

# **Power Supply Procurement Plan 2021**

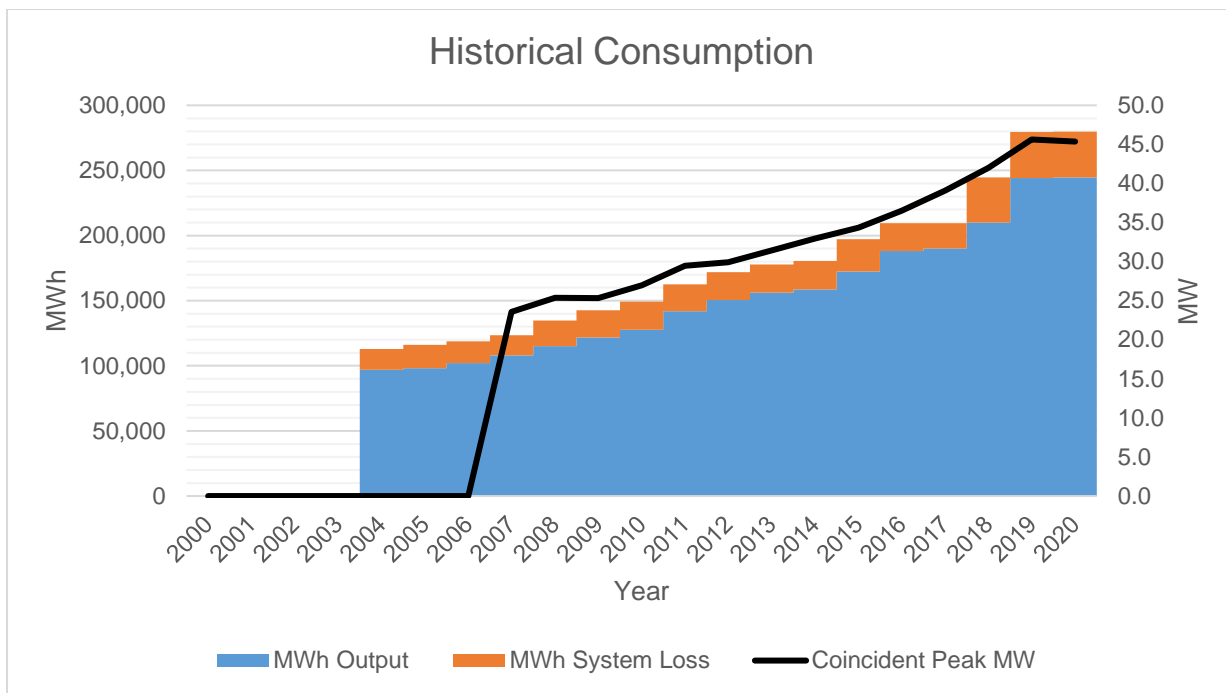
**GRID**

**(ZANECO)**

## Historical Consumption Data

	Coincident Peak MW	MWh Offtake	WESM	MWh Input	MWh Output	MWh System Loss	Load Factor	Discrepancy	Transm'n Loss	System Loss
2000	0.00	0	0	0	0	0	0%	0.00%	0.00%	0.00%
2001	0.00	0	0	0	0	0	0%	0.00%	0.00%	0.00%
2002	0.00	0	0	0	0	0	0%	0.00%	0.00%	0.00%
2003	0.00	0	0	0	0	0	0%	0.00%	0.00%	0.00%
2004	0.00	112,836	0	112,836	97,038	15,798	0%	0.00%	0.00%	14.00%
2005	0.00	116,085	0	116,085	98,069	18,017	0%	0.00%	0.00%	15.52%
2006	0.00	118,865	0	118,865	101,964	16,902	0%	0.00%	0.00%	14.22%
2007	23.56	123,531	0	123,531	108,002	15,530	60%	0.00%	0.00%	12.57%
2008	25.37	134,709	0	134,709	115,229	19,480	61%	0.00%	0.00%	14.46%
2009	25.32	142,739	0	142,739	121,799	20,939	64%	0.00%	0.00%	14.67%
2010	26.95	149,257	0	149,257	127,767	21,490	63%	0.00%	0.00%	14.40%
2011	29.48	162,615	0	162,615	141,919	20,696	63%	0.00%	0.00%	12.73%
2012	29.91	171,982	0	171,982	150,530	21,451	66%	0.00%	0.00%	12.47%
2013	31.42	177,718	0	177,718	156,188	21,530	65%	0.00%	0.00%	12.11%
2014	32.96	180,520	0	180,520	158,508	22,012	63%	0.00%	0.00%	12.19%
2015	34.35	197,116	0	197,116	172,466	24,649	66%	0.00%	0.00%	12.51%
2016	36.53	209,620	0	209,620	188,073	21,547	66%	0.00%	0.00%	10.28%
2017	39.08	209,458	0	209,458	190,119	19,339	61%	0.00%	0.00%	9.23%
2018	42.00	244,611	0	244,611	210,028	34,582	66%	0.00%	0.00%	14.14%
2019	45.63	279,511	0	279,511	244,090	35,421	70%	0.00%	0.00%	12.67%
2020	45.37	279,684	0	279,684	244,708	34,976	70%	0.00%	0.00%	12.51%

Coincident Peak Demand decreased from 45.63 MW in 2019 to 45.37 MW in 2020 due to the COVID-19 Pandemic. MWh Offtake decreased from 273,36 MWh in 2019 to 272,061 MWh in 2020 due to the decrease in demand requirements. Within the same period, Load Factor ranged from 68% and remain the same in 2020. There was an abrupt abnormal change in consumption specifically in Higher Voltage on 2020 due to the said pandemic which affects all the businesses and everyone's lifestyle.



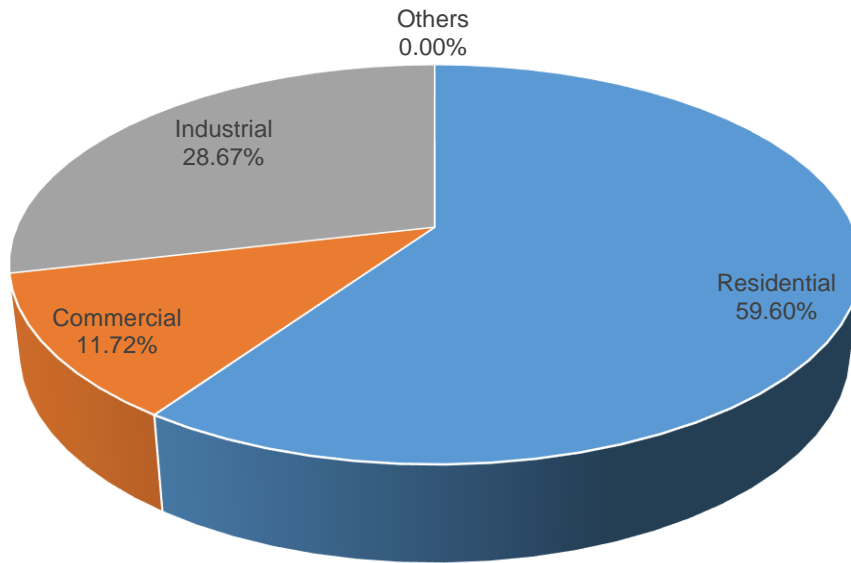
MWh Output increased from year 2019 to year 2020 at a rate of 0.25%, while MWh System Loss increased at a rate of 2.29% within the same period.



Generally, System Loss ranged from 9.23% to 15.52%. System Loss peaked at 12.73% on year 2011 because of the delayed approval and implementation of the Capital Expenditure Projects which will help reduce the system loss.

Historically, there is only limited available data for Sub-Transmission Loss. The data submission including the Sub-Transmission loss only started when there was an update on the System Loss Cap from the Energy Regulatory Commission (ERC) under Resolution No.11 Series of 2011, Resolution No.10 2c Series of 2018 and Resolution No. 20, Series of 2017 entitled “**Rules for Setting the Distribution System Loss Cap and Establishing Performance Incentive Scheme for Distribution Efficiency**” in which the **DSL = SUBTRANSMISSION LOSS + SUBSTATION LOSS + FEEDER LOSS**. With this new scheme, the measurement of the Distribution Utilities will start from the feeder Losses up to the Kilowatt-hour meter of end users.

Previous Year's Shares of Energy Sales



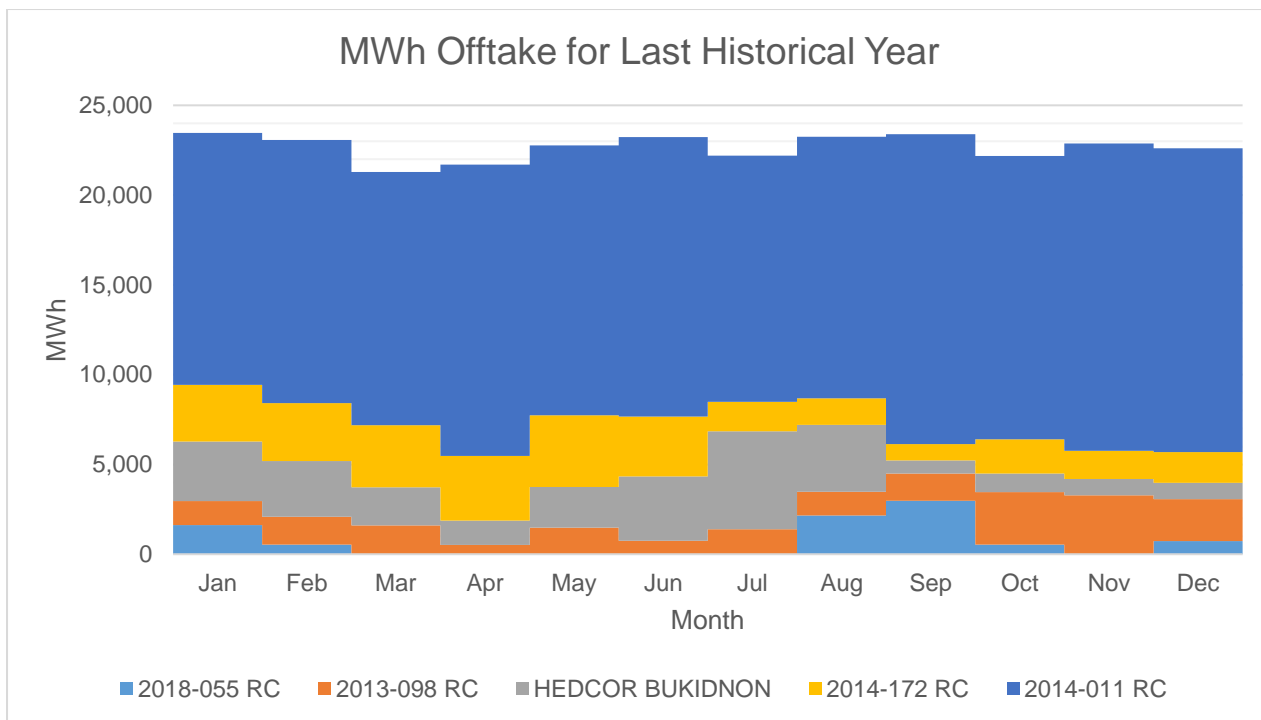
Residential customers account for the bulk of energy sales at 61% due to the high number of connections despite the Covid-19 pandemic since the cooperative did not stop its operation and find ways and means in order to continues its service to all member-consumer-owners. In contrast, Commercial customers accounted for only 17% of energy sales despite of the high number of connections. Many industries and businesses were bankrupt and forced to closed due to the said pandemic.

