Power Supply Procurement Plan 2021

Agusan Del Norte Electric Cooperative, Inc. (ANECO)

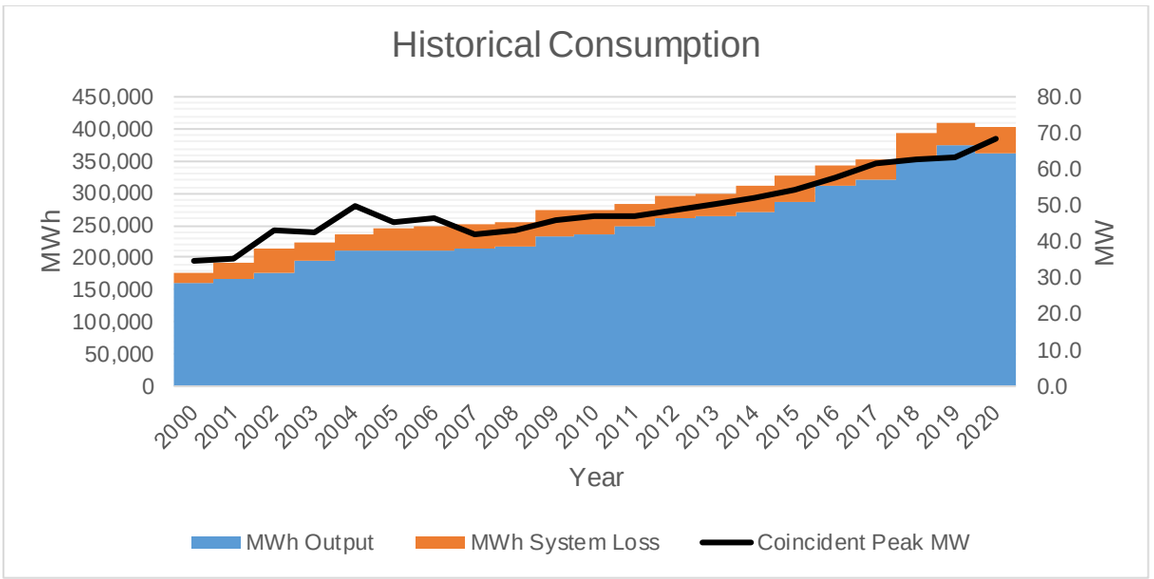
Historical Consumption Data

	Coincident Peak MW	MWh Offtake	MWh Input	MWh Output	MWh System Loss	Load Factor	Transm'n Loss	System Loss
2000	34.66	175,214	175,214	159,658	15,556	58%	0.00%	8.88%
2001	35.14	190,802	190,802	165,751	25,051	62%	0.00%	13.13%
2002	43.13	213,875	213,875	176,680	37,195	57%	0.00%	17.39%
2003	42.38	222,018	222,018	195,549	26,468	60%	0.00%	11.92%
2004	49.71	235,598	235,598	212,246	23,353	54%	0.00%	9.91%
2005	45.33	246,512	246,512	210,000	36,512	62%	0.00%	14.81%
2006	46.41	247,636	247,636	211,882	35,754	61%	0.00%	14.44%
2007	41.79	250,492	250,492	214,540	35,952	68%	0.00%	14.35%
2008	43.12	253,768	253,768	217,878	35,890	67%	0.00%	14.14%
2009	46.11	273,824	273,824	233,799	40,025	68%	0.00%	14.62%
2010	46.93	275,420	275,420	235,669	39,750	67%	0.00%	14.43%
2011	47.06	284,353	284,353	248,902	35,451	69%	0.00%	12.47%
2012	48.89	295,621	295,621	260,707	34,913	69%	0.00%	11.81%
2013	50.48	299,286	299,286	263,809	35,476	68%	0.00%	11.85%
2014	51.83	311,420	310,318	271,004	39,315	68%	0.35%	12.67%
2015	54.50	332,398	327,941	287,796	40,145	69%	1.34%	12.24%
2016	57.75	350,201	344,511	311,355	33,156	68%	1.62%	9.62%
2017	61.44	359,490	353,002	322,616	30,386	66%	1.80%	8.61%
2018	62.61	398,387	393,165	353,566	39,599	72%	1.31%	10.07%
2019	63.15	418,284	410,567	375,915	34,652	74%	1.84%	8.44%
2020	68.41	412,327	404,509	361,550	42,959	67%	1.90%	10.62%

Peak Demand increased from 63.15 MW in 2019 to 68.41 MW in 2020 at a growth rate of 8% due to additional loads.

MWh Offtake slightly decreased by 1% wherein, from 418,284 MWh in 2019 to 412,327 MWh in 2020. This is seen as an effect of the pandemic within the franchise area.

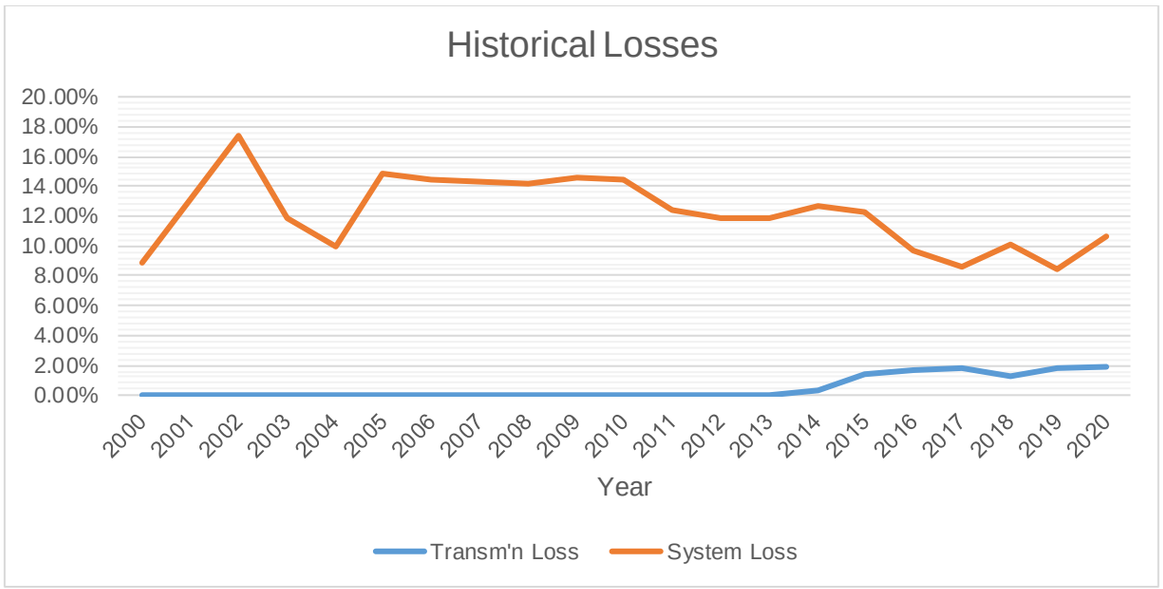
Within the same period, Load Factor ranged from 74% to 67%. There was a drastic change in consumption on 2020 on the effect of the pandemic especially to commercial and industrial loads.



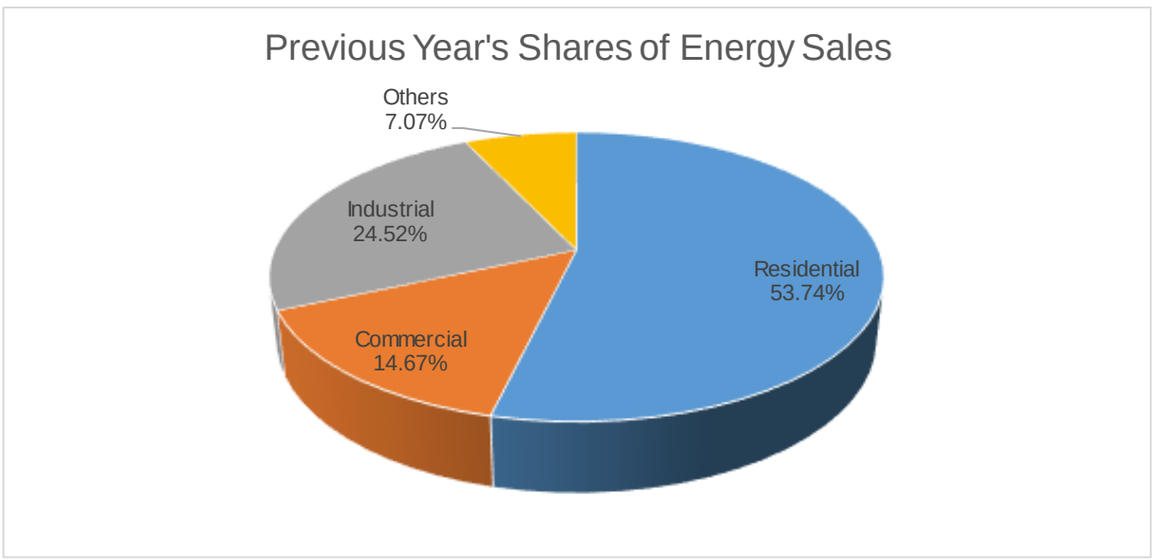
Another effect of the pandemic is the MWh Output decreased from year 2019 to year 2020 at a rate of 4%, while MWh System Loss increased at a rate of 2% within the same period. Below shows the comparison of the MWH Sales per customer type.

