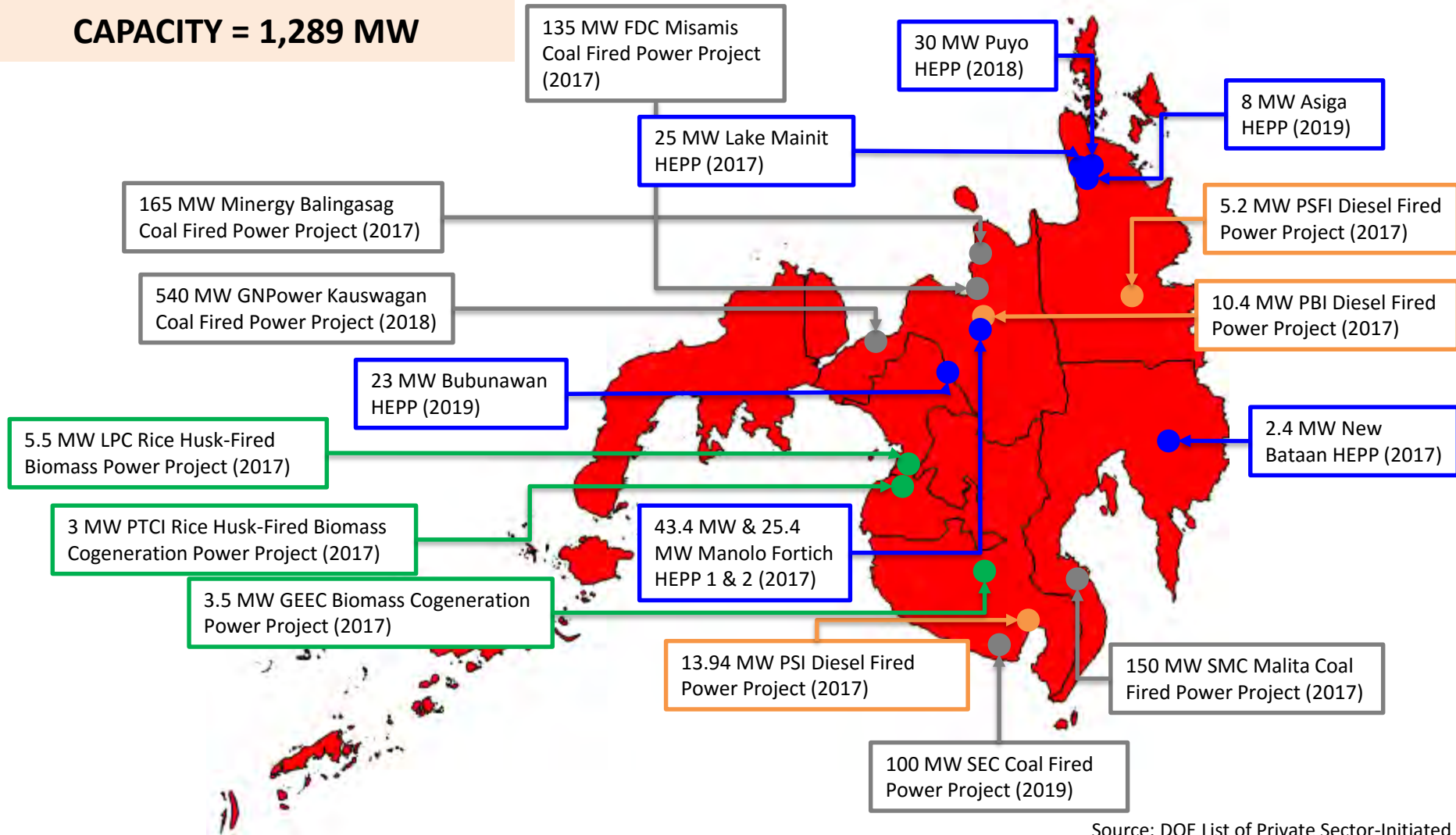
MINDANAO POWER OUTLOOK 2016-2040

Mindanao Demand and Supply Outlook, 2016-2040



MINDANAO COMMITTED POWER PROJECTS

TOTAL MINDANAO COMMITTED CAPACITY = 1,289 MW



Source: DOE List of Private Sector-Initiated Power Projects as of 31 August 2017



MINDANAO COMMITTED POWER PROJECTS



135 MW FDC Misamis
Coal Fired Power Project
(2017)

30 MW Puyo
HEPP (2018)

8 MW Asiga
