

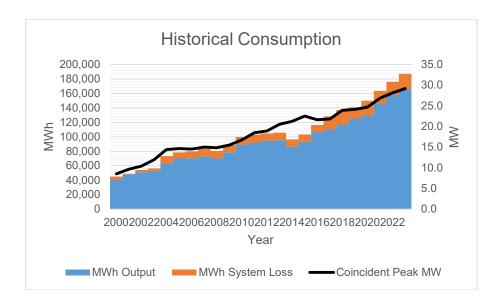
# Power Supply Procurement Plan 2024

Misamis Oriental II Electric Service Cooperative, Inc Medina, Misamis Oriental

## **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	8.56	44,777	0	44,777	41,220	3,877	60%	0.72%	0.00%	8.66%
2001	9.68	48,956	0	48,956	48,366	778	58%	0.38%	0.00%	1.59%
2002	10.42	53,863	0	53,863	50,903	3,171	59%	0.39%	0.00%	5.89%
2003	11.95	56,208	0	56,208	52,837	3,589	54%	0.39%	0.00%	6.39%
2004	14.43	73,163	0	73,163	63,283	10,099	58%	0.30%	0.00%	13.80%
2005	14.67	78,128	0	78,128	70,117	8,242	61%	0.30%	0.00%	10.55%
2006	14.56	79,524	0	79,524	70,360	9,398	62%	0.29%	0.00%	11.82%
2007	15.00	82,938	0	82,938	73,131	10,113	63%	0.37%	0.00%	12.19%
2008	14.83	80,264	0	80,264	70,512	10,007	62%	0.32%	0.00%	12.47%
2009	15.51	86,259	0	86,259	78,508	10,194	63%	2.83%	0.00%	11.82%
2010	16.73	99,638	0	99,638	89,319	10,318	68%	0.00%	0.00%	10.36%
2011	18.47	103,192	0	103,192	91,939	11,253	64%	0.00%	0.00%	10.90%
2012	18.92	104,785	0	104,785	94,319	10,466	63%	0.00%	0.00%	9.99%
2013	20.56	105,677	0	105,677	95,133	10,544	59%	0.00%	0.00%	9.98%
2014	21.24	96,376	0	96,376	86,333	10,043	52%	0.00%	0.00%	10.42%
2015	22.52	103,191	0	103,191	93,222	9,970	52%	0.00%	0.00%	9.66%
2016	21.62	116,234	0	116,234	106,745	9,487	61%	0.00%	0.00%	8.16%
2017	21.83	129,379	0	128,292	109,896	18,394	67%	0.00%	0.84%	14.34%
2018	23.90	137,988	0	136,911	117,074	19,834	65%	0.00%	0.78%	14.49%
2019	24.16	144,486	0	140,835	125,400	15,432	67%	0.00%	2.53%	10.96%
2020	24.65	152,865	0	149,797	129,532	20,262	69%	0.00%	2.01%	13.53%
2021	26.83	167,299	0	163,500	146,147	17,314	70%	-0.02%	2.27%	10.59%
2022	28.13	180,585	0	175,986	158,059	17,924	71%	0.00%	2.55%	10.18%
2023	29.16	190,146	9,907	187,177	165,421	21,756	73%	0.00%	1.56%	11.62%

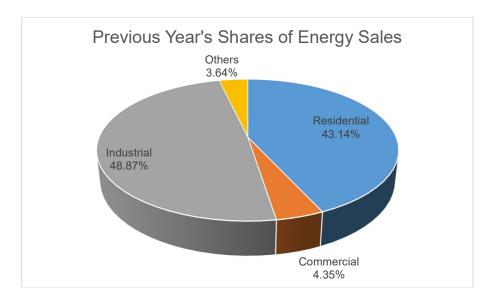
At a rate of 5.47%, the Peak Demand of MORESCO II increased from 8.56 MW in 2000 to 29.16 MW in 2023. This is due to the increasing demand of industrial customers and the emergence of large commercial establishments. Coupled with the growing population of the franchised area, the MWh Offtake has increased from 44,777 MWh in 2000 to 190,146 MWh in 2023 at a rate of 6.48%. Within the same period, the Load Factor has increased from 60% in 2020 to 73% in 2023. The abrupt change in consumption on 2014 was due to a plant shutdown of one of the Coop's large industrial customer.



The economic growth within the franchised area of MORESCO II contributed a lot in the increase of its requirement. At a rate of 6.22%, the MWh Output has increased from 41,220 MWh in 2020 to 165,421 MWH in 2023, while the MWh System Loss has also increased at a rate of 7.79% on the same period.