Customer Type	MWH Sales		% Increase/ Decrease
	2019	2020	
Residential	178,766	193,926	8.48%
Commercial	60,348	52,939	-12.28%
Industrial	109,782	88,482	-19.40%
Public Building	23,524	22,639	-3.76%
Street Light	2,754	2,862	3.90%
Own-Use	741	701	-5.38%

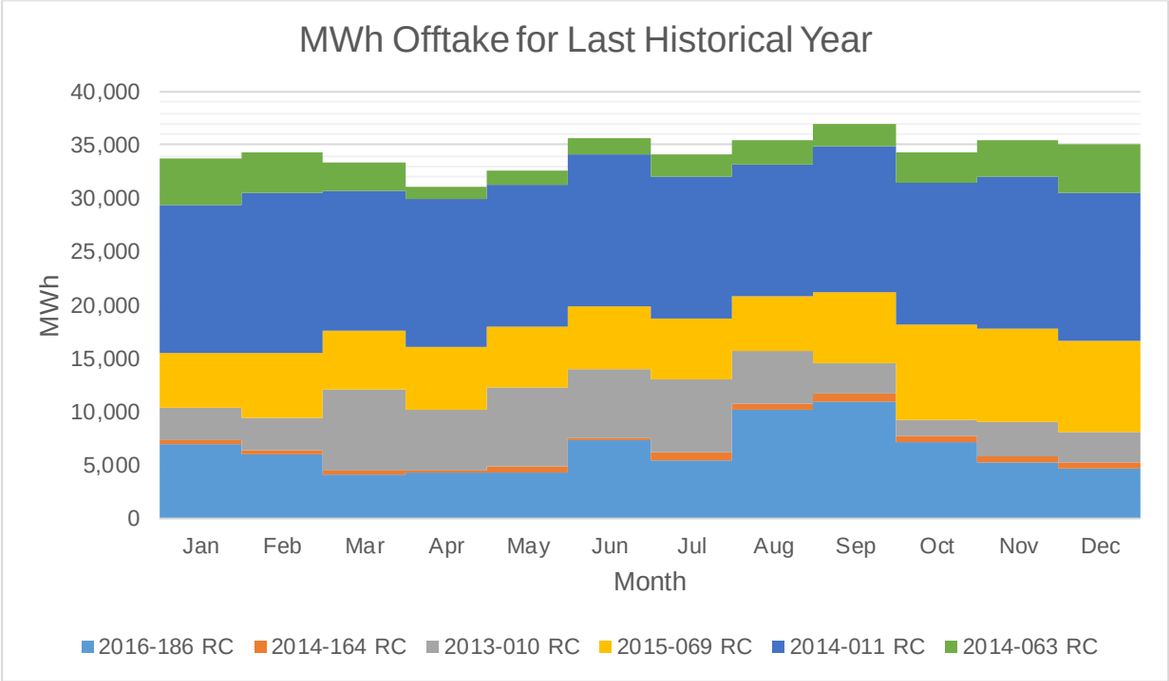
Residential and Street Light customer type consumption increased at about 8.48% and 3.9% respectively. The former was expected to increase because during this time people are forced to stay inside their homes in order to prevent themselves from getting infected by the COVID-19 virus. Also, the Local Government Units (LGUs) are enforcing community quarantines in order to minimize movement and prevent the spread of the virus. While the later, did not have a negative impact from the event. The Commercial, Industrial, Public Building and Own-Use decreased at about 12%, 19%, 4% and 5% respectively. The most that had a negative effect from the pandemic is the Industrial type customers. Several Industrial companies have closed, the same with commercial establishments. Most Public Buildings were slightly used especially the schools because classes were all suspended. Lastly, the Cooperative's consumption decreased because of skeletal arrangements. All these efforts were done in order to prevent the cases from increasing.



Historically, Transmission Loss ranged from 0.35% to 1.90% while, System Loss ranged from 13.13% to 10.62%.



Residential customers account for the bulk of energy sales at around 54% due to the high number of connections. In contrast, the Public Building & Street Light customers accounted for only 7% of energy sales due to the low number of connections.

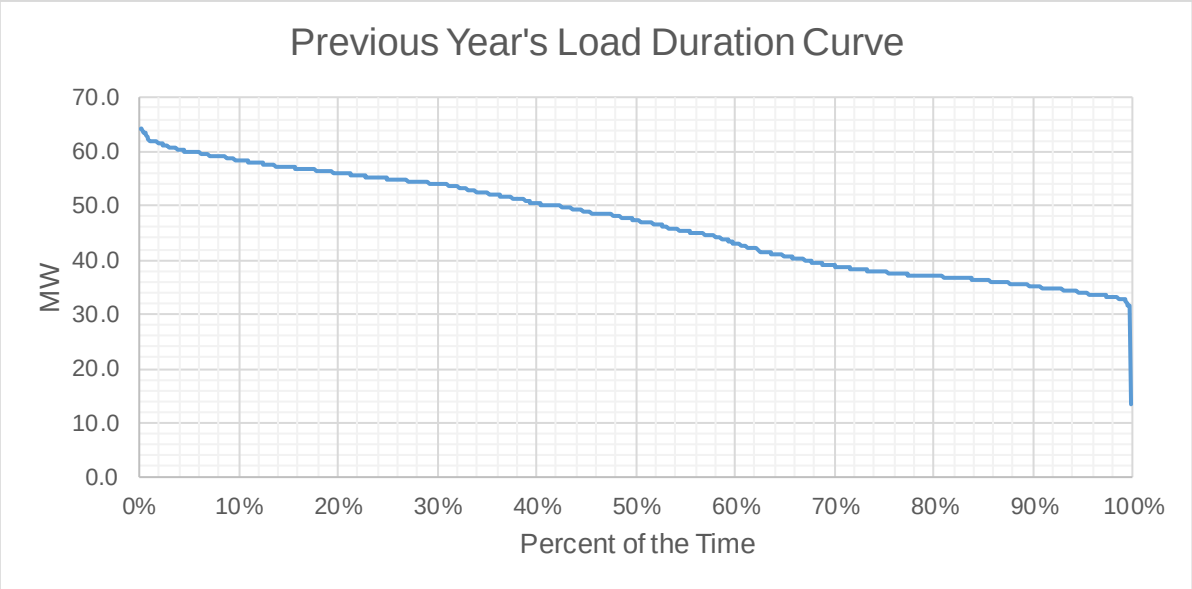


For 2020, the total Offtake quantity for the last historical year is within the range stipulated in the PSA. The PSA with ERC Case Number 2014-011 RC accounts for the bulk of MWh Offtake.

