

# MINDANAO POWER SITUATION AND OUTLOOK

**Public Consultation on the Draft Department Circular  
*“Declaring the Launch of the Wholesale Electricity Spot Market  
(WESM) in Mindanao and Providing for Transition  
Arrangements”***

**DEPARTMENT OF ENERGY  
ELECTRIC POWER INDUSTRY MANAGEMENT BUREAU**



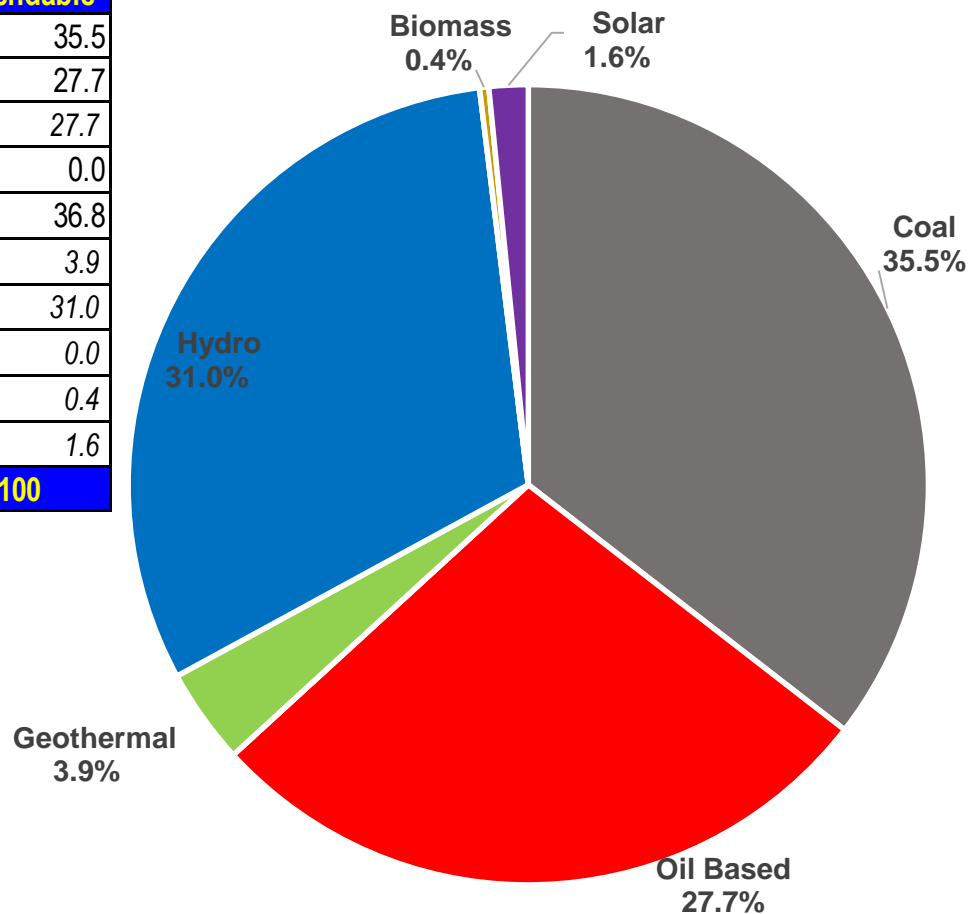
**DEPARTMENT OF ENERGY**  
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# Capacity Mix

## MINDANAO

FUEL TYPE	MINDANAO			
	Capacity (MW)		Percent Share (%)	
	Installed	Dependable	Installed	Dependable
Coal	1,070	959	33.8	35.5
Oil Based	828	749	26.2	27.7
<i>Diesel</i>	828	749	26.2	27.7
Natural Gas	0	0	0.0	0.0
Renewable Energy	1,264	994	40.0	36.8
<i>Geothermal</i>	108	104	3.4	3.9
<i>Hydro</i>	1,061	837	33.5	31.0
<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
<b>TOTAL</b>	<b>3,162</b>	<b>2,702</b>	<b>100</b>	<b>100</b>