ZANECO is currently following the Energy Regulatory Commission (ERC) Rate-Setting Methodologies new customer segmentation from five to three classes of consumers of electricity - residential, low voltage and higher voltage. This is the reason why "others" classification is blank.

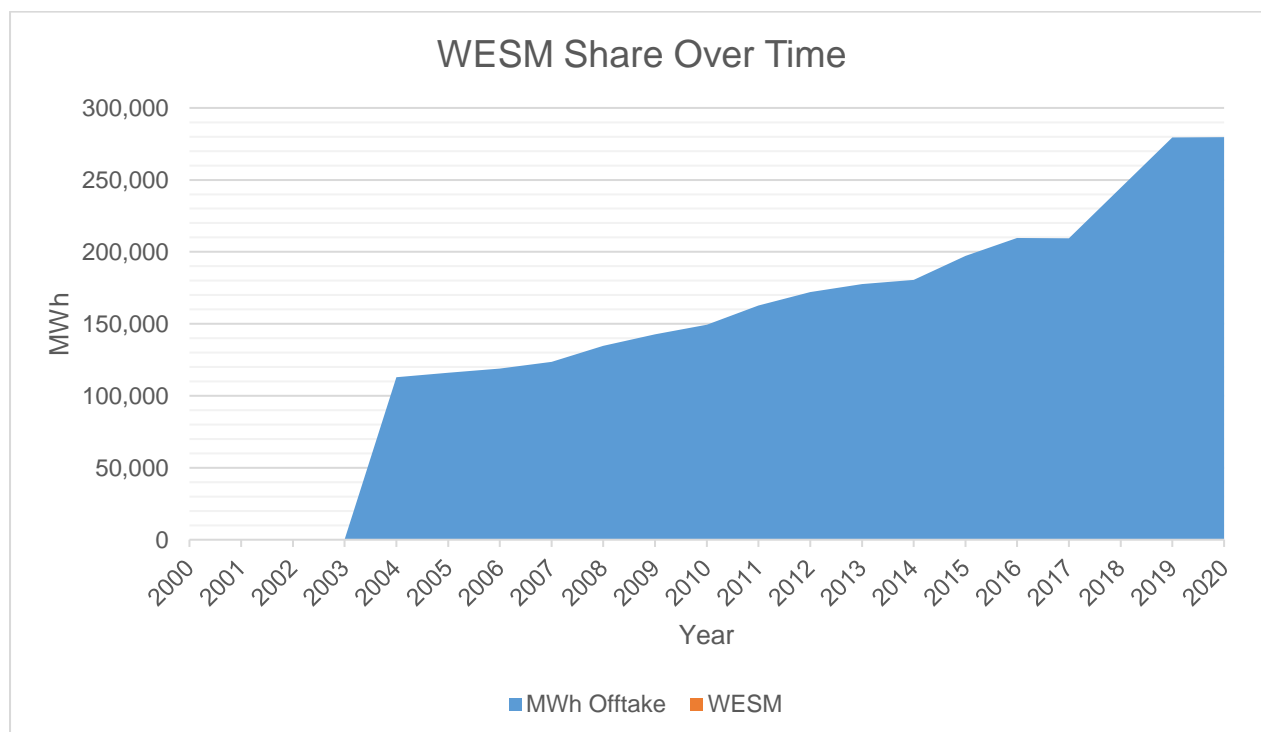
Base on the table submitted, the data for MWh Sales (old) is equal to MWh Sales (new). Evidently, zero (0) data for MWh Sales (New vs Old) rows.

For Own use, ZANECO was noticeably has an abrupt increase of its own consumption even though a skeletal scheme was implemented. This is because we transfer from an old rented commercial building to a new three (3) storey building as ZANECO'S Main Office, in which a lot of air-condition units and lights were used during office hours.

For Subtransmission and Substation Losses, we can only provide starting from the year 2018 up to present. The data submission including the Sub-Transmission loss only started when there was an update on the System Loss Cap from the Energy Regulatory Commission (ERC) under Resolution No.11Series of 2011, Resolution No.10 2c Series of 2018 and Resolution No. 20, Series of 2017 entitled "**Rules for Setting the Distribution System Loss Cap and Establishing Performance Incentive Scheme for Distribution Efficiency**" in which the **DSL = SUBTRANSMISSION LOSS + SUBSTATION LOSS + FEEDER LOSS**.



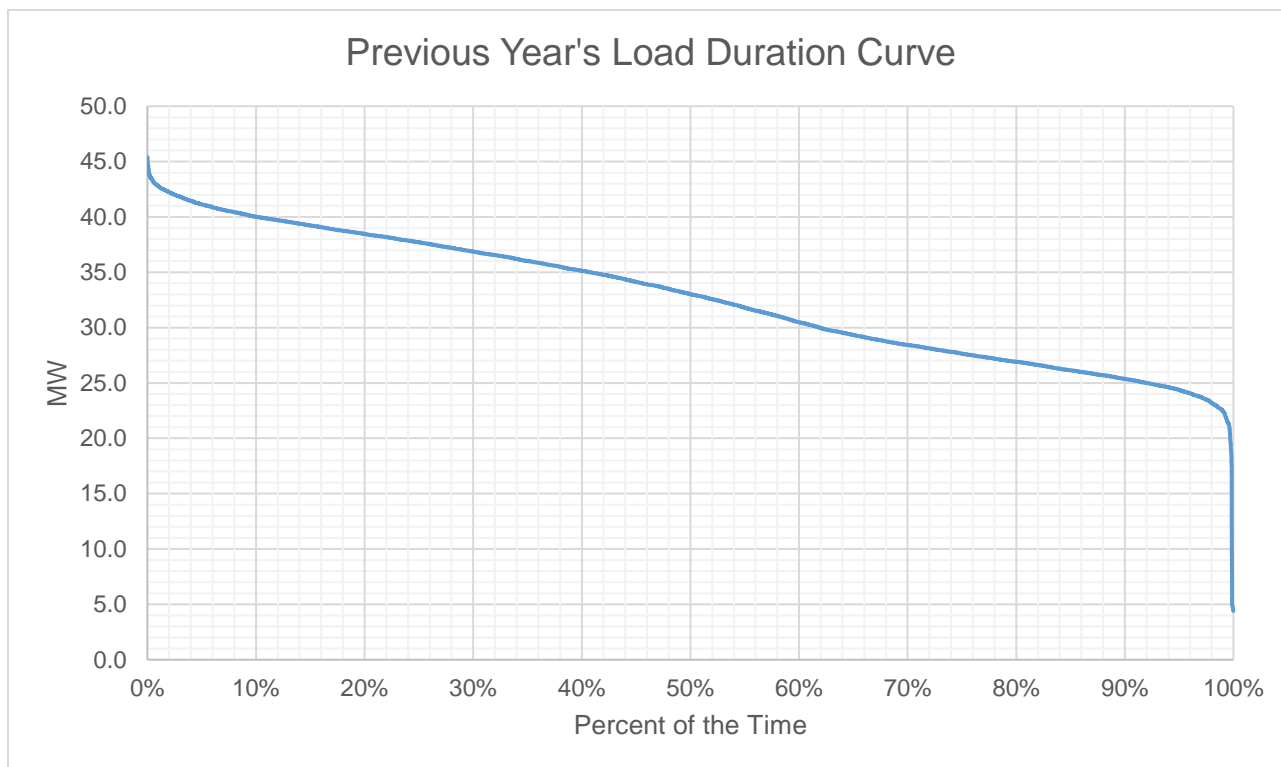
For 2020, the total Offtake for the last historical year is lower than the quantity stipulated in the PSA. The PSA with GN Power Kauswagan Ltd. Co. (GNPK) accounts for the bulk of MWh Offtake. The power supply contract with Astronergy Development Dipolog, Inc. of five megawatts (5MW) is not yet approved by the Energy Regulatory Commission, thus, its supply delivery has not yet commenced. The said contract is pending for resolution as it is affected by the ERC ruling that PSAs filed after June 30, 2015 are required to undergo Competitive Selection Process. As of to date, there has no definite plan and schedule to comply with the ERC directives.