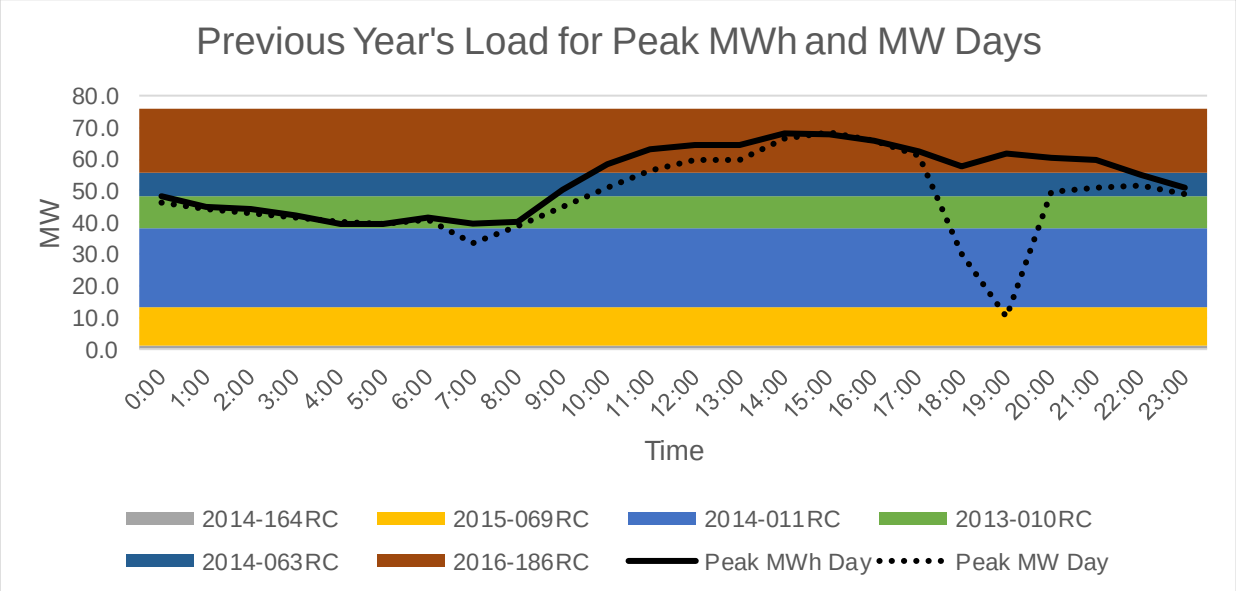
List of Power Suppliers as of the present

Case No.	GenCo	Minimum MW	Minimum MWh/yr
2014-164RC	Therma South, Inc.	1	4,818
2013-010RC	Sarangani Energy Corporation	10	74,460
2016-186RC	Power Sector Assets and Liabilities Management Corporation	40	157,680
2015-069RC	FDC Misamis Power Corporation	12	89,352
2014-011RC	GN Power Kauswagan Ltd.	25	164,250
2014-063 RC	Asiga Green Energy Corporation	8	34,059
2019-072RC	DU-owned (Modular Genset)	10	30,744
2012-112RC	Agusan Power Corporation	25	97,565

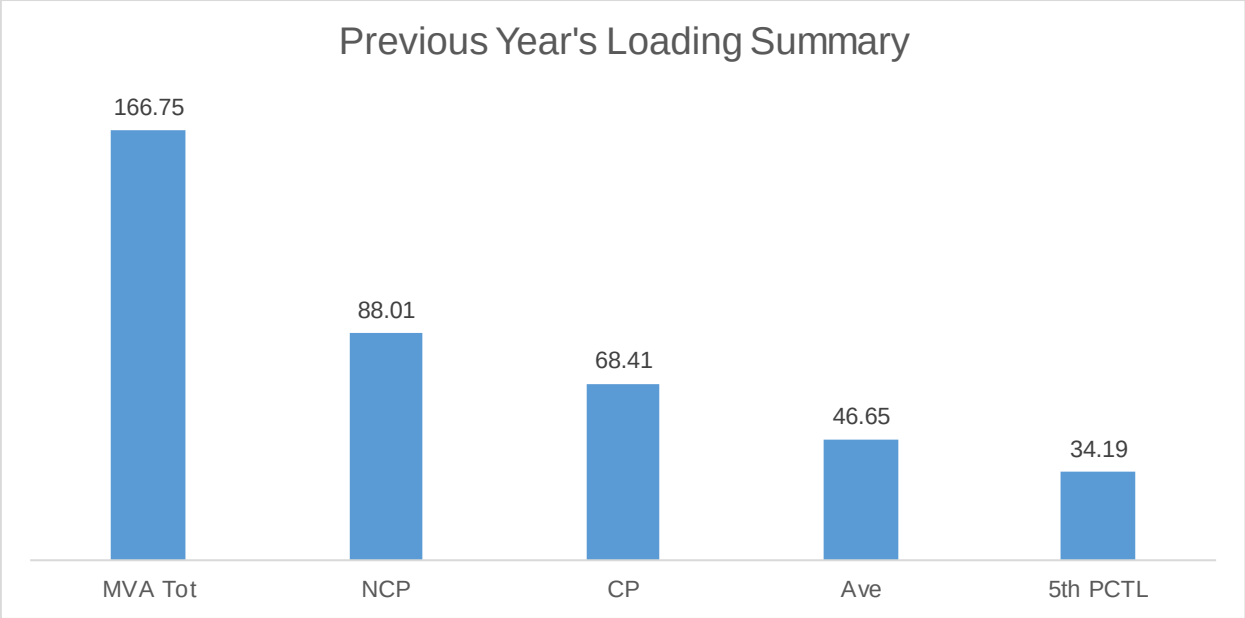
Previous Year's Load Profile



Based on the Load Duration Curve, the minimum load is approximately 13.4 MW and the maximum load is approximately 68 MW for the last historical year.



Peak demand (MW) occurred on 2PM due to the change of demand of commercial consumers brought about by major utilization of air-conditioning units. As shown in the Load Curves, the available supply is higher than the Peak Demand.



The Non-coincident Peak Demand is 88.01 MW, which is around 53% of the total substation capacity of MVA at a power factor of 0.98. The load factor or the ratio between the Average Load of 46.65 MW and the Non-coincident Peak Demand is 63%. A safe estimate of the true minimum load is the fifth percentile load of 34.19 MW which is 39% of the Non-coincident Peak Demand.

Metering Point	Substation MVA	Substation Peak MW
M1	47.5	29.300
M5	6.25	4.420
M8	6.25	3.490
M10	81.75	35.010
M11	15	7.670
AGEC	10	8.120

The Substations per metering point (as per NGCP metering point format) are the following:

- M1: Ambago, Libertad and Bayanihan Substations
- M5: Kinabjangan Substation
- M8: Manapa Substation
- M10: Ampayon, Cabadbaran, Santiago and Soriano Substations as well as privately owned EMCO and PSPI Substations
- M11: Villakananga Substation and Privately owned Gaisano Substation
- AGEC: Agusan Energy Corporation

The substation loaded at above 70% is connected at M8 and M1. This loading problem will be solved by transferring load to neighboured substation and by uprating the substation transformer capacity of Villakananga Substation from 10 MVA to 20 MVA.