HEPP (2019)

25 MW Lake Mainit
HEPP (2017)

5.2 MW PSFI Diesel Fired
Power Project (2017)

165 MW Minergy Balingasag
Coal Fired Power Project (2018)

10.4 MW PBI Diesel Fired
Power Project (2017)

BIOMASS =12 MW

OIL-BASED =30 MW
COAL =1,090 MW

2.4 MW New
Bataan HEPP (2017)

HYDRO=157 MW
Cogeneration Power Project (2017)

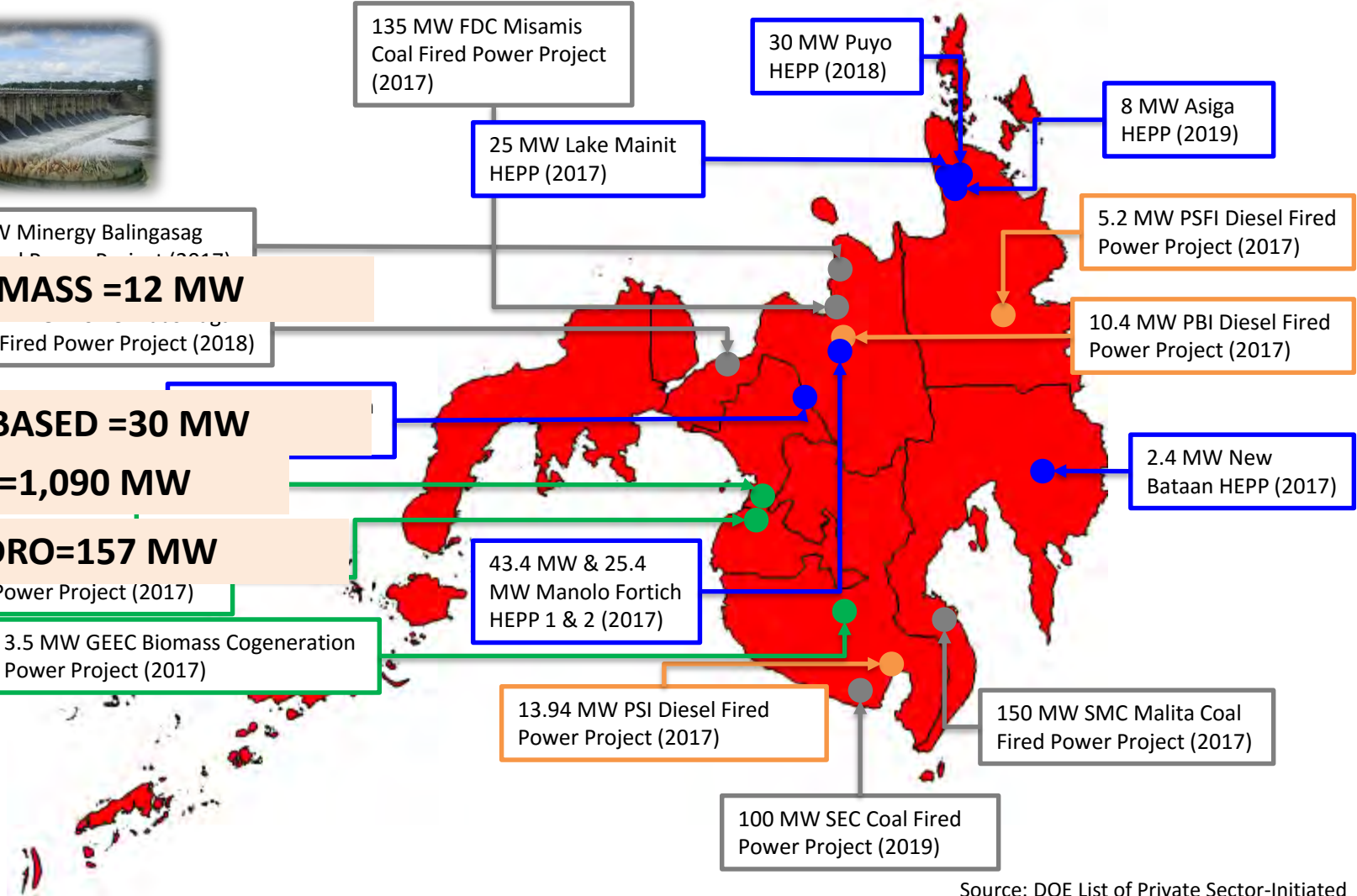
43.4 MW & 25.4
MW Manolo Fortich
HEPP 1 & 2 (2017)