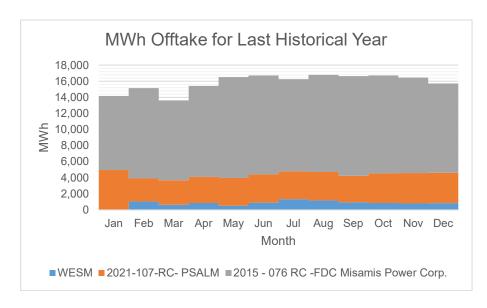


The above chart showed that the Transmission Loss of MORESCO II started to incline in year 2017 since only on this year that MORESCO II had started to account the losses between the Offtake and Input Energy. Transmission loss in 2017 was at 0.78% and increases to 1.59% in 2023. System Loss has increased by 2.96% in 2023 from year 2000. To lower system losses, MORESCO II undertook massive change of defective meters, extensive line clearing and information dissemination of the anti-obstruction law, voltage correction, rehabilitation of rotten poles and active monitoring of pilferage activities. The foregoing activities however, does not completely lower the system loss of the DU into a single digit due to financial constraints. MORESCO II needs substantial amount to fund projects which will totally lower its system loss. These projects were included in the CAPEX applications of MORESCO II with the ERC.

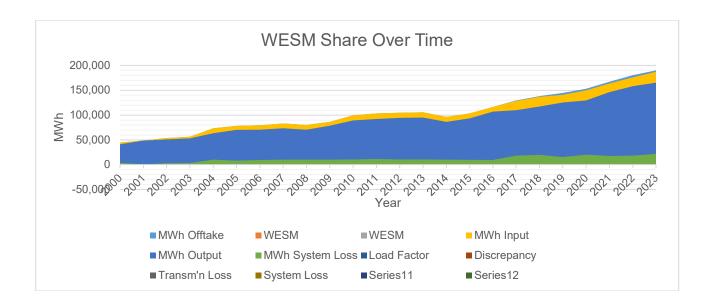


Industrial customers account for the bulk of energy sales at 48.87% despite the low number of connections while the Residential customers accounts for the 43.14% of the DU's energy sales for the year 2023.

Compared to last year, the energy share percentage of the commercial type of customer had increased by 0.17% while that of industrial had decreased by 0.15%.

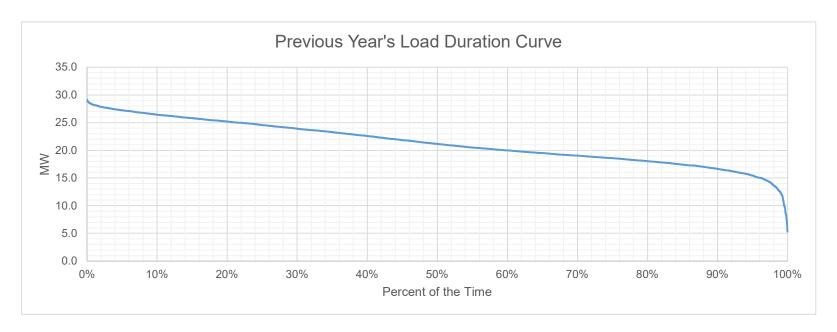


In 2023, the total energy offtake is lower than the quantities stipulated in the PSAs. Of the three power sources of the DU, wherein two are with PSA, FDC-MPC accounts more than 70% of the total Offtake. The exposure from the WESM, which has started Mindanao on the first quarter of 2023, is at least at 5%.

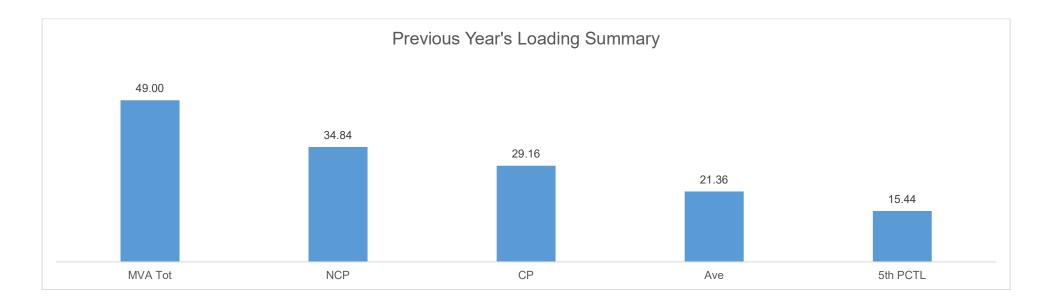


Of the total energy offtake, WESM accounts at least 5% only since most of the requirement of the DU can be covered with its PSAs. It should be noted that the WESM commercially started in Mindanao on the first quarter of 2023.

#### **Previous Year's Load Profile**



For the previous historical year, the base load was 15 MW since its duration is more than 90% while the load duration from 15MW and 20MW is more than 60%. The peak load is above 25MW as its duration is below 20%.



The total percentage loading capacity with respect to the non-coincident peak demand of MORESCO II in 2023 of 34.84MW is 71.10% at a power factor of 0.98. The load factor or the ratio between the Average Load of 21.36 MW and the Non-coincident Peak Demand is 66.3%. A safe estimate of the true minimum load is the fifth percentile load of 15.44 MW which is 44% of the Non-coincident Peak Demand.