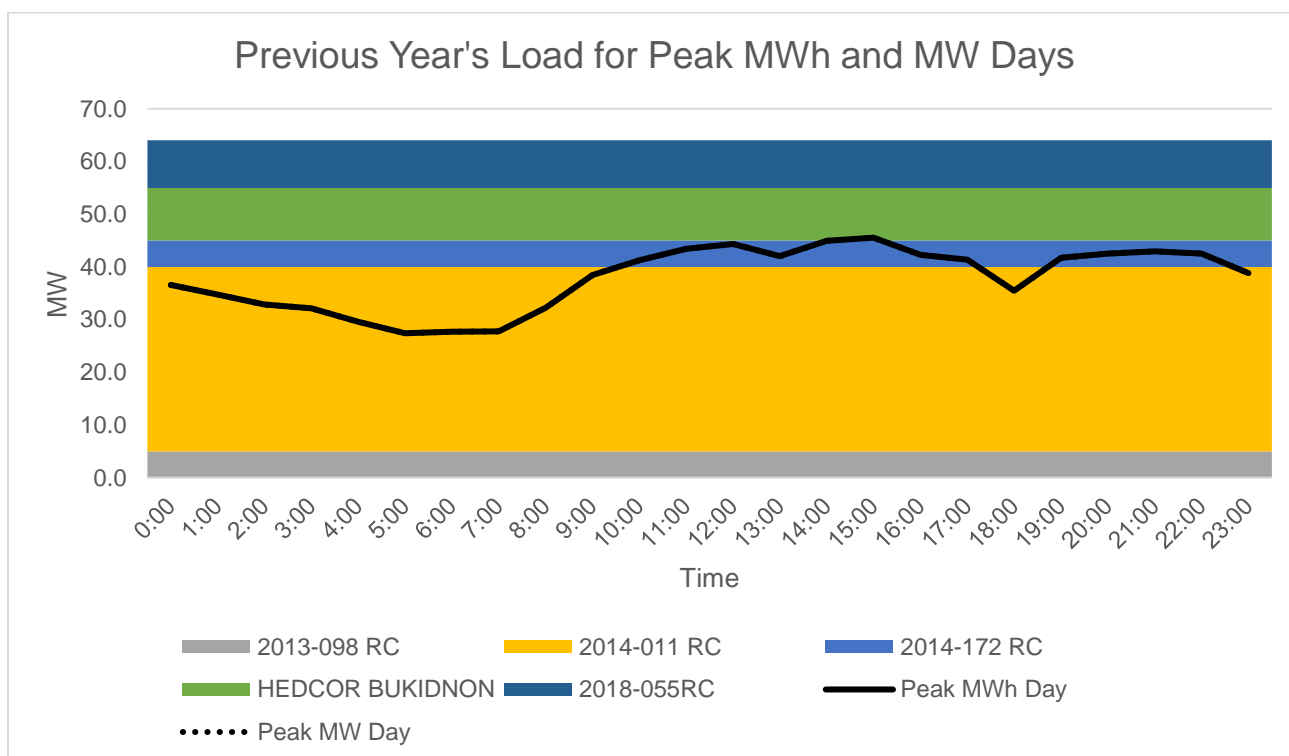
Historically, there is no WESM transaction recorded since it is not yet operational in Mindanao.



## Previous Year's Load Profile

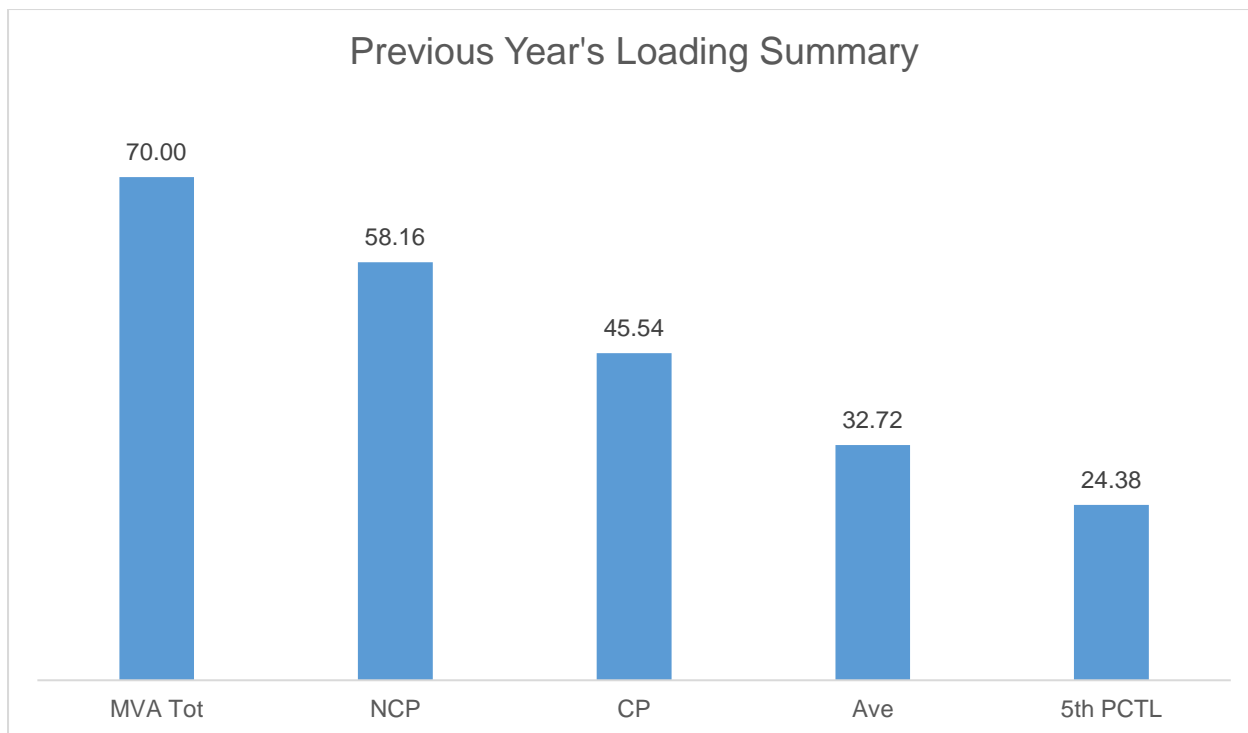


Based on the Load Duration Curve, the minimum load is 4.408 MW and the maximum load is 45.537 MW for the last historical year.



Peak MW occurred on May 26, 2020 due to dry season. Peak daily MWh occurred on May 26, 2020 due to dry season. As shown in the Load Curves, the available supply is higher than the Peak Demand.

### Previous Year's Loading Summary



The Non-coincident Peak Demand is 58.16 MW, which is around 83% of the total substation capacity of 70 MVA at a power factor of 99.30. The load factor or the ratio between the Average Load of 32.72 MW and the Non-coincident Peak Demand is 56% of 58.16MW. A safe estimate of the true minimum load is the fifth percentile load of 24.38 MW which is 42% of the Non-coincident Peak Demand.

Metering Point	Substation MVA	Substation Peak MW
M1-POLO	10	11.200
M2-SALUG	5	3.449
M3-PIAO	5	3.858
M4-OBAY	20	19.495
M5-LILOY	5	5.320
M6-IRASAN	10	7.427
M7-SINDANGAN	5	4.780
M8-PETRA CEMENT	10	2.631

The substations loaded at above 70% are M2-Salug, M4-Polanco, M5-Liloy and M7-Sindangan substations. This loading problem will be solved by implementing the Capital Expenditure projects 2019-2021 such as the installation of substations in Piñan, Labason and Sindangan additional power transformers. The M3-Piao (Roxas) substation was removed from the Grid last December 13,2020 for refurbishment and will be planned to be the future mobile power transformer. The Polo and Irasan substations was upgraded to 20 MVA and energized last September 12,2019 and September 30, 2020, respectively.



## Forecasted Consumption Data

		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	Retail Electricity Suppliers MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
2021	Jan	41.32	24.04	40.00	0.000		58%	155%	22.71
	Feb	40.96	23.15	40.00	0.000		57%	154%	22.19
	Mar	42.58	25.02	40.00	0.000		59%	153%	22.45
	Apr	45.60	25.29	40.00	0.000		55%	143%	19.68
	May	48.45	26.54	40.00	0.000		55%	137%	18.10
	Jun	48.41	25.36	40.00	0.000		52%	135%	16.94
	Jul	46.33	25.06	40.00	0.000		54%	140%	18.72
	Aug	47.43	25.25	40.00	0.000		53%	138%	17.82
	Sep	47.31	26.37	40.00	0.000		56%	140%	19.06
	Oct	46.04	25.76	40.00	0.000		56%	143%	19.73
	Nov	46.85	26.42	40.00	0.000		56%	142%	19.56
	Dec	47.55	26.69	40.00	0.000		56%	140%	19.14
2022	Jan	43.25	16.33	40.00	0.000		38%	130%	13.07
	Feb	42.87	15.44	40.00	0.000		36%	129%	12.57
	Mar	44.56	15.06	40.00	0.000		34%	124%	10.50
	Apr	47.73	16.67	40.00	0.000		35%	119%	8.94
	May	50.71	17.03	40.00	0.000		34%	112%	6.32
	Jun	50.67	16.76	40.00	0.000		33%	112%	6.08
	Jul	48.50	15.56	45.00	0.000		32%	125%	12.06
	Aug	49.64	17.10	45.00	0.000		34%	125%	12.46
	Sep	49.52	16.86	45.00	0.000		34%	125%	12.34
	Oct	48.19	16.71	45.00	0.000		35%	128%	13.52
	Nov	49.04	16.91	45.00	0.000		34%	126%	12.87
	Dec	49.77	17.18	45.00	0.000		35%	125%	12.40
2023	Jan	45.18	7.03	45.00	0.000		16%	115%	6.85
	Feb	44.79	7.48	45.00	0.000		17%	117%	7.70
	Mar	46.55	8.95	45.00	0.000		19%	116%	7.40
	Apr	49.86	10.17	45.00	0.000		20%	111%	5.31
	May	52.97	9.63	45.00	0.000		18%	103%	1.66