Forecasted Consumption Data

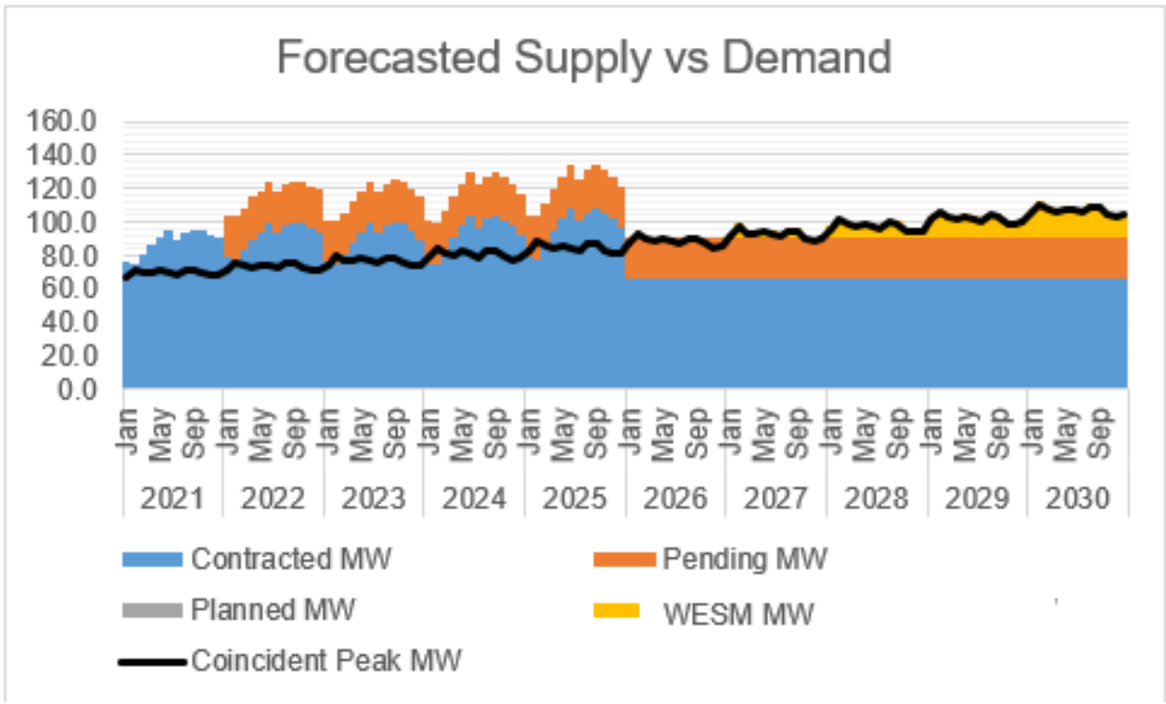
		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	WESM MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
2021	Jan	67.48	75.98	0.00	0.000		113%	113%	8.51
	Feb	71.38	75.38	0.00	0.000		106%	106%	4.00
	Mar	69.91	80.32	0.00	0.000		115%	115%	10.41
	Apr	69.74	86.48	0.00	0.000		124%	124%	16.74
	May	71.54	90.40	0.00	0.000		126%	126%	18.85
	Jun	70.50	94.67	0.00	0.000		134%	134%	24.17
	Jul	69.05	89.81	0.00	0.000		130%	130%	20.77
	Aug	71.74	94.32	0.00	0.000		131%	131%	22.58
	Sep	71.67	95.24	0.00	0.000		133%	133%	23.57
	Oct	70.18	94.92	0.00	0.000		135%	135%	24.74
	Nov	68.46	92.34	0.00	0.000		135%	135%	23.88
	Dec	68.94	90.23	0.00	0.000		131%	131%	21.29
2022	Jan	71.15	79.06	25.00	0.000		111%	146%	32.92
	Feb	75.55	78.47	25.00	0.000		104%	137%	27.92
	Mar	73.65	83.41	25.00	0.000		113%	147%	34.75
	Apr	73.21	89.88	25.00	0.000		123%	157%	41.67
	May	75.01	93.99	25.00	0.000		125%	159%	43.98
	Jun	73.87	99.21	25.00	0.000		134%	168%	50.34
	Jul	72.26	93.42	25.00	0.000		129%	164%	46.16
	Aug	75.24	98.16	25.00	0.000		130%	164%	47.92
	Sep	75.26	99.71	25.00	0.000		132%	166%	49.45
	Oct	73.18	98.98	25.00	0.000		135%	169%	50.81
	Nov	71.21	96.60	25.00	0.000		136%	171%	50.40
	Dec	71.75	94.15	25.00	0.000		131%	166%	47.41
2023	Jan	74.97	76.30	25.00	0.000		102%	135%	26.33
	Feb	79.76	75.67	25.00	0.000		95%	126%	20.91
	Mar	77.48	80.62	25.00	0.000		104%	136%	28.14
	Apr	76.83	87.38	25.00	0.000		114%	146%	35.55
	May	78.62	93.75	25.00	0.000		119%	151%	40.13
	Jun	77.41	99.76	25.00	0.000		129%	161%	47.34
	Jul	75.67	93.13	25.00	0.000		123%	156%	42.46
	Aug	78.91	98.02	25.00	0.000		124%	156%	44.11
	Sep	78.97	100.12	25.00	0.000		127%	158%	46.15
	Oct	76.33	99.13	25.00	0.000		130%	163%	47.80
	Nov	74.24	94.97	25.00	0.000		128%	162%	45.73
	Dec	74.84	90.17	25.00	0.000		120%	154%	40.33
2024	Jan	78.96	75.70	25.00	0.000		96%	128%	21.74
	Feb	84.01	75.00	25.00	0.000		89%	119%	15.99
	Mar	81.40	81.96	25.00	0.000		101%	131%	25.56
	Apr	80.60	90.99	25.00	0.000		113%	144%	35.40
	May	82.36	97.69	25.00	0.000		119%	149%	40.33
	Jun	81.12	104.30	25.00	0.000		129%	159%	48.18
	Jul	79.30	96.95	25.00	0.000		122%	154%	42.65
	Aug	82.74	101.91	25.00	0.000		123%	153%	44.17
	Sep	82.80	104.45	25.00	0.000		126%	156%	46.65
	Oct	79.66	101.36	25.00	0.000		127%	159%	46.70
	Nov	77.57	97.43	25.00	0.000		126%	158%	44.86
	Dec	78.23	92.29	25.00	0.000		118%	150%	39.06
2025	Jan	83.10	79.26	25.00	0.000		95%	125%	21.15
	Feb	88.30	78.44	25.00	0.000		89%	117%	15.14
	Mar	85.42	85.44	25.00	0.000		100%	129%	25.03
	Apr	84.51	94.72	25.00	0.000		112%	142%	35.22

		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	WESM MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
	May	86.24	101.80	25.00	0.000		118%	147%	40.56
	Jun	85.00	108.82	25.00	0.000		128%	157%	48.82
	Jul	83.13	100.88	25.00	0.000		121%	151%	42.75
	Aug	86.73	105.81	25.00	0.000		122%	151%	44.09
	Sep	86.76	108.71	25.00	0.000		125%	154%	46.95
	Oct	83.17	105.67	25.00	0.000		127%	157%	47.50
	Nov	81.19	101.98	25.00	0.000		126%	156%	45.79
	Dec	81.91	96.49	25.00	0.000		118%	148%	39.58
2026	Jan	87.40	65.96	25.00	0.000		75%	104%	3.56
	Feb	92.64	65.96	25.00	0.000	2.00	73%	100%	0.32
	Mar	89.55	65.96	25.00	0.000		74%	102%	1.41
	Apr	88.56	65.96	25.00	0.000		74%	103%	2.40
	May	90.27	65.96	25.00	0.000		73%	101%	0.69
	Jun	89.05	65.96	25.00	0.000		74%	102%	1.91
	Jul	87.18	65.96	25.00	0.000		76%	104%	3.78
	Aug	90.87	65.96	25.00	0.000		73%	100%	0.09
	Sep	90.84	65.96	25.00	0.000		73%	100%	0.12
	Oct	86.88	65.96	25.00	0.000		76%	105%	4.08
	Nov	85.12	65.96	25.00	0.000		77%	107%	5.84
	Dec	85.89	65.96	25.00	0.000		77%	106%	5.07
2027	Jan	91.86	65.96	25.00	0.000	2.00	73%	101%	1.10
	Feb	97.01	65.96	25.00	0.000	8.00	74%	102%	1.95
	Mar	93.79	65.96	25.00	0.000	4.00	73%	101%	1.17
	Apr	92.75	65.96	25.00	0.000	3.00	73%	101%	1.21
	May	94.43	65.96	25.00	0.000	5.00	74%	102%	1.53
	Jun	93.26	65.96	25.00	0.000	4.00	74%	102%	1.70
	Jul	91.44	65.96	25.00	0.000	2.00	74%	102%	1.52
	Aug	95.18	65.96	25.00	0.000	6.00	74%	102%	1.78
	Sep	95.05	65.96	25.00	0.000	6.00	74%	102%	1.91
	Oct	90.82	65.96	25.00	0.000		73%	100%	0.14
	Nov	89.35	65.96	25.00	0.000		74%	102%	1.61
	Dec	90.18	65.96	25.00	0.000		73%	101%	0.78
2028	Jan	96.48	65.96	25.00	0.000	7.00	74%	102%	1.48
	Feb	101.43	65.96	25.00	0.000	12.00	74%	102%	1.53
	Mar	98.17	65.96	25.00	0.000	9.00	74%	102%	1.79
	Apr	97.09	65.96	25.00	0.000	8.00	74%	102%	1.87
	May	98.72	65.96	25.00	0.000	9.00	74%	101%	1.24
	Jun	97.64	65.96	25.00	0.000	8.00	74%	101%	1.32
	Jul	95.92	65.96	25.00	0.000	6.00	73%	101%	1.04
	Aug	99.65	65.96	25.00	0.000	10.00	74%	101%	1.31
	Sep	99.38	65.96	25.00	0.000	10.00	74%	102%	1.58
	Oct	95.00	65.96	25.00	0.000	6.00	74%	102%	1.96
	Nov	93.89	65.96	25.00	0.000	4.00	73%	101%	1.07
	Dec	94.77	65.96	25.00	0.000	5.00	73%	101%	1.19
2029	Jan	101.25	65.96	25.00	0.000	12.00	74%	102%	1.71
	Feb	105.88	65.96	25.00	0.000	16.00	73%	101%	1.08
	Mar	102.69	65.96	25.00	0.000	13.00	74%	101%	1.27
	Apr	101.58	65.96	25.00	0.000	12.00	74%	102%	1.38
	May	103.16	65.96	25.00	0.000	14.00	74%	102%	1.80
	Jun	102.20	65.96	25.00	0.000	13.00	74%	102%	1.76
	Jul	100.62	65.96	25.00	0.000	11.00	74%	101%	1.34
	Aug	104.28	65.96	25.00	0.000	15.00	74%	102%	1.68
	Sep	103.83	65.96	25.00	0.000	14.00	73%	101%	1.13
	Oct	99.44	65.96	25.00	0.000	10.00	74%	102%	1.52