Metering Point	Substation MVA	Substation Peak MW
Magsaysay SS	5	1.419
Gingoog SS	10	8.275
Agay-ayan SS	10	8.058
Sugbongcogon SS	5	4.057
Balingasag SS	10	5.751
Claveria SS	5	5.084
WEOPI SS	4	2.194

As shown on the table above, the peak load of the three (3) substations located in Gingoog City, Agay-ayan and Sugbongcogon is above 70% of the total substation capacity. To avoid overloading these substations, the technical team of MORESCO II proposed to build an additional substation in a strategic location to balance the load from these three substations.

**Forecasted Consumption Data** 

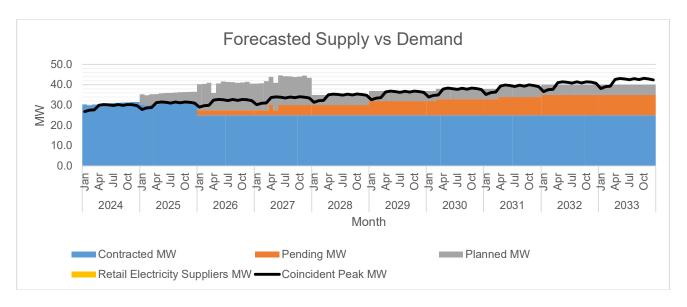
		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	Retail Electricity Suppliers MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
2024	Jan	26.80	30	0.00	0.00		113%	113%	3.55
	Feb	27.47	30	0.00	0.00		109%	109%	2.36
	Mar	27.62	30	0.00	0.00		110%	110%	2.70
	Apr	29.97	30	0.00	0.00		102%	102%	0.47
	May	30.30	31	0.00	0.00		102%	102%	0.51
	Jun	30.11	31	0.00	0.00		103%	103%	0.80
	Jul	29.80	31	0.00	0.00		104%	104%	1.23
	Aug	30.24	31	0.00	0.00		103%	103%	0.90
	Sep	29.89	31	0.00	0.00		105%	105%	1.37
	Oct	30.33	31	0.00	0.00		103%	103%	1.05
	Nov	30.13	31	0.00	0.00		105%	105%	1.36
	Dec	29.75	32	0.00	0.00		106%	106%	1.84
2025	Jan	27.88	30	0.00	5.00		109%	127%	7.48
	Feb	28.57	30	0.00	5.00		104%	122%	6.26
	Mar	28.72	30	0.00	5.00		106%	123%	6.59
	Apr	31.17	30	0.00	5.00		98%	114%	4.27
	May	31.51	31	0.00	5.00		98%	114%	4.30
	Jun	31.32	31	0.00	5.00		99%	115%	4.60
	Jul	30.99	31	0.00	5.00		100%	116%	5.04
	Aug	31.45	31	0.00	5.00		99%	115%	4.69
	Sep	31.08	31	0.00	5.00		101%	117%	5.18
	Oct	31.54	31	0.00	5.00		99%	115%	4.83
	Nov	31.33	31	0.00	5.00		100%	116%	5.15
	Dec	30.94	32	0.00	5.00		102%	118%	5.65
2026	Jan	28.99	25	2.50	12.80		86%	139%	11.31
	Feb	29.71	25	2.50	12.93		84%	136%	10.72

	Mar	29.87	25	2.50	13.43	84%	137%	11.06
	Apr	32.41	25	2.50	8.43	77%	111%	3.51
	May	32.77	25	2.50	13.16	76%	124%	7.89
	Jun	32.57	25	2.50	14.13	77%	128%	9.06
	Jul	32.23	25	2.50	13.83	78%	128%	9.09
	Aug	32.71	25	2.50	13.75	76%	126%	8.54
	Sep	32.33	25	2.50	13.44	77%	127%	8.61
	Oct	32.80	25	2.50	13.61	76%	125%	8.31
	Nov	32.59	25	2.50	13.96	77%	127%	8.88
	Dec	32.17	25	2.50	13.06	78%	126%	8.38
2027	Jan	30.15	25	2.50	13.07	83%	135%	10.42
	Feb	30.90	25	2.50	13.21	81%	132%	9.82
	Mar	31.06	25	2.50	14.25	80%	134%	10.69
	Apr	33.71	25	5.00	13.88	74%	130%	10.17
	May	34.08	25	2.50	13.48	73%	120%	6.90
	Jun	33.87	25	5.00	14.60	74%	132%	10.73
	Jul	33.52	25	5.00	14.23	75%	132%	10.71
	Aug	34.02	25	5.00	14.17	73%	130%	10.15
	Sep	33.62	25	5.00	13.77	74%	130%	10.15
	Oct	34.12	25	5.00	14.07	73%	129%	9.95
	Nov	33.89	25	5.00	14.48	74%	131%	10.59
	Dec	33.46	25	5.00	13.41	75%	130%	9.94
2028	Jan	31.36	25	5.00	5.00	80%	112%	3.64
	Feb	32.13	25	5.00	5.00	78%	109%	2.87
	Mar	32.31	25	5.00	5.00	77%	108%	2.69
	Apr	35.06	25	5.00	5.00	71%	100%	-0.06
	May	35.44	25	5.00	5.00	71%	99%	-0.44
	Jun	35.23	25	5.00	5.00	71%	99%	-0.23
	Jul	34.86	25	5.00	5.00	72%	100%	0.14
	Aug	35.38	25	5.00	5.00	71%	99%	-0.38
	Sep	34.97	25	5.00	5.00	71%	100%	0.03
	Oct	35.48	25	5.00	5.00	70%	99%	-0.48
	Nov	35.24	25	5.00	5.00	71%	99%	-0.24
	Dec	34.80	25	5.00	5.00	72%	101%	0.20
2029	Jan	32.61	25	7.00	5.00	77%	113%	4.39

