# Power Supply Procurement Plan 2021



### **Historical Consumption Data**

	Coincident Peak MW	MWh Offtake	WESM	MWh Input	MWh Output	MWh System Loss	Load Factor	Discrepancy	Transm'n Loss	System Loss
2001	187.00	1,103,980	0	1,103,980	1,004,088	99,892	67%	0.00%	0.00%	9.05%
2002	194.00	1,177,223	0	1,177,223	1,064,605	112,618	69%	0.00%	0.00%	9.57%
2003	210.00	1,252,096	0	1,252,096	1,137,926	114,170	68%	0.00%	0.00%	9.12%
2004	234.00	1,375,197	0	1,375,197	1,251,825	123,372	67%	0.00%	0.00%	8.97%
2005	230.00	1,381,807	0	1,381,807	1,263,338	118,469	69%	0.00%	0.00%	8.57%
2006	238.00	1,399,764	0	1,399,764	1,274,381	125,383	67%	0.00%	0.00%	8.96%
2007	245.00	1,456,346	0	1,456,346	1,336,845	119,501	68%	0.00%	0.00%	8.21%
2008	249.00	1,492,868	0	1,492,868	1,373,818	119,050	68%	0.00%	0.00%	7.97%
2009	267.00	1,588,080	0	1,588,080	1,461,011	127,069	68%	0.00%	0.00%	8.00%
2010	282.00	1,675,973	0	1,675,973	1,549,734	126,239	68%	0.00%	0.00%	7.53%
2011	280.00	1,731,177	0	1,731,177	1,584,390	146,787	71%	0.00%	0.00%	8.48%
2012	304.00	1,818,920	0	1,818,920	1,681,720	137,200	68%	0.00%	0.00%	7.54%
2013	324.39	1,922,039	0	1,922,039	1,770,739	151,300	68%	0.00%	0.00%	7.87%
2014	343.73	2,100,237	0	2,100,237	1,981,258	118,978	70%	0.00%	0.00%	5.66%
2015	354.48	2,228,816	0	2,228,816	2,069,127	159,689	72%	0.00%	0.00%	7.16%
2016	379.98	2,340,692	0	2,340,692	2,173,373	167,318	70%	0.00%	0.00%	7.15%
2017	404.20	2,479,985	0	2,479,985	2,298,361	181,624	70%	0.00%	0.00%	7.32%
2018	421.15	2,656,805	0	2,656,805	2,468,192	188,613	72%	0.00%	0.00%	7.10%
2019	453.71	2,841,850	0	2,841,850	2,633,920	207,931	72%	0.00%	0.00%	7.32%
2020	452.00	2,688,949	0	2,688,949	2,476,991	211,958	68%	0.00%	0.00%	7.88%

Peak Demand decreased from 453.71 MW in 2019 to 452.03 MW in 2020 at a rate of -0.37%. The coincident peak demand happened in March prior to the community quarantine declared to mitigate the spread of COVID-19. Consequently, MWh Offtake decreased from 2,841,850 MWh in 2019 to 2,688,949 MWh in 2020 at a rate of - 5.38%. Within the same period, Load Factor ranged from 68% to 72%.

With the availability of Covid vaccine and businesses propelling in new normal, we are anticipating a demand growth of about 128MW in the span of 5 years. These are triggered by rebound in growth in real estate businesses, sprouting big universities, commercial complexes, big BPO's, and industrial establishments where some or most of them are currently on full swing construction.



MWh Output decreased from year 2019 to year 2020 at a rate of 5.38%, while MWh System Loss increased at a rate of 0.56% within the same period.