		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	WESM MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
	Nov	98.73	65.96	25.00	0.000	9.00	74%	101%	1.23
	Dec	99.68	65.96	25.00	0.000	10.00	74%	101%	1.28
2030	Jan	106.19	65.96	25.00	0.000	17.00	74%	102%	1.77
	Feb	110.38	65.96	25.00	0.000	21.00	74%	102%	1.58
	Mar	107.35	65.96	25.00	0.000	18.00	74%	102%	1.61
	Apr	106.21	65.96	25.00	0.000	17.00	74%	102%	1.75
	May	107.74	65.96	25.00	0.000	18.00	74%	101%	1.22
	Jun	106.91	65.96	25.00	0.000	17.00	73%	101%	1.05
	Jul	105.53	65.96	25.00	0.000	16.00	74%	102%	1.43
	Aug	109.08	65.96	25.00	0.000	20.00	74%	102%	1.88
	Sep	108.41	65.96	25.00	0.000	19.00	74%	102%	1.55
	Oct	104.14	65.96	25.00	0.000	15.00	74%	102%	1.82
	Nov	103.88	65.96	25.00	0.000	14.00	73%	101%	1.08
	Dec	104.89	65.96	25.00	0.000	15.00	73%	101%	1.07

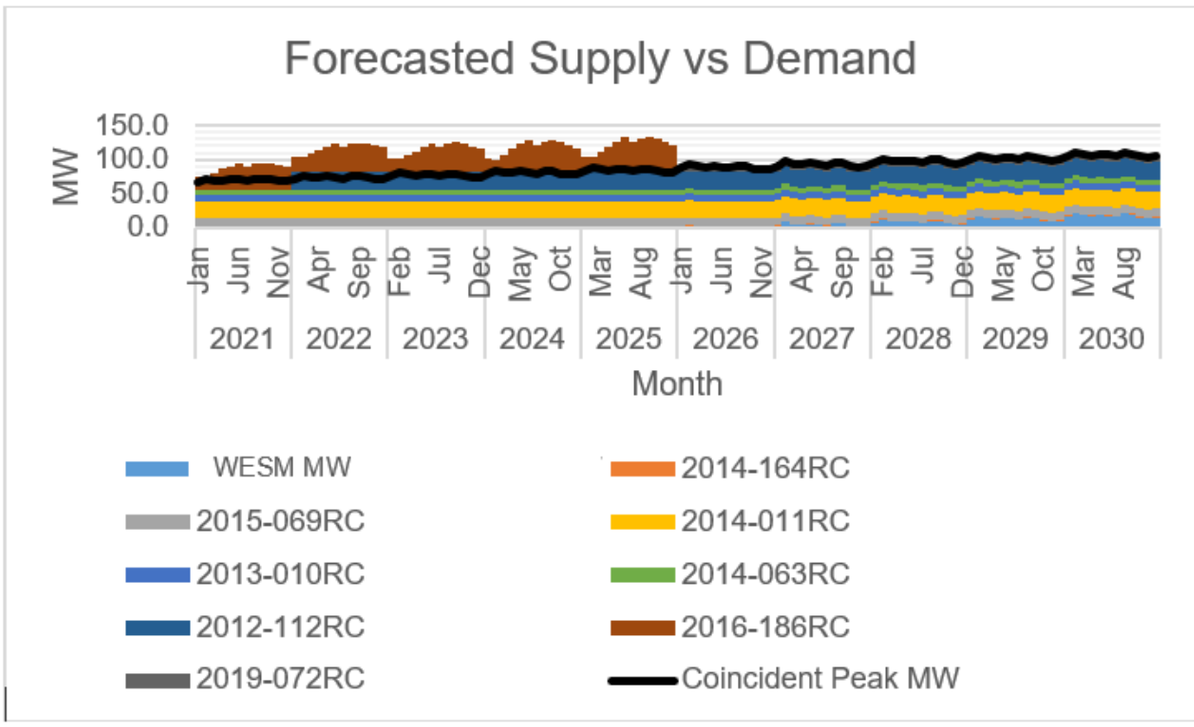
The monthly Peak Demand was forecasted using Cubic & Logarithmic Trending with Horizon. The highest peak demand for year 2021 was assumed to occur on the month of August due to an additional large customer within the franchise area. Monthly Peak Demand is at its lowest on the month of November due to weather condition, as this month falls to rainy season. In general, Peak Demand is expected to grow at an average rate of 0.65% for the ten-year forecast period.

All of ANECO's power suppliers have been evaluated and approved by the ERC thus, there is no pending power supplier. Except that ANECO's contract with APC under ERC Case No. 2012-112RC is still under construction and is expected to go online on year 2022.



The available supply is generally above the Peak Demand. This is to ensure availability of power supply, as this can cope for any unscheduled emergency shutdown of other power plants.

There's a slight deficiency in power supply on 2026 to 2030 during peak hours. This slim deficiency will be addressed through Wholesale Electricity Spot Market (WESM) and/or utilization of ANECO's 10MW Modular Generator Sets (ERC Case No. 2019-072RC) whichever is practicable and competitive.

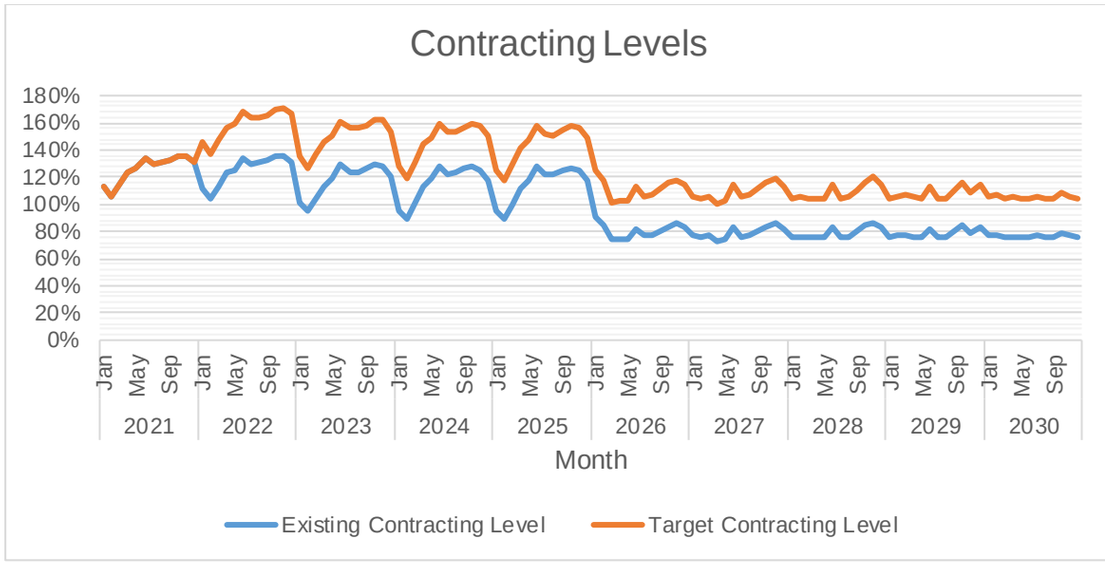


Of the available supply, the largest is 25 MW from 2012-112RC, APC. This is followed by 24.95 MW from 2014-011RC, GN Power Kauswagan Ltd.