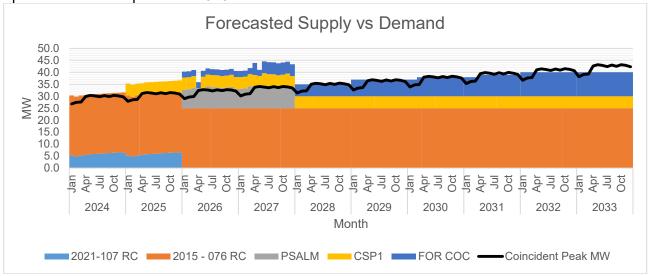
	Feb	33.42	25	7.00	5.00	75%	111%	3.58
	Mar	33.60	25	7.00	5.00	74%	110%	3.40
	Apr	36.46	25	7.00	5.00	69%	101%	0.54
	May	36.86	25	7.00	5.00	68%	100%	0.14
	Jun	36.64	25	7.00	5.00	68%	101%	0.36
	Jul	36.25	25	7.00	5.00	69%	102%	0.75
	Aug	36.79	25	7.00	5.00	68%	101%	0.21
	Sep	36.36	25	7.00	5.00	69%	102%	0.64
	Oct	36.90	25	7.00	5.00	68%	100%	0.10
	Nov	36.65	25	7.00	5.00	68%	101%	0.35
	Dec	36.19	25	7.00	5.00	69%	102%	0.81
2030	Jan	33.92	25	7.00	5.00	74%	109%	3.08
	Feb	34.75	25	7.00	5.00	72%	106%	2.25
	Mar	34.94	25	8.00	5.00	72%	109%	3.06
	Apr	37.92	25	8.00	5.00	66%	100%	0.08
	May	38.34	25	8.00	5.00	65%	99%	-0.34
	Jun	38.10	25	8.00	5.00	66%	100%	-0.10
	Jul	37.70	25	8.00	5.00	66%	101%	0.30
	Aug	38.27	25	8.00	5.00	65%	99%	-0.27
	Sep	37.82	25	8.00	5.00	66%	100%	0.18
	Oct	38.38	25	8.00	5.00	65%	99%	-0.38
	Nov	38.12	25	8.00	5.00	66%	100%	-0.12
	Dec	37.64	25	8.00	5.00	66%	101%	0.36
2031	Jan	35.27	25	8.00	5.00	71%	108%	2.73
	Feb	36.14	25	8.00	5.00	69%	105%	1.86
	Mar	36.34	25	8.00	5.00	69%	105%	1.66
	Apr	39.44	25	9.00	5.00	63%	99%	-0.44
	May	39.87	25	9.00	5.00	63%	98%	-0.87
	Jun	39.63	25	9.00	5.00	63%	98%	-0.63
	Jul	39.21	25	9.00	5.00	64%	99%	-0.21
	Aug	39.80	25	9.00	5.00	63%	98%	-0.80
	Sep	39.33	25	9.00	5.00	64%	99%	-0.33
	Oct	39.91	25	9.00	5.00	63%	98%	-0.91
	Nov	39.64	25	9.00	5.00	63%	98%	-0.64
	Dec	39.15	25	9.00	5.00	64%	100%	-0.15

2032	Jan	36.68	25	10.00	5.00	68%	109%	3.32
	Feb	37.59	25	10.00	5.00	67%	106%	2.41
	Mar	37.79	25	10.00	5.00	66%	106%	2.21
	Apr	41.01	25	10.00	5.00	61%	98%	-1.01
	May	41.46	25	10.00	5.00	60%	96%	-1.46
	Jun	41.21	25	10.00	5.00	61%	97%	-1.21
	Jul	40.78	25	10.00	5.00	61%	98%	-0.78
	Aug	41.39	25	10.00	5.00	60%	97%	-1.39
	Sep	40.91	25	10.00	5.00	61%	98%	-0.91
	Oct	41.51	25	10.00	5.00	60%	96%	-1.51
	Nov	41.23	25	10.00	5.00	61%	97%	-1.23
	Dec	40.71	25	10.00	5.00	61%	98%	-0.71
2033	Jan	38.15	25	10.00	5.00	66%	105%	1.85
	Feb	39.09	25	10.00	5.00	64%	102%	0.91
	Mar	39.31	25	10.00	5.00	64%	102%	0.69
	Apr	42.65	25	10.00	5.00	59%	94%	-2.65
	May	43.12	25	10.00	5.00	58%	93%	-3.12
	Jun	42.86	25	10.00	5.00	58%	93%	-2.86
	Jul	42.41	25	10.00	5.00	59%	94%	-2.41
	Aug	43.04	25	10.00	5.00	58%	93%	-3.04
	Sep	42.54	25	10.00	5.00	59%	94%	-2.54
	Oct	43.17	25	10.00	5.00	58%	93%	-3.17
	Nov	42.88	25	10.00	5.00	58%	93%	-2.88
	Dec	42.34	25	10.00	5.00	59%	94%	-2.34