Dependable Capacity

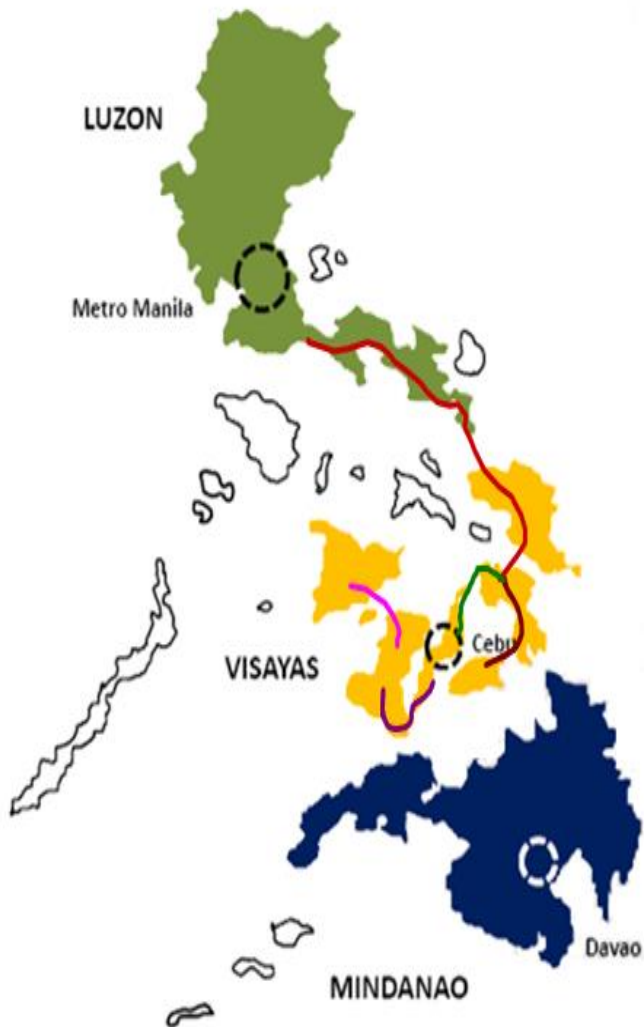


Source: Draft DOE List of Existing Power Plants, 31 December 2016



# 2016 Power Generation Mix

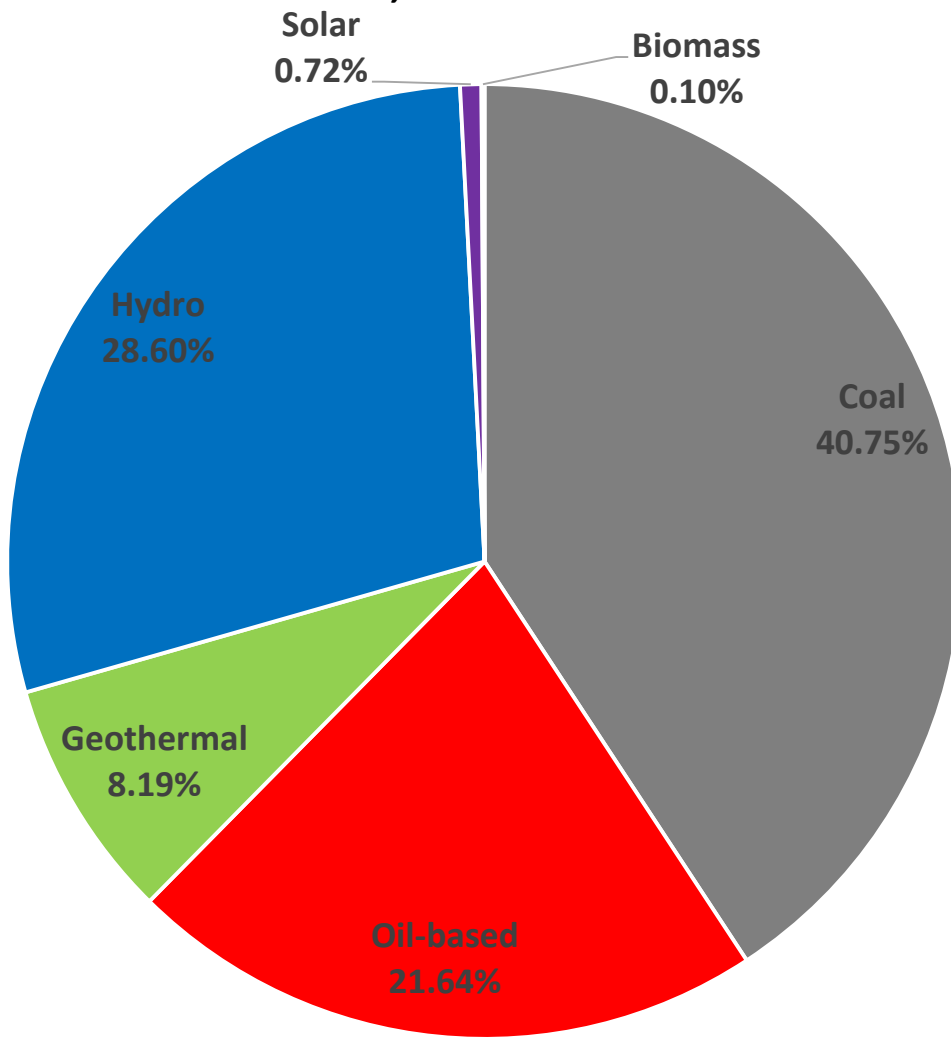
## MINDANAO



Note: Transparent islands in the above diagram are not covered by NGCP's network.

## MINDANAO GENERATION

≈ 10,613.7 GWH



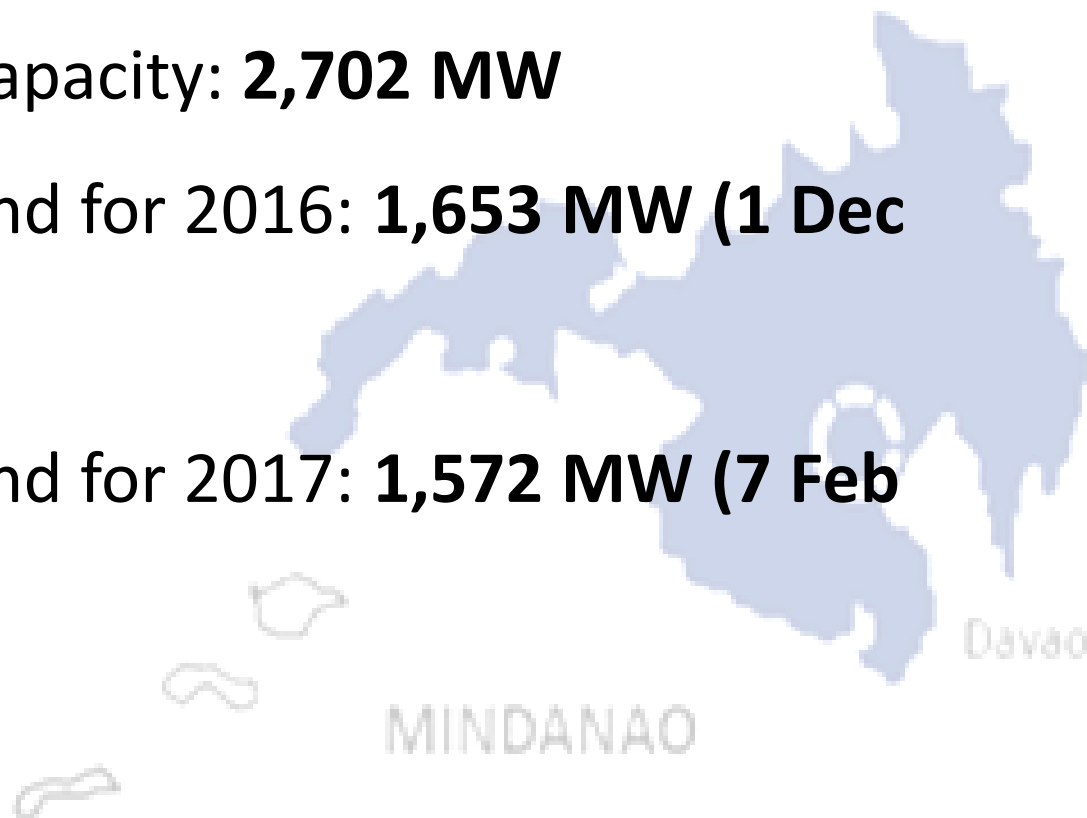
Source: Draft 2016 Power Statistics



# Mindanao Power Situation Update

As of 31 January 2017

- Total Installed Capacity: **3,162 MW\***
- Total Dependable Capacity: **2,702 MW**
- Highest Peak Demand for 2016: **1,653 MW (1 Dec 2016)**
- Highest Peak Demand for 2017: **1,572 MW (7 Feb 2016)**



\*Draft List of Existing Power Plants as of 31 December 2016, 150 MW SMC Malita, 2x135 MW FDC Coal U1 and U2