Historically, Davao Light recognizes MWh Offtake at NGCP delivery points which are already net of transmission losses. Meanwhile System Loss is decreasing from around 9% in 2001 to 7.32% in 2019 due to the various CAPEX projects implemented to improve system efficiency (i.e. substation, lines, capacitor banks, etc.) as well as the growth of industrial customers which inherently have lower system loss. However, in 2020, due to the pandemic, residential customer consumption hugely increased due to the work from home arrangements which inherently have higher losses while commercial and industrial establishments slow down due to community quarantine, thereby increasing the System Loss to 7.88%



Industrial customers account for the bulk of energy sales at 52% despite of the low number of connections. In contrast, Residential customers accounted for only 37% of energy sales despite high number of connections. Commercial customers account 9.4% of energy sales while Streetlight and government institutions constituting a small part of the system.



For 2020, the total Offtake for the last historical year is within the quantity stipulated in the PSA. The PSA with PSALM, TSI and SMCPC account for the bulk of MWh Offtake.



WESM is not yet operational in Mindanao. Thus, we are leaving this section blank. Davao Light only lacks the placement of prudential requirement in the registration of WESM.

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



Based on the Load Duration Curve, the minimum load is 175 MW and the maximum load is 452 MW for the last historical year.



Peak MW occurred on March 12, 2020 at 14:30. As shown in the Load Curves, the available supply is just enough for the Peak Demand.



The Non-coincident Peak Demand is 649 MW, which is around 93% of the total NGCP substation capacity of 700 MVA at a power factor of 97.56%. The load factor or the ratio between the Average Load of 305 MW and the Non-coincident Peak Demand is 47%. A safe estimate of the true minimum load is the fifth percentile load of 227 MW which is 35% of the Non-coincident Peak Demand.

Metering Point	Substation MVA	Substation Peak MW
M1	300	91.069
M3	0	0.000
M6	300	37.546
M7	150	128.245
M8	300	36.111
M12	200	140.045
M14	50	45.143
M15	300	81.254
M3 Puan		48.868
Sibulan TSI		9.206
M9 Talomo		24.109
M2 Malagos		7.390
Daneco		0.000

Davao Light owned substations loaded at above 70% particularly M7 and M12 can be solved by two proposed projects (1) Installing a new 138 kV Transmission Substation and (2) Additional one (1)-150MVA Capacity to be installed at M7 Substation to cater the growing demand required by Davao Light Franchise.

Several substations have exceeded and/or will exceed the 70% loading criterion within the next year.

Delivery point substations ERA and DRA will be solved by the upcoming additional 150 MVA Capacity at ERA S/s.

In the southwest area, Calinan Substation's loading will be solved by the ongoing 10 MVA to 33 MVA Upgrade.

The southern zone transformer loadings of Toril, Dumoy and Puan will be solved by the new Binugao Substation and the upgrade of Puan Substation from 15 to 33 MVA.

Bangkal and Matina substation's issue will be solved by Bangkal upgrade from 12 to 33 MVA this year.

Loading of city proper substations Ecoland, P. Reyes, Sta. Ana, Gaisano, Victoria, Bajada, Buhangin and R. Castillo Substations will be solved by the additional 33 MVA transformer at Buhangin, additional 50 MVA Transformers at P. Reyes and Bajada and the new Megaworld Substation.

Panacan and Tibungco substation will be relieved by the new Ilang Substation.

Loading of Panabo and San Vicente Substations will be addressed by the new Panabo Substation and Bunawan upgrade from 10 to 33 MVA.

Lastly, Sto. Tomas' loading will be solved by its proposed 33 MVA upgrade.