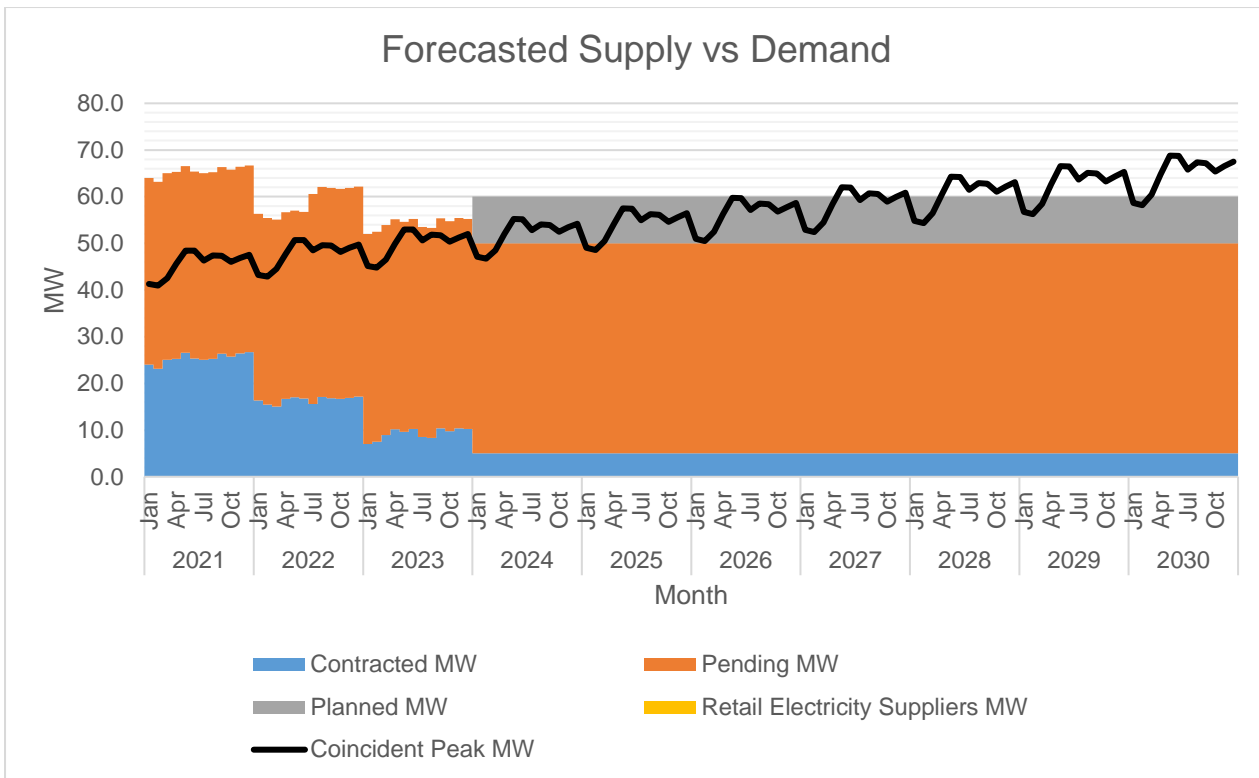
	Jun	52.93	10.25	45.00	0.000		19%	104%	2.32
	Jul	50.66	8.55	45.00	0.000		17%	106%	2.89
	Aug	51.86	8.29	45.00	0.000		16%	103%	1.44
	Sep	51.73	10.36	45.00	0.000		20%	107%	3.63
	Oct	50.33	9.76	45.00	0.000		19%	109%	4.42
	Nov	51.23	10.41	45.00	0.000		20%	108%	4.18
	Dec	51.99	10.22	45.00	0.000		20%	106%	3.22
2024	Jan	47.11	5.00	45.00	10.000		11%	127%	12.89
	Feb	46.70	5.00	45.00	10.000		11%	128%	13.30
	Mar	48.54	5.00	45.00	10.000		10%	124%	11.46
	Apr	51.99	5.00	45.00	10.000		10%	115%	8.01
	May	55.23	5.00	45.00	10.000		9%	109%	4.77
	Jun	55.20	5.00	45.00	10.000		9%	109%	4.80
	Jul	52.82	5.00	45.00	10.000		9%	114%	7.18
	Aug	54.07	5.00	45.00	10.000		9%	111%	5.93
	Sep	53.94	5.00	45.00	10.000		9%	111%	6.06
	Oct	52.48	5.00	45.00	10.000		10%	114%	7.52
	Nov	53.42	5.00	45.00	10.000		9%	112%	6.58
	Dec	54.21	5.00	45.00	10.000		9%	111%	5.79
2025	Jan	49.04	5.00	45.00	10.000		10%	122%	10.96
	Feb	48.61	5.00	45.00	10.000		10%	123%	11.39
	Mar	50.53	5.00	45.00	10.000		10%	119%	9.47
	Apr	54.12	5.00	45.00	10.000		9%	111%	5.88
	May	57.49	5.00	45.00	10.000		9%	104%	2.51
	Jun	57.46	5.00	45.00	10.000		9%	104%	2.54
	Jul	54.99	5.00	45.00	10.000		9%	109%	5.01
	Aug	56.28	5.00	45.00	10.000		9%	107%	3.72
	Sep	56.14	5.00	45.00	10.000		9%	107%	3.86
	Oct	54.63	5.00	45.00	10.000		9%	110%	5.37
	Nov	55.60	5.00	45.00	10.000		9%	108%	4.40
	Dec	56.43	5.00	45.00	10.000		9%	106%	3.57
2026	Jan	50.97	5.00	45.00	10.000		10%	118%	9.03
	Feb	50.52	5.00	45.00	10.000		10%	119%	9.48
	Mar	52.51	5.00	45.00	10.000		10%	114%	7.49
	Apr	56.24	5.00	45.00	10.000		9%	107%	3.76

	May	59.75	5.00	45.00	10.000		8%	100%	0.25
	Jun	59.72	5.00	45.00	10.000		8%	100%	0.28
	Jul	57.15	5.00	45.00	10.000		9%	105%	2.85
	Aug	58.50	5.00	45.00	10.000		9%	103%	1.50
	Sep	58.35	5.00	45.00	10.000		9%	103%	1.65
	Oct	56.78	5.00	45.00	10.000		9%	106%	3.22
	Nov	57.79	5.00	45.00	10.000		9%	104%	2.21
	Dec	58.65	5.00	45.00	10.000		9%	102%	1.35
2027	Jan	52.90	5.00	45.00	10.000		9%	113%	7.10
	Feb	52.43	5.00	45.00	10.000		10%	114%	7.57
	Mar	54.50	5.00	45.00	10.000		9%	110%	5.50
	Apr	58.37	5.00	45.00	10.000		9%	103%	1.63
	May	62.02	5.00	45.00	10.000		8%	97%	-2.02
	Jun	61.98	5.00	45.00	10.000		8%	97%	-1.98
	Jul	59.31	5.00	45.00	10.000		8%	101%	0.69
	Aug	60.71	5.00	45.00	10.000		8%	99%	-0.71
	Sep	60.56	5.00	45.00	10.000		8%	99%	-0.56
	Oct	58.93	5.00	45.00	10.000		8%	102%	1.07
	Nov	59.98	5.00	45.00	10.000		8%	100%	0.02
	Dec	60.87	5.00	45.00	10.000		8%	99%	-0.87
2028	Jan	54.83	5.00	45.00	10.000		9%	109%	5.17
	Feb	54.35	5.00	45.00	10.000		9%	110%	5.65
	Mar	56.49	5.00	45.00	10.000		9%	106%	3.51
	Apr	60.50	5.00	45.00	10.000		8%	99%	-0.50
	May	64.28	5.00	45.00	10.000		8%	93%	-4.28
	Jun	64.24	5.00	45.00	10.000		8%	93%	-4.24
	Jul	61.47	5.00	45.00	10.000		8%	98%	-1.47
	Aug	62.93	5.00	45.00	10.000		8%	95%	-2.93
	Sep	62.77	5.00	45.00	10.000		8%	96%	-2.77
	Oct	61.08	5.00	45.00	10.000		8%	98%	-1.08
	Nov	62.16	5.00	45.00	10.000		8%	97%	-2.16
	Dec	63.09	5.00	45.00	10.000		8%	95%	-3.09
2029	Jan	56.75	5.00	45.00	10.000		9%	106%	3.25
	Feb	56.26	5.00	45.00	10.000		9%	107%	3.74
	Mar	58.47	5.00	45.00	10.000		9%	103%	1.53