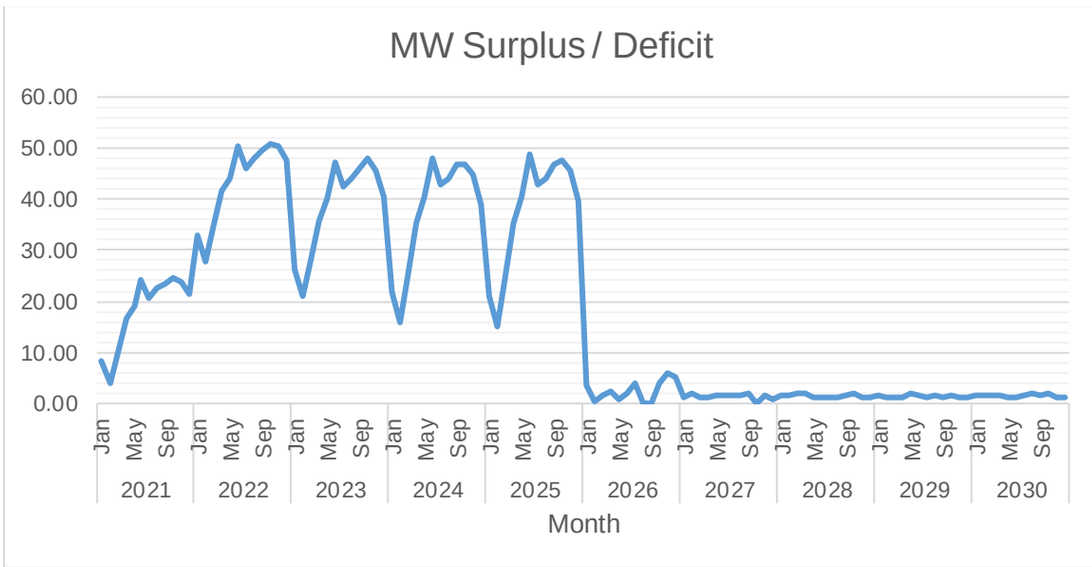
Forecasted Power Supply Deficit

	Days	Time Projected to Occur	No. of Hours	Max. Deficit MW
2026	Monday to Friday	10:01 AM to 12:00 NN	2 hours	8
		1:01 PM to 4:00 PM	3 hours	9
		6:01 PM to 9:00 PM	3 hours	7
	Saturday	1:01 PM to 4:00 PM	3 hours	8
		6:01 PM to 9:00 PM	3 hours	7
	Holidays and Sundays	6:01 PM to 9:00 PM	3 hours	6
2027	Monday to Friday	10:01 AM to 12:00 NN	2 hours	13
		1:01 PM to 4:00 PM	3 hours	14
		6:01 PM to 9:00 PM	3 hours	12
	Saturday	1:01 PM to 4:00 PM	3 hours	13
		6:01 PM to 9:00 PM	3 hours	12
	Holidays and Sundays	6:01 PM to 9:00 PM	3 hours	11
2028	Monday to Friday	10:01 AM to 12:00 NN	2 hours	17
		1:01 PM to 4:00 PM	3 hours	18
		6:01 PM to 9:00 PM	3 hours	16
	Saturday	1:01 PM to 4:00 PM	3 hours	17
		6:01 PM to 9:00 PM	3 hours	16
	Holidays and Sundays	6:01 PM to 9:00 PM	3 hours	15
2029	Monday to Friday	10:01 AM to 12:00 NN	2 hours	21
		1:01 PM to 4:00 PM	3 hours	22
		6:01 PM to 9:00 PM	3 hours	20
	Saturday	1:01 PM to 4:00 PM	3 hours	21
		6:01 PM to 9:00 PM	3 hours	20
	Holidays and Sundays	6:01 PM to 9:00 PM	3 hours	19

Shown in the table above are the maximum deficit demand that is projected to occur during the peak periods, which as stipulated will then be addressed through WESM and/or through 10MW Genset of ANECO. This solution has the least effect to ANECO's power rate which will be remunerated by the Member-Consumer-Owners as compared to having a contract with a new power supplier wherein the cooperative pays a monthly capacity fee even if the contract is not fully utilized, aside from the energy it would dispatch. Furthermore, considering that the time of occurrence is during peak periods, then ANECO will need a plant that could address the sudden increase in demand which can generally be supplied by a rate intensive Diesel Plant.



In year 2026, power supply contract reduced to 76 %. The highest target contracting level is 135% which is expected to occur on 2022.



The table would suggest that, currently, there is over-contracting more or less by 51 MW. However, that is not the case because the table did not consider the capacity factor of each of the generating plants but only its rated capacity. ANECO's power suppliers' fuel types are composed of 14% Oil based, 43% Coal and 43% Hydro. Based on each plant rated capacity, the highest surplus is 51 MW which is expected to occur on the month of May.

On the month of January 2026 there will be lesser MW surplus this is because the PSALM's PSA ends on December 25, 2025. On 2027 up to 2030, there will be near to zero MW surplus.

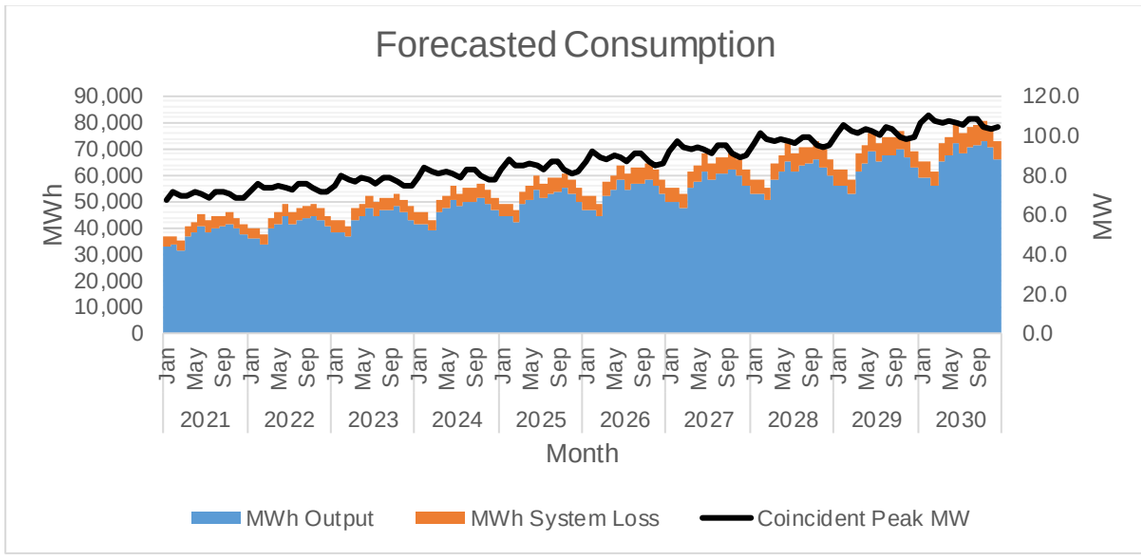
		MWh Offtake	MWh Output	MWh System Loss	Transm'n Loss	System Loss
2021	Jan	33,503	28,760	3,437	3.90%	10.67%
	Feb	33,007	28,677	3,050	3.88%	9.61%
	Mar	31,299	27,220	2,862	3.89%	9.51%
	Apr	36,499	31,709	3,369	3.89%	9.60%
	May	38,098	33,112	3,516	3.86%	9.60%
	Jun	40,686	35,348	3,755	3.89%	9.60%
	Jul	38,346	33,313	3,539	3.90%	9.60%
	Aug	39,871	34,638	3,680	3.89%	9.60%
	Sep	40,113	34,850	3,702	3.89%	9.60%
	Oct	41,107	35,708	3,794	3.90%	9.60%
	Nov	39,520	34,328	3,648	3.91%	9.61%
	Dec	37,228	32,340	3,436	3.90%	9.60%