# Mindanao Power Situation Highlights

01 January 2016 to 8 February 2017

## New Plants

TSI U2 (150 MW) started commissioning on 22 Dec 2015 with output of 130 MW; Declared Commercial Operation on 02 Feb 2016

SEC COAL (118 MW) started commissioning on February 2016; Declared Commercial Operation on 29 Apr 2016

SMC COAL U1 (150 MW) started commissioning on 31 May 2016, commercial operation since 26 Dec 2016

FDC COAL U1 & U2 (2x135 MW) started commissioning on 13 July 2016, Commercial Operation since 14 October 2016

FDC COAL U3 (135 MW) started commissioning on 20 September 2016

SMC COAL U2 (150 MW) synchronized on 9 Feb 2017

## AP Performance

Average Available Capacity of Agus and Pulangi for 1 Jan to 31 May 2016 is at 253.1 MW

Average Available Capacity of Agus and Pulangi for 01 Jun to 31 Jan 2017 is at 550.7 MW

Lowest Available Capacity of Agus and Pulangi at 129.4 MW which occurred last 04 Apr 2016

Agus 6 U1 and U2 on Uprating Project;

Source: NGCP Daily Operations Report



# Mindanao Additional Capacities (01 Jan to 31 December 2016)

Newly-Operating Power Plants	Location	Installed Capacity (MW)	Dependable Capacity (MW)	Commercial Operation Date
<b>COAL</b>				
Therma South Inc. Coal Fired Power Plant U2	Sta. Cruz, Davao del Sur	150	130	2-Feb-2016
SEC Coal Fired Power Station U1	Brgy. Kamanga, Maasim, Sarangani	118	105	29-Apr-2016
FDC Misamis Coal Unit 1 & 2	PHIVIDEC, Misamis Oriental	270	240	14 October 2016
SMC Davao Power Plant Project Phase I Unit 1	Brgy. Culaman, Malita, Davao del Sur	150	135	26 December 2016
<b>SUB-TOTAL</b>		<b>688</b>	<b>610</b>	
<b>DIESEL</b>				
KEGI Camiguin	Brgy. Maubog, Balbagon, Mambajao, Camiguin	4.4	4.4	28-Feb-2016
BPC Fuel Power Plant Project	Barangay Barandias, Municipality of Pangantucan, Province of Bukidnon	4.8	4.7	29-Feb-2016
SPC Koronadal	Purok Garfin, Brgy. Paraiso, Koronadal, South Cotabato	11.9	11.9	6-May-2016
<b>SUB-TOTAL</b>		<b>21.1</b>	<b>21</b>	
<b>SOLAR</b>				
Kibawe Solar	Brgy. Labuagon, Kibawe, Bukidnon	10.5	7.3	13-Mar-2016
Digos Solar	Brgy. San Roque, DigosCity, Davao del Sur	28.6	20	24-Mar-016
<b>SUB-TOTAL</b>		<b>39.1</b>	<b>27.3</b>	
<b>Total</b>		<b>748.2</b>	<b>658.3</b>	

Note: Dependable Capacity based on submitted report of GenCos.