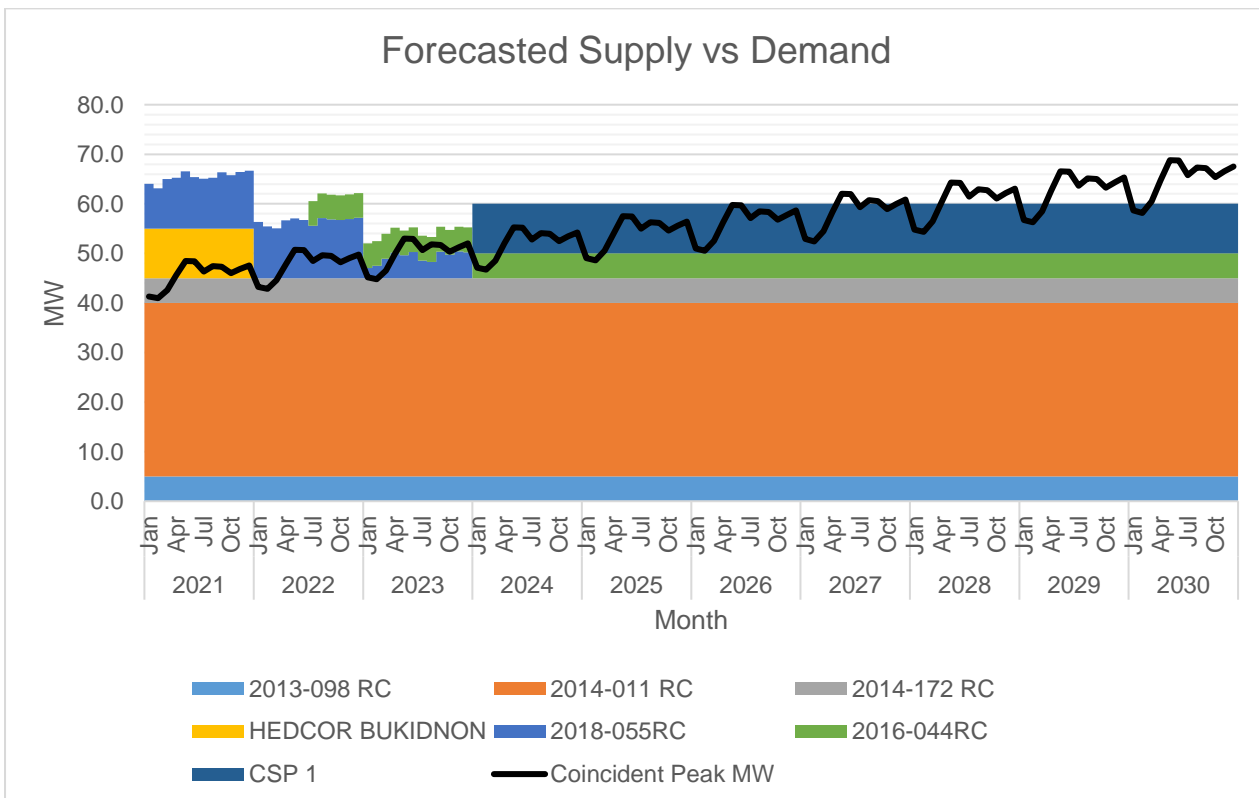
	Apr	62.63	5.00	45.00	10.000		8%	96%	-2.63
	May	66.54	5.00	45.00	10.000		8%	90%	-6.54
	Jun	66.50	5.00	45.00	10.000		8%	90%	-6.50
	Jul	63.64	5.00	45.00	10.000		8%	94%	-3.64
	Aug	65.14	5.00	45.00	10.000		8%	92%	-5.14
	Sep	64.98	5.00	45.00	10.000		8%	92%	-4.98
	Oct	63.23	5.00	45.00	10.000		8%	95%	-3.23
	Nov	64.35	5.00	45.00	10.000		8%	93%	-4.35
	Dec	65.31	5.00	45.00	10.000		8%	92%	-5.31
2030	Jan	58.68	5.00	45.00	10.000		9%	102%	1.32
	Feb	58.17	5.00	45.00	10.000		9%	103%	1.83
	Mar	60.46	5.00	45.00	10.000		8%	99%	-0.46
	Apr	64.76	5.00	45.00	10.000		8%	93%	-4.76
	May	68.80	5.00	45.00	10.000		7%	87%	-8.80
	Jun	68.76	5.00	45.00	10.000		7%	87%	-8.76
	Jul	65.80	5.00	45.00	10.000		8%	91%	-5.80
	Aug	67.35	5.00	45.00	10.000		7%	89%	-7.35
	Sep	67.19	5.00	45.00	10.000		7%	89%	-7.19
	Oct	65.38	5.00	45.00	10.000		8%	92%	-5.38
	Nov	66.54	5.00	45.00	10.000		8%	90%	-6.54
	Dec	67.53	5.00	45.00	10.000		7%	89%	-7.53

The Peak Demand was forecasted using Short Term Load Forecasting using Seasonal Effects and was assumed to occur on the month of May based on seven (7) years historical loads. Monthly Peak Demand is at its lowest on the month of February based on the actual metering data of NGCP. In general, Peak Demand is expected to grow at an average rate of 4.45%.

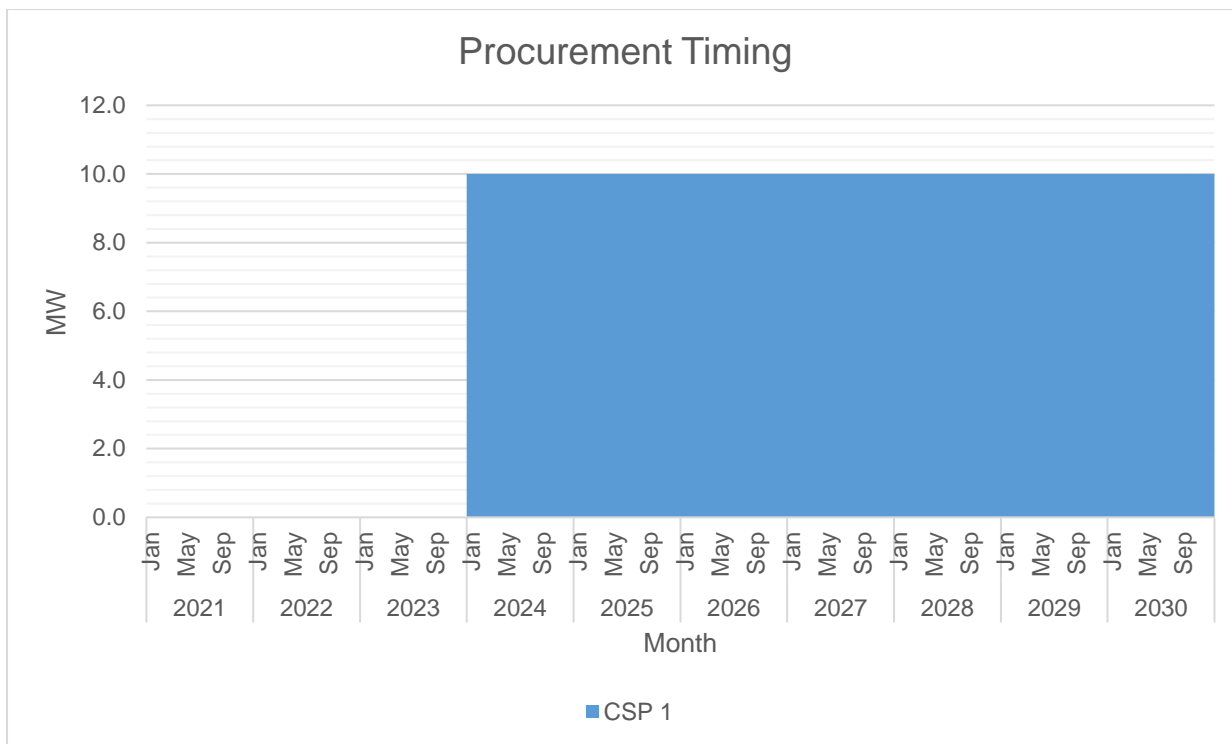
Looking forward on the commercial operation of WESM Mindanao, ZANECO is now completing the requirements as a Direct WESM Member which are the Test Report from one substation and the posting of prudential requirements.



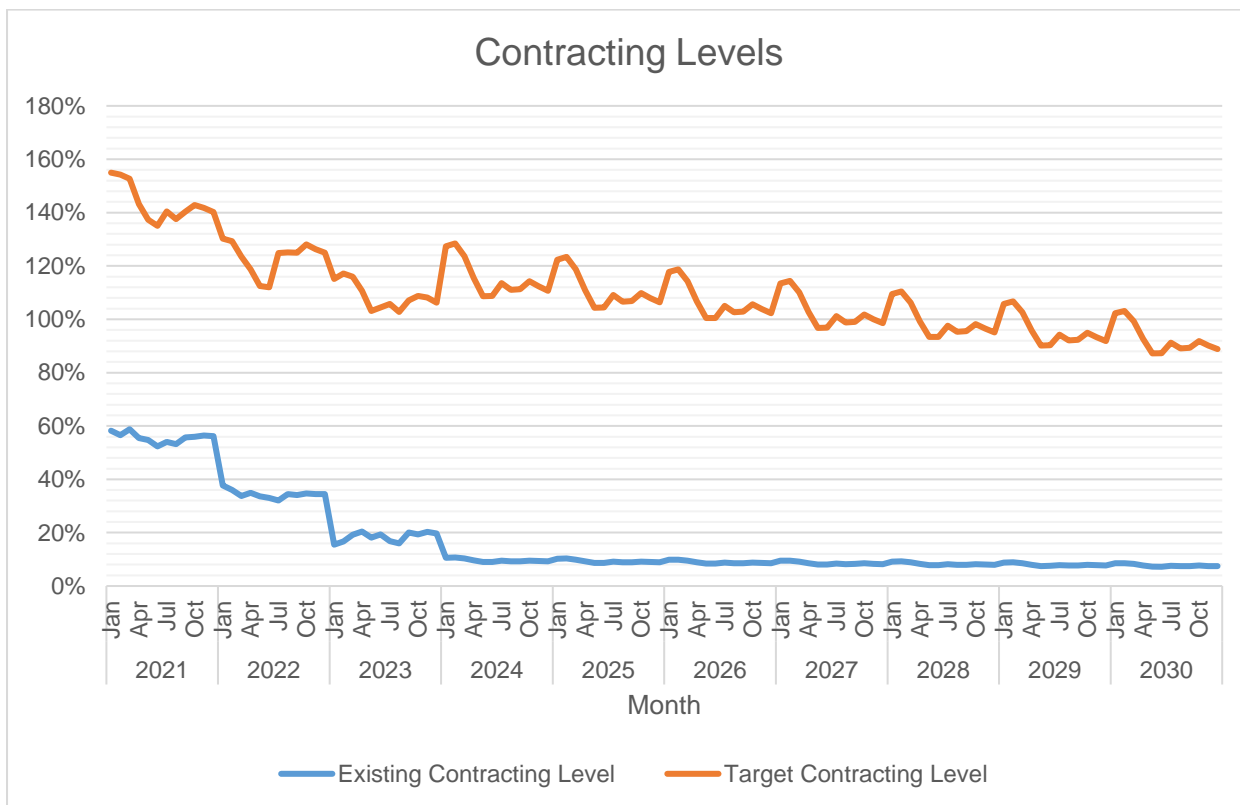
The available supply is generally above the Peak Demand. This is because of securing enough reserved supply in case of shutdown of the other power plants and the abrupt increase of load requirements.