3.5 MW GEEC Biomass Cogeneration
Power Project (2017)

13.94 MW PSI Diesel Fired
Power Project (2017)

150 MW SMC Malita Coal
Fired Power Project (2017)

100 MW SEC Coal Fired
Power Project (2019)

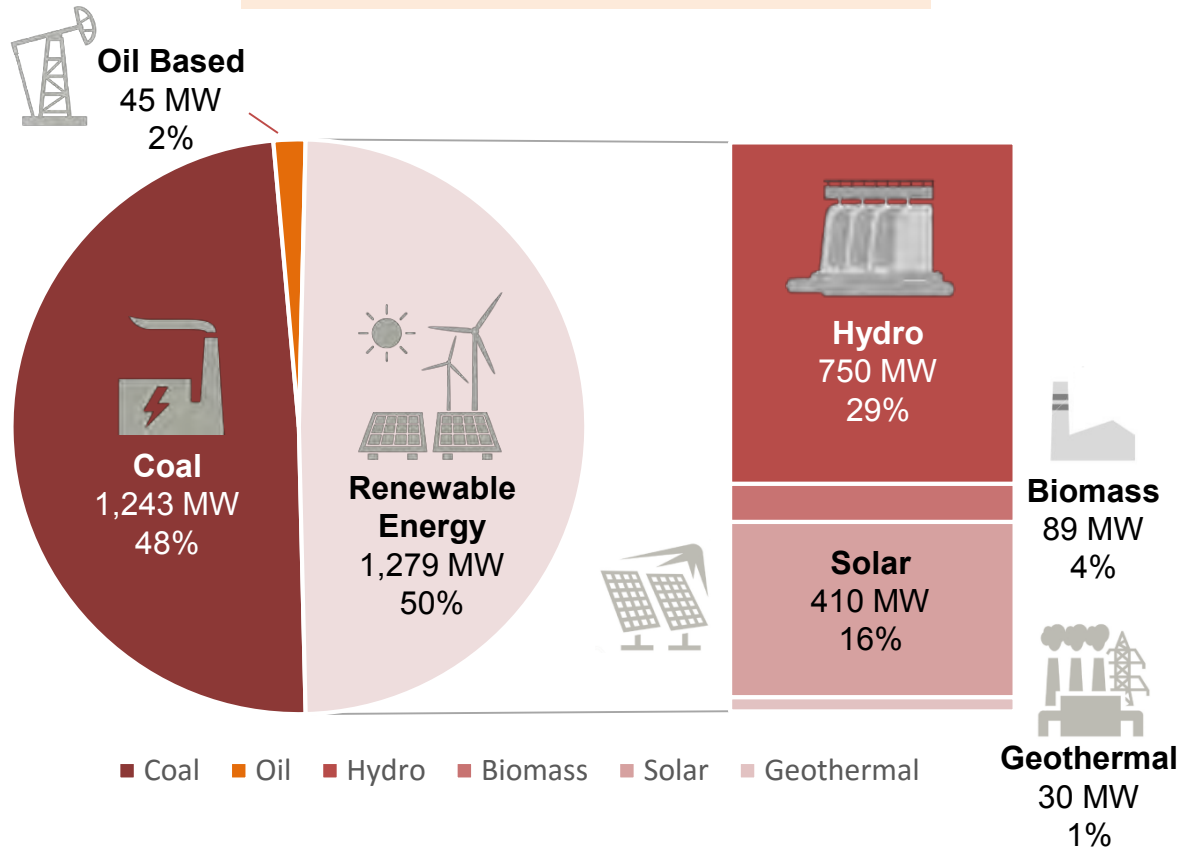


Source: DOE List of Private Sector-Initiated Power Projects as of 31 August 2017



MINDANAO INDICATIVE POWER PROJECTS

**TOTAL MINDANAO INDICATIVE
CAPACITY = 2,567 MW**



Source: DOE List of Private Sector-Initiated Power Projects as of 31 August 2017



WESM MINDANAO UPDATES



WHOLESALE ELECTRICITY SPOT MARKET (WESM) IN MINDANAO

- In order to address the excess supply generation in Mindanao, the DOE came up with sustainable solutions through establishing a venue for efficient scheduling, dispatch and settlement of energy withdrawal and injections in the Mindanao Grid;
- The DOE had conducted series of public consultations, focus group discussions, and workshops in several areas of Mindanao in preparation for the launch of WESM in Mindanao.
- Department Circular No. DC2017-05-0009
DECLARING THE LAUNCH OF THE WHOLESALE ELECTRICITY SPOT MARKET (WESM) IN MINDANAO AND PROVIDING FOR TRANSITION GUIDELINES

Promulgated on
04 May 2017

Published in two newspapers
of general circulation on
23 May 2017

Became
effective on 7
June 2017

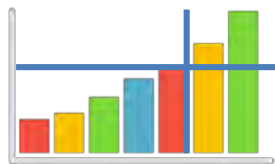


WHOLESALE ELECTRICITY SPOT MARKET (WESM) IN MINDANAO

- Salient features of the Department Circular No. DC2017-05-0009:
 - ✓ Launching of WESM in Mindanao on **26 June 2017** which commenced the Trial Operations Program (TOP) to be participated by the Market Operator, System Operator and Trading Participants
 - ✓ Upon effectivity of the Department Circular:



Registration of WESM participants shall commence



Interim Mindanao Dispatch Protocol shall apply until Commercial Operations is declared by the DOE



Interim Mindanao Electricity Market (IMEM) shall be terminated.