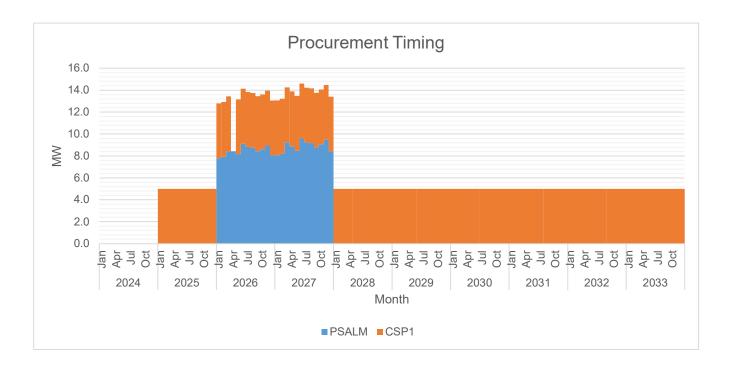
Logarithmic and Regression method was used for the forecasting. The highest demand is projected to occur in the month of October 2033. In general, Peak Demand is expected to grow at a rate of 4% annually.



The chart above shows that MORESCO II has enough supply until the last quarter of 2027. The deficit of supply after 2027 will be supplied from a planned PSA from an RE plant assumed to operate in the last quarter of 2025.



Of the available supply, the largest is 25 MW from the PSA on ERC Case No. 2015-076 RC. This is followed by 5.6 MW from the 2-year CSEE with PSALM. In order to comply with the RPS requirement, the DU opt to engage in a PSA with a renewable source embedded in the system. This will also address the deficit in the following years.

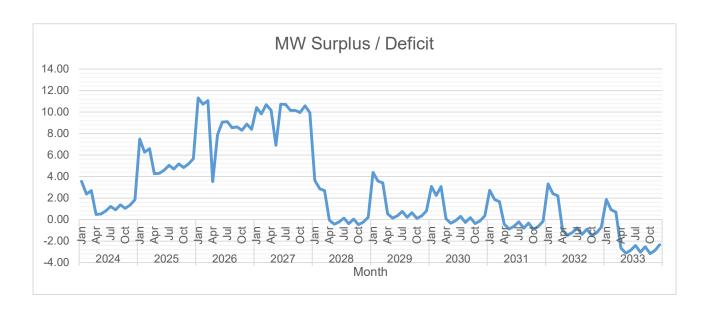


To comply with the RPS requirement, the DU planned to enter into a PSA with renewable power plant embedded in the system.



Based on the projected requirement of MORESCO II, the total contracted capacity will be just enough to supply its requirement at the end of 2024.

The chart above showed that starting 2025, the Cooperative will have a supply deficit of at least 10%. The lowest contracting level is expected to occur in the month of October 2033 at 58%.



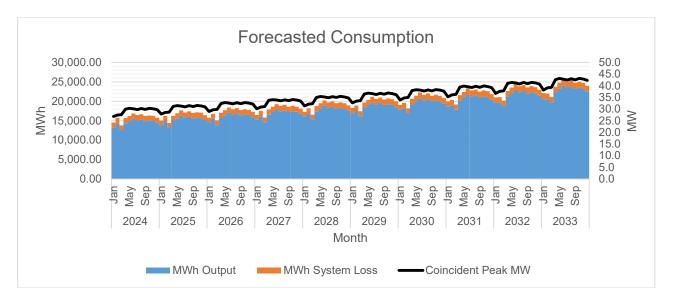
As shown in the chart above, the highest excess of supply is 11.31MW in the month of January 2026 and the lowest is in the month of September 2028 at 0.03 MW. With the additional supply in year 2026 supply is sufficient until in the second quarter of 2028. The supply deficit starting 2028 will be sourced out from an extended CSEE with PSALM.