		MWh Offtake	MWh Output	MWh System Loss	Transm'n Loss	System Loss
2022	Jan	35,475	30,797	3,517	3.28%	10.25%
	Feb	35,294	30,643	3,457	3.38%	10.14%
	Mar	33,643	29,107	3,119	4.21%	9.68%
	Apr	39,045	33,926	3,954	2.98%	10.44%
	May	40,927	35,450	3,869	3.93%	9.84%
	Jun	43,492	37,828	4,104	3.59%	9.79%
	Jul	41,165	35,640	4,176	3.28%	10.49%
	Aug	42,763	37,075	4,202	3.47%	10.18%
	Sep	42,946	37,303	4,184	3.40%	10.08%
	Oct	43,935	38,198	4,369	3.11%	10.26%
	Nov	42,387	36,755	4,087	3.64%	10.01%
	Dec	39,791	34,626	4,046	2.81%	10.46%
2023	Jan	38,021	33,010	3,870	3.00%	10.49%
	Feb	37,713	32,779	3,733	3.18%	10.22%
	Mar	35,676	31,157	3,500	2.86%	10.10%
	Apr	41,939	36,336	4,163	3.43%	10.28%
	May	43,558	37,992	4,182	3.18%	9.92%
	Jun	46,452	40,523	4,758	2.52%	10.51%
	Jul	44,079	38,169	4,210	3.85%	9.93%
	Aug	45,723	39,723	4,738	2.76%	10.66%
	Sep	45,958	39,970	4,646	2.92%	10.41%
	Oct	47,130	40,904	4,424	3.82%	9.76%
	Nov	45,265	39,393	4,369	3.32%	9.98%
	Dec	42,843	37,110	4,149	3.70%	10.06%
2024	Jan	41,256	35,760	3,959	3.72%	9.97%
	Feb	40,775	35,441	3,860	3.61%	9.82%
	Mar	38,734	33,710	3,889	2.93%	10.34%
	Apr	45,281	39,334	4,237	3.78%	9.72%
	May	47,178	41,152	4,412	3.42%	9.68%
	Jun	50,629	43,876	4,737	3.98%	9.74%
	Jul	47,394	41,316	4,635	3.04%	10.09%
	Aug	49,714	43,016	4,867	3.68%	10.16%
	Sep	49,896	43,285	4,841	3.55%	10.06%
	Oct	50,697	44,272	4,890	3.03%	9.95%
	Nov	48,976	42,672	5,026	2.61%	10.54%
	Dec	46,169	40,198	4,663	2.83%	10.39%
2025	Jan	43,714	38,029	4,427	2.88%	10.43%
	Feb	43,179	37,620	4,202	3.14%	10.05%
	Mar	41,324	35,805	4,028	3.61%	10.11%
	Apr	47,929	41,800	4,504	3.39%	9.73%
	May	50,134	43,758	4,821	3.10%	9.92%
	Jun	53,484	46,637	5,120	3.23%	9.89%
	Jul	50,534	43,903	4,796	3.63%	9.85%
	Aug	52,676	45,729	4,978	3.74%	9.82%
	Sep	52,947	46,017	5,138	3.39%	10.04%
	Oct	54,069	47,040	5,118	3.53%	9.81%
	Nov	52,481	45,376	4,841	4.31%	9.64%
	Dec	49,359	42,745	4,658	3.96%	9.83%
2026	Jan	46,272	40,479	4,427	2.95%	9.86%
	Feb	45,513	39,974	4,202	2.94%	9.51%
	Mar	43,375	38,068	4,028	2.95%	9.57%
	Apr	50,456	44,464	4,504	2.95%	9.20%
	May	52,942	46,573	4,821	2.92%	9.38%
	Jun	56,402	49,618	5,120	2.95%	9.35%
	Jul	53,060	46,698	4,796	2.95%	9.31%

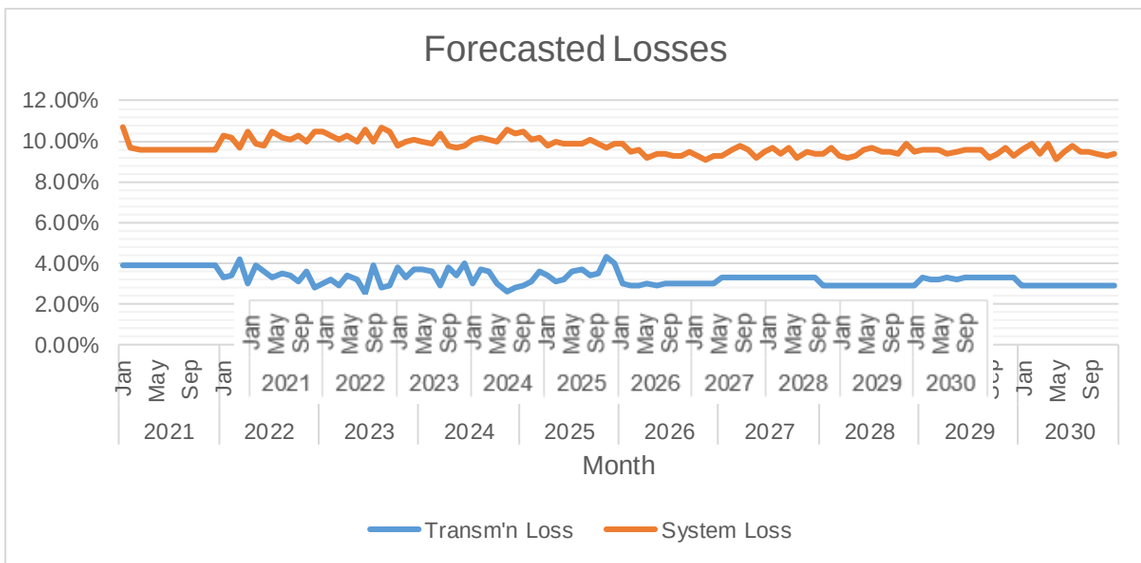
		MWh Offtake	MWh Output	MWh System Loss	Transm'n Loss	System Loss
	Aug	55,269	48,659	4,978	2.95%	9.28%
	Sep	55,749	48,967	5,138	2.95%	9.50%
	Oct	56,831	50,030	5,118	2.96%	9.28%
	Nov	54,761	48,297	4,841	2.96%	9.11%
	Dec	51,680	45,495	4,658	2.96%	9.29%
2027	Jan	49,165	43,124	4,424	3.29%	9.30%
	Feb	48,612	42,517	4,502	3.28%	9.58%
	Mar	46,436	40,512	4,399	3.28%	9.79%
	Apr	54,117	47,340	4,998	3.29%	9.55%
	May	56,443	49,613	4,989	3.26%	9.14%
	Jun	60,359	52,837	5,537	3.29%	9.48%
	Jul	56,901	49,715	5,314	3.29%	9.66%
	Aug	59,128	51,823	5,360	3.29%	9.37%
	Sep	59,684	52,153	5,569	3.29%	9.65%
	Oct	60,644	53,260	5,385	3.30%	9.18%
	Nov	58,774	51,451	5,384	3.30%	9.47%
	Dec	55,319	48,464	5,033	3.29%	9.41%
2028	Jan	52,247	45,980	4,739	2.92%	9.34%
	Feb	51,594	45,264	4,828	2.91%	9.64%
	Mar	48,979	43,152	4,397	2.92%	9.25%
	Apr	57,212	50,446	5,093	2.92%	9.17%
	May	60,021	52,896	5,385	2.90%	9.24%
	Jun	64,149	56,313	5,960	2.92%	9.57%
	Jul	60,382	52,972	5,642	2.93%	9.63%
	Aug	62,877	55,239	5,798	2.93%	9.50%
	Sep	63,269	55,592	5,827	2.92%	9.49%
	Oct	64,501	56,747	5,863	2.93%	9.36%
	Nov	62,664	54,857	5,968	2.94%	9.81%
	Dec	58,794	51,670	5,402	2.93%	9.46%
2029	Jan	56,050	49,065	5,163	3.25%	9.52%
	Feb	55,086	48,231	5,070	3.24%	9.51%
	Mar	52,557	46,003	4,847	3.25%	9.53%
	Apr	61,333	53,800	5,539	3.25%	9.33%
	May	64,449	56,441	5,927	3.23%	9.50%
	Jun	68,637	60,068	6,339	3.25%	9.55%
	Jul	64,563	56,491	5,972	3.25%	9.56%
	Aug	67,379	58,929	6,258	3.25%	9.60%
	Sep	67,484	59,308	5,983	3.25%	9.16%
	Oct	69,043	60,514	6,280	3.26%	9.40%
	Nov	67,001	58,536	6,280	3.26%	9.69%
	Dec	62,790	55,132	5,614	3.26%	9.24%
2030	Jan	59,659	52,392	5,534	2.90%	9.55%
	Feb	58,738	51,434	5,604	2.89%	9.83%
	Mar	55,739	49,080	5,042	2.90%	9.32%
	Apr	65,576	57,421	6,251	2.90%	9.82%
	May	68,267	60,269	6,031	2.88%	9.10%
	Jun	72,907	64,120	6,670	2.90%	9.42%
	Jul	68,846	60,289	6,557	2.91%	9.81%
	Aug	71,549	62,912	6,559	2.90%	9.44%
	Sep	72,064	63,317	6,655	2.90%	9.51%
	Oct	73,413	64,580	6,697	2.91%	9.40%
	Nov	70,980	62,506	6,407	2.91%	9.30%
	Dec	66,900	58,869	6,086	2.91%	9.37%

MWh Offtake was forecasted using Cubic & Logarithmic Trending with Horizon. The assumed load factor is 63%.