- Commercial operations will be declared upon compliance of the **criteria for commencement of full commercial operations**
- **Responsibilities of the following were defined:**



As Market Operator



- As System Operator;
- transmission Network Service Provider; and
- WESM Metering Services Provider



Mindanao WESM Participants



National Electrification Administration



INTERIM MINDANAO DISPATCH PROTOCOL (IMDP)

Prior to the Commercial Operations Date of the WESM in Mindanao, the NGCP and the WESM Participants shall implement the Interim Mindanao Dispatch Protocol pursuant to Section 9 of DC2017-05-0009;

Provide detailed information and timeline on the Generation Day-Ahead Nomination and Scheduling and Implementation Process;

Determine the Dispatch Order of Priority of Generating units per type of technology;

Formulate the Generation to Maintain Matrix Table (GMMT);

Implement Generation Schedule and Dispatch Instructions thru dispatching of quantities covered by bilateral contracts, except during Grid emergency as provided for in the Philippine Grid Code (PGC);

Implement monthly reconciliation on **Nominations**, **Actual Schedules**, **Metered Quantities**, **System Losses** and **Imbalances** as provided for in the guidelines for consolidating and transmitting to the Generators (GENs) and Load End Customers (CUSTOMERs) their respective metering data.



MARAWI POWER UPDATES



BACKGROUND

Inter-Agency Task Force on Securing Energy Facilities (IATFSEF) convened a meeting on 24 May 2017 together with the DOE, NGCP, TRANSCO, NEA, NPC, AFP, PNP and LASURECO to discuss the action plans on how to address the situation in Lanao del Sur.

Through the coordination and support between the members of the IATFSEF, the impact on the Power Industry in Mindanao was minimized and continuous delivery of power was ensured despite the on-going siege in the Lanao del Sur area.