		MWh Offtake	MWh Output	MWh System Loss	Transm'n Loss	System Loss
2024	Jan	14,684	13,207.93	1,308	1.15%	9.01%
	Feb	15,943	14,349.35	1,361	1.46%	8.66%
	Mar	13,990	12,604.46	1,177	1.49%	8.54%
	Apr	15,893	14,325.53	1,340	1.43%	8.56%
	May	16,508	14,888.28	1,322	1.80%	8.16%
	Jun	17,151	15,475.89	1,347	1.91%	8.01%
	Jul	16,666	15,048.01	1,432	1.12%	8.69%
	Aug	16,925	15,289.41	1,407	1.35%	8.43%
	Sep	16,486	14,901.15	1,352	1.42%	8.32%
	Oct	16,681	15,083.80	1,261	2.02%	7.72%
	Nov	16,515	14,940.12	1,313	1.58%	8.08%
	Dec	15,992	14,473.53	1,293	1.41%	8.20%
2025	Jan	15,317	13,868.92	1,187	1.70%	7.88%
	Feb	16,486	14,930.90	1,301	1.54%	8.02%
	Mar	14,613	13,243.33	1,187	1.26%	8.22%
	Apr	16,592	15,039.69	1,225	1.98%	7.53%
	May	17,246	15,636.52	1,291	1.85%	7.63%
	Jun	17,921	16,252.58	1,381	1.60%	7.83%
	Jul	17,425	15,808.92	1,321	1.69%	7.71%
	Aug	17,690	16,053.83	1,367	1.52%	7.85%
	Sep	17,233	15,644.85	1,361	1.32%	8.00%
	Oct	17,442	15,838.78	1,344	1.49%	7.82%
	Nov	17,265	15,682.78	1,381	1.17%	8.09%
	Dec	16,724	15,194.97	1,205	1.94%	7.35%
2026	Jan	16,064	14,564.31	1,192	1.92%	7.56%
	Feb	17,132	15,536.18	1,235	2.10%	7.36%

	Mar	15,342	13,915.84	1,191	1.53%	7.89%
	Apr	17,402	15,790.88	1,225	2.22%	7.20%
	May	18,095	16,423.84	1,276	2.18%	7.21%
	Jun	18,802	17,069.80	1,321	2.19%	7.19%
	Jul	18,291	16,609.65	1,341	1.86%	7.47%
	Aug	18,561	16,857.98	1,362	1.83%	7.48%
	Sep	18,082	16,427.16	1,315	1.88%	7.41%
	Oct	18,265	16,633.04	1,335	1.63%	7.43%
	Nov	18,075	16,463.84	1,321	1.61%	7.43%
	Dec	17,512	15,953.80	1,348	1.20%	7.79%
2027	Jan	16,785	15,295.96	1,193	1.76%	7.73%
2021	Feb	17,739	16,166.15	1,372	1.13%	7.82%
	Mar	16,040	14,623.83	1,193	1.39%	7.54%
	Apr	18,186	16,581.09	1,345	1.43%	7.50%
	May	18,921	17,252.36	1,369	1.58%	7.35%
	Jun	19,661	17,232.30	1,332	2.03%	6.91%
	Jul	19,001			1.52%	7.38%
			17,452.16	1,391		
	Aug	19,406	17,704.00	1,402 1,375	1.55%	7.34%
	Sep	18,905	17,250.14		1.48%	7.38%
	Oct	19,142	17,468.71	1,363	1.62%	7.24%
	Nov	18,937	17,285.35	1,351	1.59%	7.25%
0000	Dec	18,350	16,752.04	1,378	1.20%	7.60%
2028	Jan	17,594	16,065.81	1,193	1.91%	6.91%
	Feb	18,421	16,821.83	1,380	1.19%	7.58%
	Mar	16,825	15,369.20	1,193	1.56%	7.20%
	Apr	19,062	17,412.41	1,349	1.57%	7.19%
	May	19,839	18,124.31	1,375	1.71%	7.05%
	Jun	20,616	18,834.65	1,381	1.94%	6.83%
	Jul	20,069	18,338.61	1,390	1.69%	7.05%
	Aug	20,346	18,594.16	1,372	1.87%	6.87%
	Sep	19,819	18,115.97	1,393	1.56%	7.14%
	Oct	20,070	18,348.02	1,383	1.69%	7.01%
	Nov	19,850	18,149.49	1,361	1.71%	6.97%
0000	Dec	19,238	17,591.80	1,347	1.56%	7.11%
2029	Jan	18,451	16,875.93	1,376	1.08%	7.54%
	Feb	19,137	17,504.27	1,383	1.30%	7.32%
	Mar	17,656	16,154.01	1,301	1.13%	7.46%
	Apr	19,988	18,287.06	1,371	1.65%	6.97%
	May	20,812	19,042.03	1,370	1.92%	6.71%
	Jun	21,625	19,787.03	1,378	2.13%	6.51%
	Jul	21,058	19,271.26	1,378	1.94%	6.67%
	Aug	21,339	19,530.82	1,409	1.87%	6.73%
	Sep	20,785	19,026.97	1,458	1.45%	7.12%
	Oct	21,052	19,273.31	1,479	1.42%	7.13%
	Nov	20,815	19,058.53	1,475	1.35%	7.19%
2022	Dec	20,176	18,475.32	1,481	1.09%	7.42%
2030	Jan	19,357	17,840.64	1,199	1.64%	6.30%
	Feb	19,886	18,214.57	1,382	1.46%	7.05%
	Mar	18,534	16,980.41	1,199	1.91%	6.59%
	Apr	20,966	19,207.36	1,448	1.48%	7.01%
	May	21,839	20,008.00	1,451	1.74%	6.76%