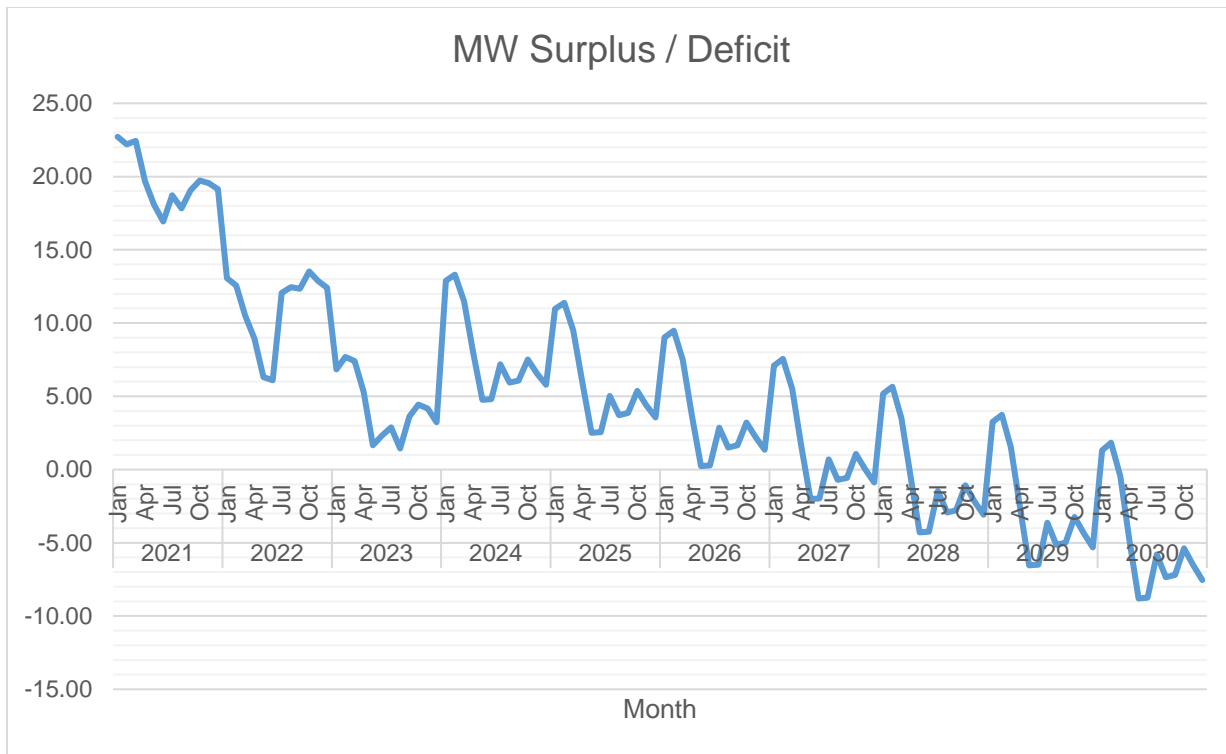
Of the available supply, the largest is 35 MW from GN Power Kauswagan Ltd. Co. This is followed by 10 MW from Hedcor Bukidnon, Inc.



The first wave of supply procurement will be for 10 MW mid-merit supply planned to be available by the month of January 2024.



Currently, the contracting level is 59% however, ERC has already granted provisional authority from other power supply agreements which allows them to deliver supply to ZANECO. The highest target contracting level is 155% which is expected to occur on January 2021. The 5MW supply from Astronergy Development Dipolog Inc. is still pending for ERC approval and was affected by the Supreme Court Decision which must comply with the CSP requirement. The lowest target contracting level is 87% which is expected to occur on May 2030.



Currently, there is over-contracting by 19.06MW. The highest surplus is 22.71MW which is expected to occur on the month of January 2021. The lowest deficit is 8.80 MW which is expected to occur on the month of May 2030.

In the year 2023, there would be a supply deficit of 5.23MW considering the contracted and pending power supply agreements. However, the 5MW of the pending contracts, which is from Astronergy Development Dipolog Inc., is just a tentative supply pending the resolution of the application in ERC. With these factors, the procurement of 10MW mid-merit supply would alleviate the supply deficiency in the future, and help with the compliance to the Renewable Portfolio Standards (RPS Rules). Based on the latest submission of RPS Compliance to the Department of Energy (DOE), ZANECO will be having a Renewable Energy Certificate (REC) shortfall by year 2024. Further, the 10MW supply contract from a renewable source has only a load factor of 60%-80%, thus, not all the time it meets the full contract.

		MWh Offtake	MWh Output	MWh System Loss	Transm'n Loss	System Loss
2021	Jan	22,940	20,145	2,795	0.00%	12.19%
	Feb	22,664	20,082	2,581	0.00%	11.39%
	Mar	21,423	19,122	2,301	0.00%	10.74%
	Apr	25,046	22,381	2,665	0.00%	10.64%
	May	26,859	24,340	2,520	0.00%	9.38%
	Jun	26,235	23,794	2,441	0.00%	9.30%
	Jul	24,645	22,241	2,404	0.00%	9.76%
	Aug	26,731	24,019	2,712	0.00%	10.15%
	Sep	25,847	23,182	2,665	0.00%	10.31%
	Oct	25,515	23,316	2,199	0.00%	8.62%
	Nov	26,652	24,134	2,518	0.00%	9.45%
	Dec	25,417	23,060	2,357	0.00%	9.27%
2022	Jan	23,629	21,286	2,343	0.00%	9.92%
	Feb	23,948	21,220	2,728	0.00%	11.39%
	Mar	22,637	20,206	2,431	0.00%	10.74%
	Apr	26,465	23,650	2,816	0.00%	10.64%

	May	28,675	26,013	2,663	0.00%	9.29%
	Jun	27,842	25,643	2,199	0.00%	7.90%
	Jul	26,041	23,501	2,541	0.00%	9.76%
	Aug	28,246	25,380	2,866	0.00%	10.15%
	Sep	27,312	24,495	2,816	0.00%	10.31%
	Oct	26,961	24,637	2,323	0.00%	8.62%
	Nov	28,162	25,502	2,660	0.00%	9.45%
	Dec	27,065	24,575	2,490	0.00%	9.20%
2023	Jan	24,945	22,428	2,517	0.00%	10.09%
	Feb	25,232	22,358	2,874	0.00%	11.39%
	Mar	23,851	21,289	2,561	0.00%	10.74%
	Apr	27,884	24,918	2,967	0.00%	10.64%
	May	30,164	27,359	2,805	0.00%	9.30%
	Jun	29,358	26,991	2,367	0.00%	8.06%
	Jul	27,438	24,761	2,677	0.00%	9.76%
	Aug	29,760	26,741	3,019	0.00%	10.15%
	Sep	28,776	25,809	2,968	0.00%	10.31%
	Oct	28,406	25,958	2,448	0.00%	8.62%
	Nov	29,672	26,869	2,803	0.00%	9.45%
	Dec	28,489	25,866	2,624	0.00%	9.21%
2024	Jan	26,270	23,569	2,701	0.00%	10.28%
	Feb	26,516	23,496	3,020	0.00%	11.39%
	Mar	25,065	22,373	2,692	0.00%	10.74%
	Apr	29,303	26,186	3,118	0.00%	10.64%
	May	31,644	28,696	2,948	0.00%	9.32%
	Jun	30,894	28,339	2,556	0.00%	8.27%
	Jul	28,834	26,021	2,813	0.00%	9.76%
	Aug	31,275	28,102	3,173	0.00%	10.15%
	Sep	30,241	27,122	3,119	0.00%	10.31%
	Oct	29,852	27,280	2,573	0.00%	8.62%
	Nov	31,182	28,237	2,946	0.00%	9.45%
	Dec	29,914	27,157	2,757	0.00%	9.22%
2025	Jan	27,594	24,710	2,884	0.00%	10.45%
	Feb	27,800	24,634	3,166	0.00%	11.39%
	Mar	26,278	23,456	2,822	0.00%	10.74%
	Apr	30,722	27,454	3,268	0.00%	10.64%
	May	33,124	30,033	3,091	0.00%	9.33%
	Jun	32,401	29,687	2,714	0.00%	8.38%
	Jul	30,231	27,281	2,949	0.00%	9.76%
	Aug	32,789	29,463	3,327	0.00%	10.15%
	Sep	31,705	28,436	3,270	0.00%	10.31%
	Oct	31,298	28,601	2,697	0.00%	8.62%
	Nov	32,692	29,604	3,088	0.00%	9.45%
	Dec	31,338	28,447	2,891	0.00%	9.22%
2026	Jan	28,917	25,852	3,065	0.00%	10.60%
	Feb	29,084	25,772	3,313	0.00%	11.39%
	Mar	27,492	24,540	2,952	0.00%	10.74%
	Apr	32,142	28,722	3,419	0.00%	10.64%
	May	34,606	31,372	3,234	0.00%	9.34%
	Jun	33,917	31,035	2,882	0.00%	8.50%
	Jul	31,627	28,542	3,085	0.00%	9.76%