LASURECO DISTRIBUTION POWER SYSTEM

LASURECO Current Supply as of 30 September 2017

- Lanao del Sur :
 - Marawi City : 48.74% Energized
 - Municipalities (40):
 - 13 Municipalities Energized
 - 6 Municipalities (Coastal Towns) Unenergized but under Rehabilitation
 - 18 Municipalities Unenergized
- Lanao del Norte (3 Municipalities) : 100% Energized

Peak Demand: 35.67 MW as of 30 September 2017

Average Rate: Php 6.15 / kWh

Number of Consumers (Household):

- 96,000 Potential HH
- 56,378 Active HH



LEGEND:

- Lanao Del Norte - 3 Municipalities
- Lanao del Sur (1st District) - 15 Municipalities
- Lanao del Sur (2nd District) - 16 Municipalities
- Lanao del Sur (2nd District) - 6 Municipalities (Coastal Towns)
- Marawi City
- Previous 69 kV line
- Present 69 kV line
- 13.2 kV line
- Substation

Inter-Agency Task Force on Securing Energy Facilities (IATFSEF)

- **Task Force Duterte Lanao Sur Power**

- Energization Activities related to the Siege

- Survey and Evaluation of 13.2 KV Distribution Line in Marawi City and Energization of CAMPS (MARINES, AFP, PNP) in Marawi City on 24 September 2017
- Energization of Provincial Capitol, Campo Ranao (Brigade), Amai Pakpak Medical Hospital (APMC) and City Hall
- Restoration of Power in Mindanao State University – Marawi City by Connecting from LASURECO
- Energization of Municipality of Kapai and Tagoloan II, Lanao Del Sur
- Installation of 40 Unit of Street Lights from Brgy. Marawi to Matampay, and from Brgy. Matampay to Brgy. Basak Malutlut along National Highway



Inter-Agency Task Force on Securing Energy Facilities (IATFSEF)



Survey and Evaluation of 13.2 KV Distribution Line in Marawi City and Energization of CAMPS (MARINES, AFP, PNP)



Installation of Street Lights



Energization of Government Offices and Hospital



Inter-Agency Task Force on Securing Energy Facilities (IATFSEF)

- **Task Force Duterte Lanao Sur Power**

- Other Energization Activities

- Ground Breaking Ceremony for the Rehabilitation of (6) Six Municipalities in Coastal Town at Mun. Kapatagan, Lanao Del Sur on 28 September 2017
- Consultative Meeting with the Local Government Unit of (6) Six Municipalities in Coastal Town
- Replacement of Rotten Poles in Malabang, Lanao Del Sur



Inter-Agency Task Force on Securing Energy Facilities (IATFSEF)



Ground Breaking Ceremony for the Rehab of 6 Coastal Municipalities



Replacement of Rotten Poles in Malabang, Lanao Del Sur



Consultative Meeting with the LGU

Photo Credits to GM Nordjiana Ducol of LASURECO



TASK FORCE BANGON MARAWI

Activities for Task Force Bangon Marawi

- Site Inspection of Temporary Shelter at Brgy. Sagonsongan, Marawi City
- Installation of Distribution Transformer for the Energization of Evacuation Centers and Water System
- Installation of Wiring (Lighting and Convenience Outlet) for DND, DPWH and DSWD Satellite Offices at Sagonsongan, Marawi City
- Construction of Distribution Line for the Energization of Tent City (Temporary Shelter) at Brgy. Sagonsongan, Marawi City completed on 20 July 2017



TASK FORCE BANGON MARAWI



Erection of Poles by LASURECO Technical Staff at the Tent City



Wiring (Lighting and Convenient Outlet) for DND, DSWD and DPWH Sub offices



Energization of Evacuation Centers and Water System



TASK FORCE BANGON MARAWI



Erection of Poles by LASURECO Technical Staff at the Tent City



Wiring (Lighting and Convenient Outlet) for DND, DSWD and DPWH Sub offices



Energization of Evacuation Centers and Water System



Philippine Power Sector Roadmap Towards



**Quality, Reliable,
Affordable and
Secured Supply**

**Transparent and
Fair Playing
Field in the
Power Industry**

**Electricity
Access for
All Filipinos**





Thank You!



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