	Jun	22,691	20,789.42	1,501	1.76%	6.74%
	Jul	22,102	20,252.58	1,459	1.76%	6.72%
	Aug	22,388	20,516.49	1,504	1.64%	6.83%
	Sep	21,805	19,985.56	1,419	1.83%	6.63%
	Oct	22,088	20,247.07	1,481	1.63%	6.82%
	Nov	21,832	20,014.88	1,388	1.97%	6.49%
	Dec	21,166	19,404.93	1,401	1.70%	6.73%
2031	Jan	20,312	18,625.80	1,346	1.68%	6.74%
	Feb	20,668	18,953.89	1,374	1.65%	6.76%
	Mar	19,461	17,850.65	1,360	1.28%	7.08%
	Apr	21,997	20,175.79	1,392	1.95%	6.45%
	May	22,923	21,024.84	1,404	2.15%	6.26%
	Jun	23,816	21,844.52	1,481	2.06%	6.35%
	Jul	23,202	21,285.15	1,505	1.78%	6.60%
	Aug	23,494	21,553.83	1,490	1.92%	6.47%
	Sep	22,880	20,994.31	1,519	1.60%	6.75%
	Oct	23,181	21,271.92	1,540	1.60%	6.75%
	Nov	22,905	21,021.10	1,585	1.31%	7.01%
	Dec	22,209	20,383.14	1,498	1.48%	6.85%
2032	Jan	21,320	19,570.27	1,393	1.67%	6.64%
	Feb	21,485	19,723.39	1,371	1.82%	6.50%
	Mar	20,439	18,767.14	1,414	1.26%	7.01%
	Apr	23,085	21,194.92	1,450	1.91%	6.40%
	May	24,065	22,095.32	1,445	2.18%	6.14%
	Jun	25,002	22,955.21	1,547	2.00%	6.31%
	Jul	24,363	22,371.73	1,491	2.05%	6.25%
	Aug	24,659	22,645.62	1,514	2.03%	6.27%
	Sep	24,014	22,055.93	1,558	1.67%	6.60%
	Oct	24,333	22,350.63	1,553	1.77%	6.49%
	Nov	24,036	22,079.87	1,556	1.66%	6.59%
	Dec	23,309	21,412.56	1,586	1.33%	6.89%
2033	Jan	22,382	20,564.44	1,547	1.21%	7.00%
	Feb	22,336	20,524.34	1,452	1.61%	6.61%
	Mar	21,471	19,732.41	1,436	1.41%	6.78%
	Apr	24,231	22,267.52	1,483	1.98%	6.24%
	May	25,270	23,222.34	1,548	1.98%	6.25%
	Jun	26,251	24,124.49	1,605	1.99%	6.24%
	Jul	25,585	23,515.24	1,595	1.86%	6.35%
	Aug	25,888	23,794.82	1,582	1.97%	6.24%
	Sep	25,209	23,173.28	1,551	1.92%	6.27%
	Oct	25,548	23,486.12	1,515	2.14%	6.06%
	Nov	25,227	23,194.01	1,508	2.08%	6.11%
	Dec	24,467	22,495.96	1,483	1.99%	6.19%

 $MWh\ Off take\ was\ forecasted\ using\ logarithmic\ method.\ The\ assumed\ load\ factor\ is\ 70\%.$ 



MWh Output was expected to grow at a rate of 3.99% annually.



Transmission Loss varies from 1.15% and 2.22%. The Total System Loss (Sub-transmission, Substation, and feeder loss) is expected to decrease from 9.01% January 2024 to 6.06% by the end of 2033.

### **Power Supply**

Case No.	Туре	GenCo	Minimum MW	Minimum MWh/yr	Maximum MW	Maximum MWh/yr	PSA Start	PSA End
2021-107-RC	Base	Power Sector Assets and Liabilities Management Corporation	5.33	37,454.16	5.88	41,606.30	12/26/2023	12/25/2026
2015 - 076 RC	Base	FDC Misamis Power Corporation	10	87,600	25	219,000	7/26/2016	7/25/2041

None of the current PSA of MORESCO II has undergone a CSP since the agreements were filed in ERC before the effectivity of the Department Circular No. DC 2015-05-0008 of the DOE, except for PSALM which is exempted from the conduct of CSP.