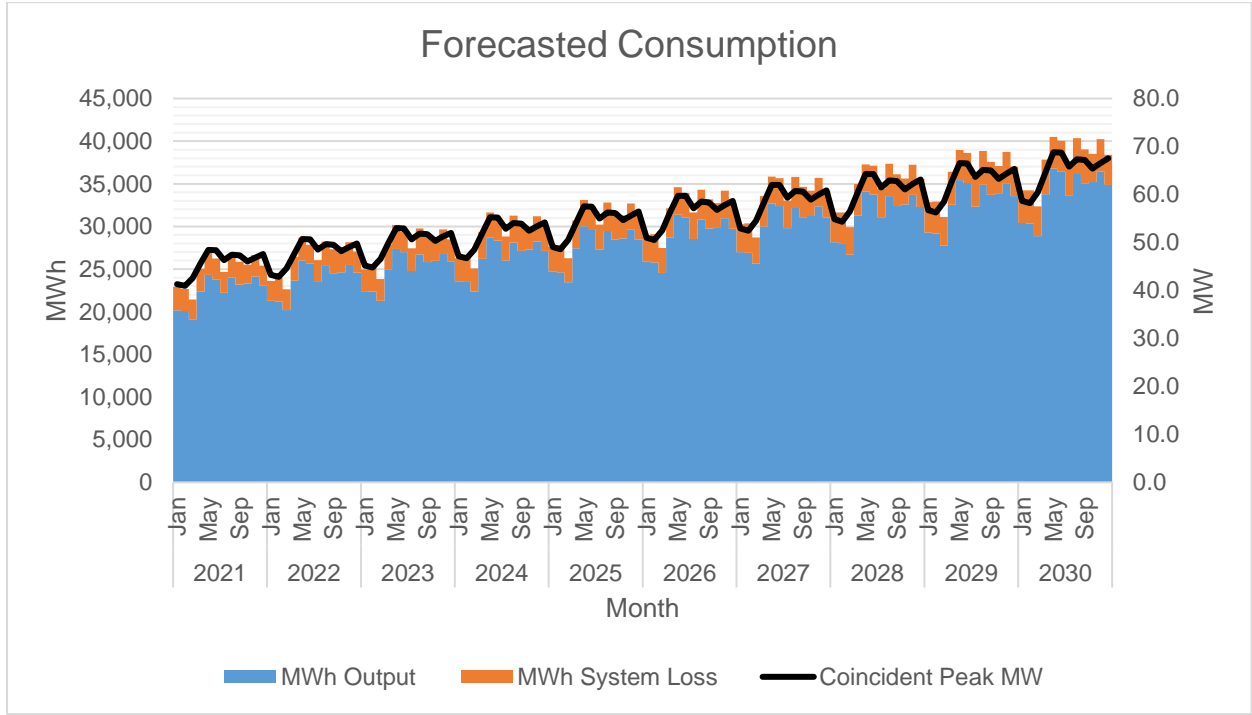


	Aug	34,304	30,824	3,480	0.00%	10.15%
	Sep	33,170	29,749	3,421	0.00%	10.31%
	Oct	32,743	29,922	2,822	0.00%	8.62%
	Nov	34,202	30,971	3,231	0.00%	9.45%
	Dec	32,763	29,738	3,024	0.00%	9.23%
2027	Jan	30,239	26,993	3,246	0.00%	10.73%
	Feb	30,368	26,910	3,459	0.00%	11.39%
	Mar	28,706	25,623	3,083	0.00%	10.74%
	Apr	33,561	29,990	3,570	0.00%	10.64%
	May	35,839	32,712	3,126	0.00%	8.72%
	Jun	35,654	32,383	3,270	0.00%	9.17%
	Jul	33,023	29,802	3,222	0.00%	9.76%
	Aug	35,818	32,184	3,634	0.00%	10.15%
	Sep	34,634	31,063	3,572	0.00%	10.31%
	Oct	34,189	31,243	2,946	0.00%	8.62%
	Nov	35,712	32,339	3,373	0.00%	9.45%
	Dec	34,185	31,027	3,158	0.00%	9.24%
2028	Jan	31,639	28,135	3,504	0.00%	11.08%
	Feb	31,652	28,047	3,605	0.00%	11.39%
	Mar	29,920	26,707	3,213	0.00%	10.74%
	Apr	34,980	31,258	3,721	0.00%	10.64%
	May	37,273	34,074	3,199	0.00%	8.58%
	Jun	37,140	33,732	3,409	0.00%	9.18%
	Jul	34,420	31,062	3,358	0.00%	9.76%
	Aug	37,333	33,545	3,788	0.00%	10.15%
	Sep	36,099	32,376	3,723	0.00%	10.31%
	Oct	35,635	32,564	3,071	0.00%	8.62%
	Nov	37,222	33,706	3,516	0.00%	9.45%
	Dec	35,592	32,300	3,291	0.00%	9.25%
2029	Jan	32,839	29,276	3,563	0.00%	10.85%
	Feb	32,937	29,185	3,751	0.00%	11.39%
	Mar	31,134	27,790	3,344	0.00%	10.74%
	Apr	36,399	32,526	3,872	0.00%	10.64%
	May	38,948	35,436	3,512	0.00%	9.02%
	Jun	38,627	35,080	3,547	0.00%	9.18%
	Jul	35,816	32,322	3,494	0.00%	9.76%
	Aug	38,848	34,906	3,941	0.00%	10.15%
	Sep	37,563	33,690	3,874	0.00%	10.31%
	Oct	37,081	33,885	3,195	0.00%	8.62%
	Nov	38,732	35,074	3,659	0.00%	9.45%
	Dec	36,999	33,574	3,425	0.00%	9.26%
2030	Jan	34,238	30,417	3,821	0.00%	11.16%
	Feb	34,221	30,323	3,898	0.00%	11.39%
	Mar	32,348	28,874	3,474	0.00%	10.74%
	Apr	37,818	33,795	4,023	0.00%	10.64%
	May	40,503	36,798	3,705	0.00%	9.15%
	Jun	40,063	36,428	3,635	0.00%	9.07%
	Jul	37,213	33,582	3,630	0.00%	9.76%
	Aug	40,362	36,267	4,095	0.00%	10.15%
	Sep	39,028	35,003	4,025	0.00%	10.31%
	Oct	38,526	35,206	3,320	0.00%	8.62%

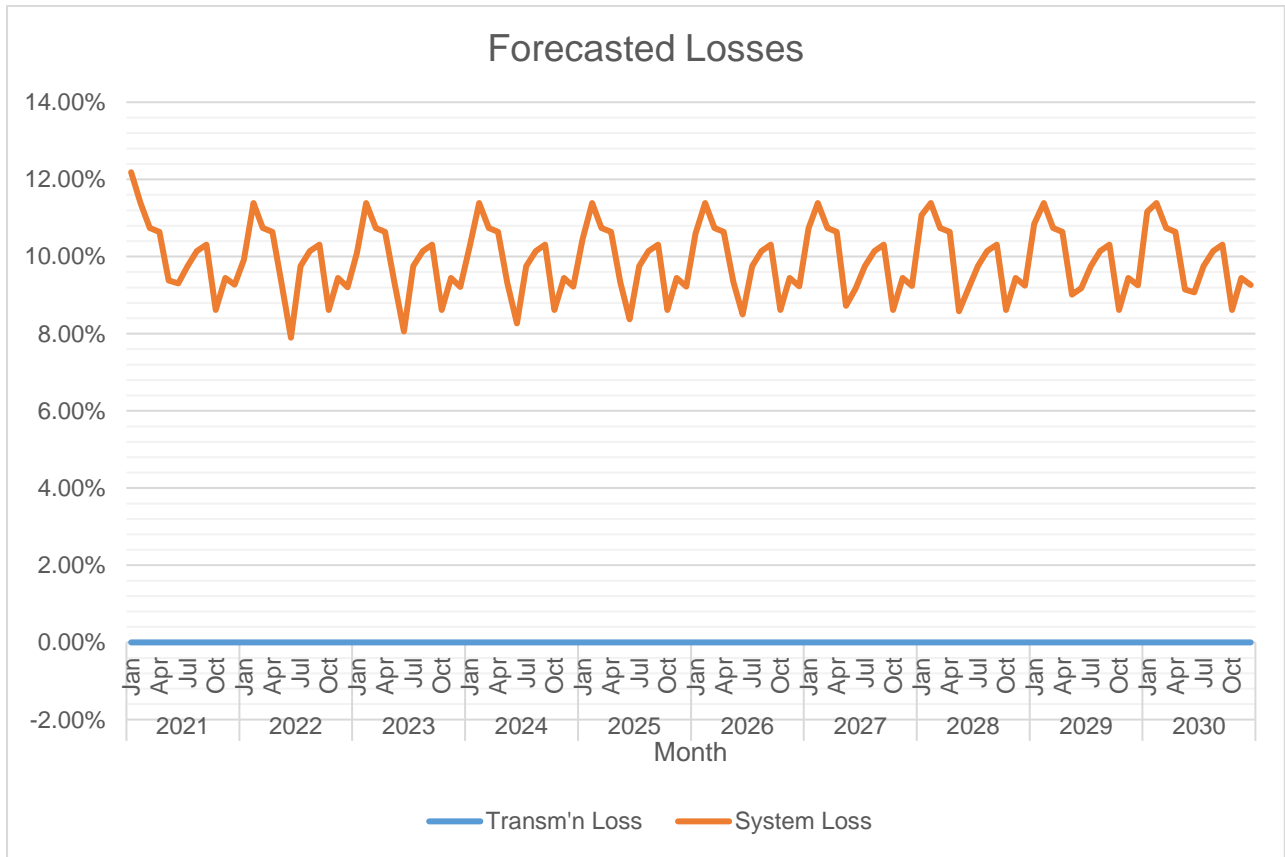
	Nov	40,243	36,441	3,801	0.00%	9.45%
	Dec	38,414	34,855	3,559	0.00%	9.26%

MWh Offtake was forecasted using Short Term Load Forecasting using Seasonal Effects.

System Loss was calculated through a Load Flow Study conducted on March of 2020 by the Technical Data Processors (TDP) using Synergee software. Based on the same study, the Distribution System can adequately convey electricity to customers.



MWh Output was expected to grow at a rate of 5% annually.



System Loss is expected to range from 10.10% to 9.78%. The system loss will likely get the single digit when the two (2) Multiyear Capital projects (CapEx) 2016-2018 and 2019-2021 applied to the Energy Regulatory Commission will be approved.

However, it is unreliable to forecast the Transmission loss & SS technical Loss as we only have three (3) years available data. To perform a reliable forecast, one must have five (5) to seven (7) years of historical data.

## Power Supply

Case No.	Type	GenCo	Minimum MW	Minimum MWh/yr	PSA Start	PSA End
2013-098 RC	Base	Therma South, Inc.	2.00	17,520	9/18/2015	9/17/2040
HEDCOR BUKIDNON	Intermediate	HEDCOR Bukidnon, Inc.	1.00	8,760	7/2/2018	6/25/2021
2018-055RC	Intermediate	Power Sector Assets and Liabilities Management Corporation	1.00	8,760	12/26/2020	12/25/2023

The PSA with Therma South, Inc. filed with ERC under Case No. 2013-098 RC was through submission of proposal and was subsequently evaluated prior execution of PSA. It was selected to provide for baseload requirements due to the experienced region-wide power supply deficiency problem in Mindanao. Historically, the utilization of the PSA is 46%. Outages of the plant and reduced nomination led to unserved energy of around 23,798 MWh in the past year. The actual billed overall monthly charge under the PSA ranged from 5.41 P/kWh to 10.96 P/KWh in the same period.