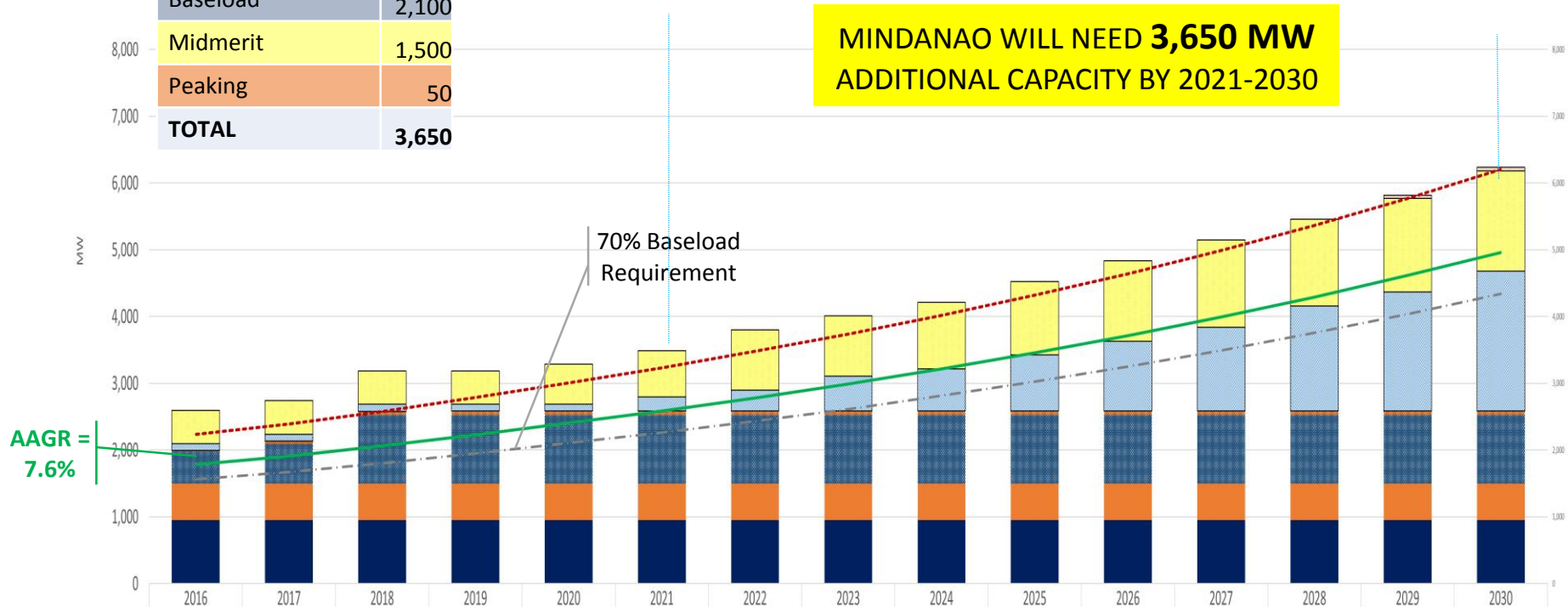


# MINDANAO DEMAND-SUPPLY OUTLOOK 2016-2030

High GDP Scenario (8% GDP; 25% Reserve Requirement)

Capacity Addition	MW
Baseload	2,100
Midmerit	1,500
Peaking	50
<b>TOTAL</b>	<b>3,650</b>

**MINDANAO WILL NEED 3,650 MW  
ADDITIONAL CAPACITY BY 2021-2030**



	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Capacity Addition - Peaking	0	0	0	0	0	0	0	0	0	0	0	0	0	50	50
Capacity Addition - Midmerit	500	500	500	500	600	700	900	900	1,000	1,100	1,200	1,300	1,300	1,400	1,500
Capacity Addition - Baseload	105	105	105	105	105	210	315	525	630	840	1,050	1,260	1,575	1,785	2,100
Committed Peaking	13	42	53	56	56	56	56	56	56	56	56	56	56	56	56
Committed Midmerit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Committed Baseload	482	594	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029
Existing Peaking	549	549	549	549	549	549	549	549	549	549	549	549	549	549	549
Existing Midmerit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Baseload	948	948	948	948	948	948	948	948	948	948	948	948	948	948	948
Reserve Requirement	446	478	516	557	602	647	695	748	804	864	929	998	1,073	1,154	1,240
System Peak Demand	1,786	1,911	2,064	2,229	2,407	2,588	2,782	2,990	3,215	3,456	3,715	3,993	4,293	4,615	4,961
70% baseload Req	1,563	1,672	1,806	1,950	2,106	2,264	2,434	2,617	2,813	3,024	3,250	3,494	3,756	4,038	4,341

## Summary of Mindanao Power Projects as of 31 December 2016

Type of Power Plant	Committed			Indicative		
	No. of Proponents	Capacity (MW)	% Share	No. of Proponents	Capacity (MW)	% Share
Coal	5	1,090.0	86.0	6	1,733.0	61.8
Oil-Based	4	29.5	2.3	3	36.8	1.3
Natural Gas	0	0.0	0.0	0	0.0	0.0
Renewable Energy	8	148.4	11.7	30	1,036.6	36.9
<i>Geothermal</i>	0	0.0	0.0	1	40.0	1.4
<i>Hydro</i>	5	134.2	10.6	18	673.4	24.0
<i>Biomass</i>	3	14.2	1.1	6	85.2	3.0
<i>Solar</i>	0	0.0	0.0	5	238.0	8.5
<i>Wind</i>	0	0.0	0.0	0	0.0	0.0
<b>TOTAL</b>	<b>17</b>	<b>1,267.9</b>	<b>100.0</b>	<b>39</b>	<b>2,806.4</b>	<b>100.0</b>



# END OF PRESENTATION

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