#### 1. **PSALM**

The supply from PSALM provides the base requirement of MORESCO II. The CSEE with PSALM provides monthly allocation of Energy and Demand throughout the contract year. The actual TOU rate ranged from 2.68 to 2.96 P/kWh while utilization is at 100% with respect to the contracted energy. PSALM **GRANTS** MORESCO II's request for an extension of its CSEE for two (2) years from December 26, 2023 to December 25, 2025 for a firm allocation at an average of 5.33MW on the first year of the CSEE and at an average of 5.88MW for the following year. The non-firm allocation with an average of 3.07MW for the whole contract period is provided based on the capacity of its plants. Below is the yearly schedule of demand and energy for its firm allocation from PSALM:

YEARS	EQUIVALENT DEMAND (Ave) (KW)	EQUIVALENT ENERGY (KWH)
2024	5,329.58	37,454,164
2025	5,877.17	41,606,300

The above table shows the average annual allocated demand from PSALM is it varies monthly. The allocation from PSALM is set to supply 20% of the total requirement of the DU.

The monthly average Generation Rate (Php/kWh) for the year 2023 is shown in the table below.

		2023										
MONTH	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
Monthly Average Rate	2.9865	2.9808	2.9686	2.9805	2.9863	2.9873	2.7110	2.7139	2.6974	2.7056	2.7244	2.7415

#### 2. FDC- MISAMIS POWER CORP.

The Energy Power Purchase Agreement (EPPA) with FDC, under ERC Case No. 2015-076 RC, was approved by the ERC on September 13, 2016. The contract was entered into to provide part of the 24-hour baseload power requirements of the cooperative.

The supply from FDC-MPC provides the base and intermediate requirement of MORESCO II. Utilization is at 65% to 82%. Outages of the plant do not usually lead to unserved energy since the deficit can be drawn from PSALM and WESM. The actual overall monthly charge under the PSA ranged from 8.71 P/kWh to 13.50 P/kWh with a variable charge that ranged from 3.12 to 6.99 P/kWh in year 2023. The table below shows the applicable rate upon Commercial Operation of FDC, as approved by the ERC.

Approved Rate (ERC Case No. 2015-076 RC)								
Capital Recovery Fee	1,924.45	/kW/month						
Fixed O&M	366.16	/kW/month						
Variable O&M	0.1907	/kWh						

The monthly average rate of FDC (Php/kWh) for the year 2023 is shown in the table below.

	2023											
MONTH	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
Monthly Average Rate	13.4973	11.9275	12.2630	12.1139	11.7984	11.0135	10.3674	9.3023	8.7087	9.1131	8.8310	8.8024

#### 3. MODULAR GENSET

Case No.	Туре	GenCo	Minimum MW	Minimum MWh/yr	Maximum MW	Maximum MWh/yr	PSA Start	PSA End
FOR COC	Peaking	DU-owned	2.00	2,190	8	8,760	1/1/2026	9/30/2073

The DU-owned generator has pending application for COC with the ERC. It was selected to provide the peaking requirements of the DU after the expiration of the PSA with KEGI.

#### 4.WESM

The Wholesale Electricity Spot Market (WESM) is a centralized venue for buyers and sellers to trade electricity as a commodity where prices are determined based on actual use (demand) and availability (supply). WESM has two categories to be registered either DIRECT WESM Member or INDIRECT WESM Member. MORESCO II is registered with the Market Operator as a Direct WESM member in pursuant to Section 2.3 of the WESM Rules. The WESM has started its commercial operation in Mindanao in the first quarter of 2023.

The monthly average Rate (Php/kWh) of WESM in reference to the monthly purchase of MORESCO II from the market in year 2023 is shown in the table below.

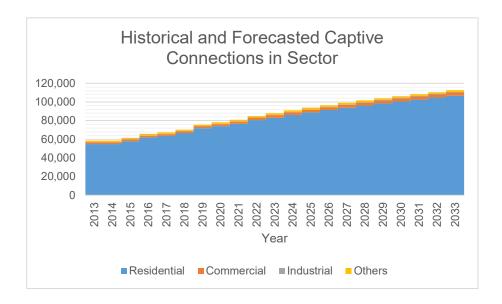
	2023											
MONTH	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
Monthly Average Rate		6.6591	9.1139	8.0166	10.4630	4.8869	4.2317	5.2177	6.1920	7.1225	4.1275	4.2929

	Power Sector Assets and Liabilities Management Corporation	CSP 1
Туре	Base	Base
Minimum MW	4.28	5.00
Minimum MWh/yr	37,454	43,800
PSA Start	1/1/2026	1/1/2025
PSA End	12/25/2027	12/25/2039
Publication	1/1/2024	1/1/2025
Pre-bid	1/22/2024	1/22/2025
Opening	3/22/2024	3/23/2025
Awarding	4/21/2024	4/22/2025
PSA Signing	5/21/2024	5/22/2025
Joint Filing	5/30/2024	5/31/2025



Right now, MORESCO II has no pending application with the ERC for CSP. The Cooperative renews its CSEE with PSALM for a period of two (2) years, after it expired in December 25, 2023. The supply deficit in 2026 and onwards will be addressed through a PSA with a renewable plant embedded in the system. The planned PSA will also provide for the RPS requirement of the DU.

## **Captive Customer Connections**



The number of Residential connections is expected to grow at a rate of 4% annually. Residential class is expected to account for at least 48.87% of the total consumption every year.

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