The PSA with Hedcor Bukidnon Inc. submitted with ERC under an ERC-approved RESA-template for RE-eligible power plant was procured through submission of proposal and was subsequently evaluated prior execution of PSA. It was selected to provide for mid-merit requirements due to the expiration of supply contracts with Mapalad Power Corporation and Therma Marine, Inc.. Historically, the utilization of the PSA is 54%. Outages and the dependency on water levels of the plant led to unserved energy of around 24,071 MWh in the past year using a load factor of 60%. The actual billed overall monthly charge under the PSA ranged from 4.39 P/kWh to 4.80 P/KWh in the same period.

The PSA with Power Sector Assets and Liabilities Management Corporation filed with ERC was procured under the existing provisions of RA 9136. ZANECO has renewed the CSEE for years 2021-2023. It was selected to provide for intermediate requirements due to the expiration of the existing Contracts for the Supply of Electric Energy (CSEE). Historically, the utilization of the PSA is 23%. Outages of the plant and reduced supply allocations led to unserved energy of around 70,865 MWh in the past year. The actual billed overall monthly charge under the PSA ranged from -0.58 P/kWh to 1.96 P/KWh in the same period.

Case No.	Type	GenCo	Minimum MW	Minimum MWh/yr	PSA Start	PSA End
2014-011 RC	Base	GN Power Kauswagan Ltd.	26.25	229,950	8/26/2019	8/25/2039
2014-172 RC	Base	Sarangani Energy Corporation	2.00	17,520	10/10/2019	10/9/2044
2016-044RC	Intermediate	Other	1.00	8,760	7/1/2022	6/30/2047

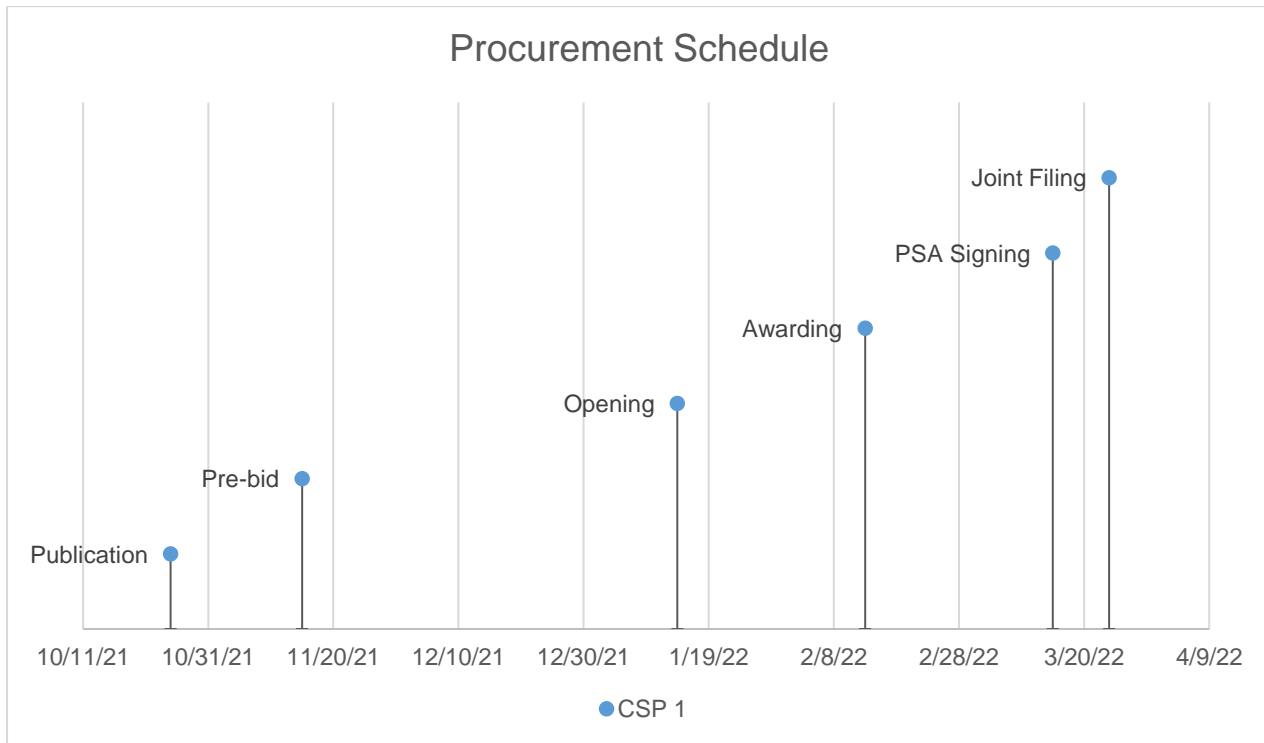
The PSA with GN Power Kauswagan Ltd. Co. filed with ERC under Case No. 2014-011 RC was procured through a competitive bidding. It was selected to provide for baseload requirements due to the insufficiency of existing supply in Mindanao and to address power shortfall in the future.

Historically, the utilization of the PSA is 70%. Outages of the plant and reduction of nomination due to decreasing demand caused by pandemic led to unserved energy of around 80,525 MWh in the past year. The actual billed overall monthly charge under the PSA ranged from 3.84 P/kWh to 5.67 P/KWh in the same period.

The PSA with Sarangani Energy Corporation filed with ERC under Case No. 2014-172 RC was procured through submission of proposal and was subsequently evaluated prior execution of PSA. It was selected to provide for baseload requirements due to the risk of suffering power shortages caused by the steadily increasing demand of power in the franchise area. Historically, the utilization of the PSA is 68%. Outages of the plant and reduced nomination led to unserved energy of around 13,829 MWh in the past year. The actual billed overall monthly charge under the PSA ranged from 4.32 P/kWh to 12.37 P/KWh in the same period.

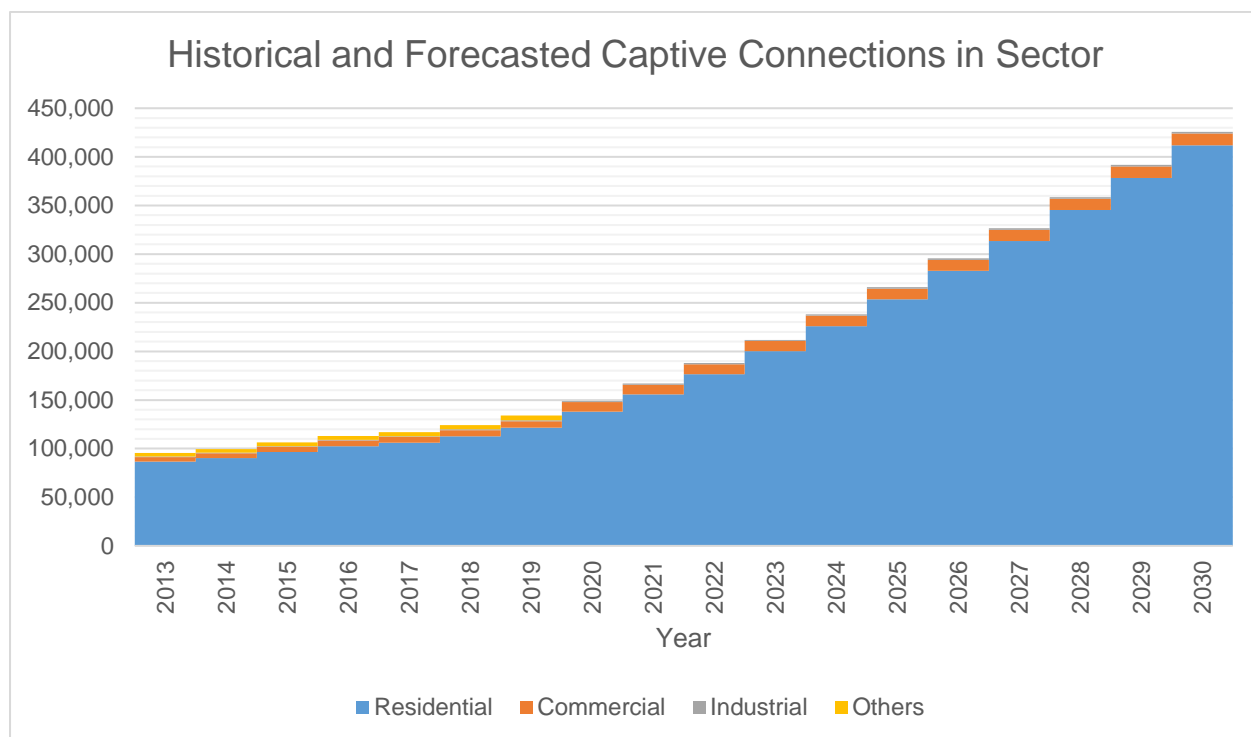
The PSA with Astronergy Development Dipolog Inc. filed with ERC under Case No. 2016-044 RC was procured through submission of proposal and was subsequently evaluated prior execution of PSA. It was selected to provide for intermediate requirements due to the reduced capacity and uncertainty of PSALM's supply, the experienced load curtailments and the increase of energy requirements of ZANECO customers in the next few years. However, this PSA was affected by the released Supreme Court Decision which requires PSAs submitted on or after June 30, 2015 to ERC must undergo CSP.

	CSP 1
Type	Intermediate
Minimum MW	10.00
Minimum MWh/yr	70,080
PSA Start	1/1/2024
PSA End	12/31/2048
Publication	10/25/2021
Pre-bid	11/15/2021
Opening	1/14/2022
Awarding	2/13/2022
PSA Signing	3/15/2022
Joint Filing	3/24/2022



For the procurement of 10MW of supply which is planned to be available on January 2024, the first publication or launch of CSP will be on October 25, 2021. Joint filing is planned on March 24, 2022, or 150 days later, in accordance with DOE’s 2018 CSP Policy. However, these procurements were already approved by DOE and was published in its portal last December 2020.

## Captive Customer Connections



The total number of 148, 899 connections, 138,024 residential connections is expected to grow at a rate of 7% annually. Said customer class is expected to account for 92.7% of the total consumption.