System Loss was calculated through a Load Flow Study conducted on January 28, 2021 by our System Analysts using Distribution System Application Software (DSAS). Based on the same study, the Distribution System can adequately convey electricity to customers.



MWh Output is expected to grow at an average rate of 1% for the ten-year forecast period.



Transmission Loss is expected to range from 3.90% to 2.91% while System Loss is expected to range from 10% to 9.37%.

Power Supply

Case No.	Type	GenCo	Minimum MW	Minimum MWh/yr	PSA Start	PSA End
2014-164RC	Base	Therma South, Inc.	1.00	4,818	12/26/2015	12/25/2040
2013-010RC	Intermediate	Sarangani Energy Corporation	10.00	74,460	12/26/2015	12/25/2040
2016-186RC	Peaking	Power Sector Assets and Liabilities Management Corporation	40.00	157,680	12/26/2020	12/25/2025
2015-069RC	Base	FDC Misamis Power Corporation	12.00	89,352	12/26/2015	12/25/2040
2014-011RC	Base	GN Power Kauswagan Ltd.	25.00	164,250	12/25/2017	12/25/2042
2014-063RC	Intermediate	ASIGA Green Energy Corporation	8.00	34,059	4/26/2019	4/25/2044
2019-072RC	Peaking	DU-owned	10.00	30,744	12/26/2021	12/25/2046

The **PSA with Provisional Authority filed with ERC under Case No. 2014-164RC Therma South, Inc.** was procured through Bilateral Contract. It was selected to provide for base requirements due to twenty-four (24) hours operations. Historically, the utilization of the PSA is 100%. Outages of the plant led to unserved energy of around 328.5 MWh in the past year. The actual billed overall monthly charge under the PSA with approved base rate of 2.0551 Php/kWh and 2,323.95 Php/ kW.

The **PSA with Provisional Authority filed with ERC under Case No. 2013-010RC Sarangani Energy Corporation** was procured through Bilateral Contract. It was selected to provide for base/intermediate requirements due to twenty-four (24) hours operations. Historically, the utilization of the PSA is 40%. Outages of the plant led to unserved energy of around 365 MWh in the past year. The actual billed overall monthly charge under the PSA with approved base rate of 2.7792 Php/kWh and 2,292.49 Php/ kW.

The **PSA with Provisional Authority filed with ERC under Case No. 2016-186RC Power Sector Assets and Liabilities Management Corporation (PSALM Corp.)** was procured through Contract for the Supply of Electric Energy. It was selected to provide for intermediate/peaking requirements due to optimization of power suppliers. Outages of the plant led to unserved energy of around 4,380 MWh in the past year. The actual billed overall monthly charge under the PSA have approved base rate of around 3.00 Php/kWh. Furthermore, the NPC-PSALM CSEE was already renewed for a period until year 2025. Historically, the utilization of the PSA is mostly at 100%. However, as of this year, the renewed CSEE is not fully used as it would only depend on the allocation provided by PSALM Corp. to its customers based on the actual plant output.

The **PSA with Provisional Authority filed with ERC under Case No. 2015-069RC FDC Misamis Power Corporation** was procured through Bilateral Contract. It was selected to provide for base requirements due to twenty-four (24) hours operations. Historically, the utilization of the PSA is 60%. Outages of the plant led to unserved energy of around 876 MWh in the past year. The actual billed overall monthly charge under the PSA with approved base rate of 2.1467 Php/kWh and 2,290.64 Php/ kW.

The **PSA with Provisional Authority filed with ERC under Case No. 2014-011RC GN Power Kauswagan Ltd.** was procured through Bilateral Contract. It was selected to provide for base requirements due to twenty-four (24) hours operations. Historically, the utilization of the PSA is 75%. Outages of the plant led to unserved energy of around 4,563 MWh in the past year. The actual billed overall monthly charge under the PSA with approved base rate of 0.0976 $/ kWh.

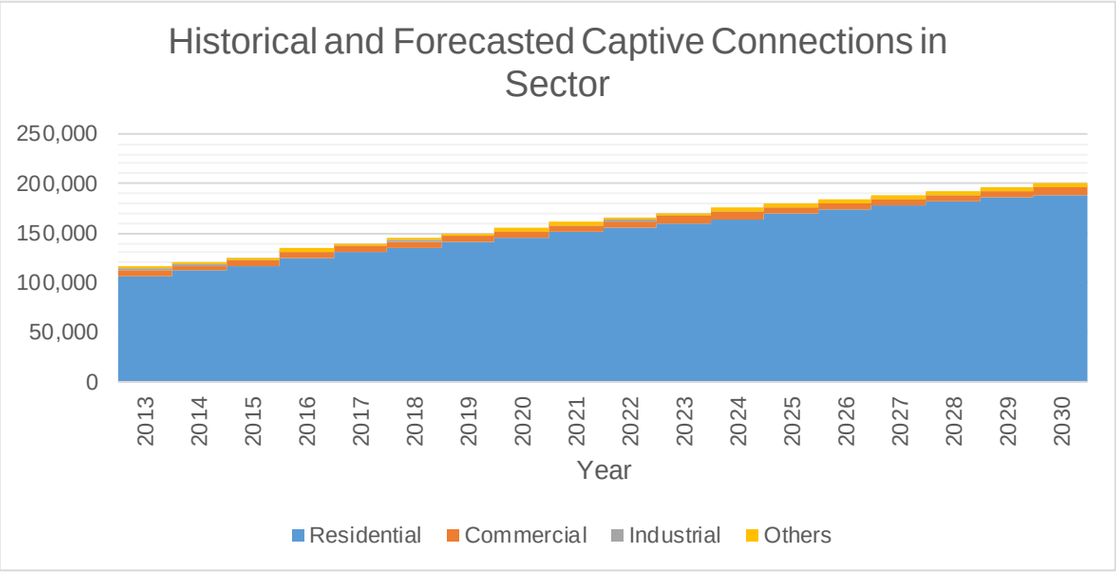
The **PSA with Provisional Authority filed with ERC under Case No. 2014-063RC ASIGA Green Energy Corporation** was procured through Bilateral Contract. It was selected to provide for intermediate requirements due to optimization of power suppliers. Historically, the utilization of the PSA is 75%. Outages of the plant led to unserved energy of around 2,976 MWh in the past year. The actual billed overall monthly charge under the PSA with approved base rate of 5.90 Php/kWh.

The **DU owned 10MW Modular Gensets** was procured through Competitive Selection Process (CSP) availing of the government's "Mindanao Modular Generator Sets Program" under Executive Order No. 137. The Modular Gensets is already operational and was already granted by the ERC of Certificate of Compliance (COC) valid for the period of 5 years from May 18, 2018 to May 17, 2023. On September 17, 2019, ANECO filed an instant application for the approval of the Generation Rate for the use (acquisition and operation) of 5 units of 2MW Modular Gensets and the corresponding loan from the NEA under ERC Case No. 2019-072RC. ANECO as of to date is still waiting for ERC's approval of the application; though the Modular Gensets can be used anytime when needed using the rate of Mapalad Power Corporation for recovery.

Case No.	Type	GenCo	Minimum MW	Minimum MWh/yr	PSA Start	PSA End
2012-112RC	Intermediate	Agusan Power Corporation	25.00	97,565	12/26/2021	12/25/2046

The **PSA with Provisional Authority filed with ERC under Case No. 2012-112RC Agusan Power Corporation** was procured through Bilateral Contract. It was selected to provide for intermediate requirements due to optimization of power suppliers. Outages of the plant led to unserved energy of around 4,500 MWh as projected. The expected billed overall monthly charge under the PSA ranged from 6.3499 Php/kWh. The Agusan Power Corporation (APC) is listed in the pending power supplier of ANECO in consideration that its PSA approval issued by the ERC is still provisional. Furthermore, the said plant is still under construction and expected to go online on year 2022.

Captive Customer Connections



The number of connections is expected to grow at the average rate of 5% annually.

Below is the average percentage breakdown of the Captive Customer Connection:

Type	Percentage
Residential	93%
Commercial	4%
Industrial	1%
Others	2%
Total	100%