## **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	402.31	416.86	30.00	0.000		104%	111%	44.55
	Feb	403	417	30	0		103%	111%	43.56
	Mar	422.46	421.44	30.00	0.000		100%	107%	28.98
	Apr	433.73	414.35	30.00	0.000		96%	102%	10.62
	May	454.66	421.00	30.00	0.000		93%	99%	-3.66
	Jun	438.29	431.12	30.00	0.000		98%	105%	22.83
	Jul	445.62	431.38	30.00	0.000		97%	104%	15.77
	Aug	437.74	403.44	0.00	0.000		92%	92%	-34.31
	Sep	453.72	425.90	0.00	0.000		94%	94%	-27.83
	Oct	477.82	445.44	0.00	0.000		93%	93%	-32.38
	Nov	455.45	431.09	0.00	0.000		95%	95%	-24.36
	Dec	457.97	435.13	0.00	0.000		95%	95%	-22.84
2022	Jan	426.94	361.86	0.00	125.000		85%	114%	59.92
	Feb	440.32	362.48	0.00	125.000		82%	111%	47.16
	Mar	465.12	322.44	0.00	180.000		69%	108%	37.31
	Apr	452.21	315.35	0.00	180.000		70%	110%	43.14
	May	476.32	322.00	0.00	180.000		68%	105%	25.68
	Jun	471.36	332.12	0.00	180.000		70%	109%	40.76
	Jul	479.05	332.38	0.00	180.000		69%	107%	33.33
	Aug	461.92	304	0	180		66%	105%	22.52
	Sep	478.32	327	0	180		68%	106%	28.58
	Oct	505.90	346	0	180		68%	104%	20.53
	Nov	485.58	332	0	180		68%	105%	26.51
	Dec	490.13	336	0	180		69%	105%	25.99
2023	Jan	486.55	183	0	310		38%	101%	6.31
	Feb	480.24	183	0	311		38%	103%	13.24
	Mar	494.01	183	0	320		37%	102%	8.42
	Apr	494.84	183	0	313		37%	100%	0.51
	May	526.81	183	0	319		35%	95%	-24.81

		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	Retail Electricity Suppliers MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
	Jun	523.58	183	0	329		35%	98%	-11.46
	Jul	522.02	183	0	330		35%	98%	-9.64
	Aug	516.29	183	0	329		35%	99%	-4.49
	Sep	513.43	183	0	324		36%	99%	-6.53
	Oct	532.34	183	0	344		34%	99%	-5.54
	Nov	517.70	183	0	329		35%	99%	-5.90
	Dec	535.84	183	0	333		34%	96%	-19.71
2024	Jan	507.30	183	0	310		36%	97%	-14.44
	Feb	500.33	183	0	311		37%	99%	-6.53
	Mar	497.07	183	0	320		37%	101%	5.36
	Apr	515.92	183	0	313		35%	96%	-20.12
	May	549.32	183	0	319		33%	91%	-47.32
	Jun	545.85	183	0	329		33%	94%	-33.75
	Jul	544.11	183	0	330		34%	94%	-31.73
	Aug	538.16	183	0	329		34%	95%	-26.36
	Sep	535.43	183	0	324		34%	95%	-28.53
	Oct	555.10	183	0	344		33%	95%	-28.70
	Nov	539.39	183	0	329		34%	95%	-27.29
	Dec	558.26	183	0	333		33%	92%	-42.46
2025	Jan	530.41	168	0	260		32%	81%	-102.35
	Feb	523.11	168	0	261		32%	82%	-94.11
	Mar	538.27	168	0	270		31%	81%	-100.67
	Apr	539.41	168	0	263		31%	80%	-108.86
	May	574.36	168	0	269		29%	76%	-137.16
	Jun	570.72	168	0	279		29%	78%	-123.42
	Jul	568.88	168	0	280		30%	79%	-121.28
	Aug	562.64	168	0	279		30%	80%	-115.19
	Sep	559.83	168	0	274		30%	79%	-117.83
	Oct	580.37	168	0	294		29%	80%	-118.37
	Nov	563.94	168	0	279		30%	79%	-116.65
	Dec	583.65	168	0	283		29%	77%	-132.65

		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	Retail Electricity Suppliers MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
2026	Jan	556.37	168	0	260		30%	77%	-128.37
	Feb	548.88	168	0	261		31%	78%	-120.20
	Mar	564.70	168	0	270		30%	78%	-126.70
	Apr	565.81	168	0	263		30%	76%	-135.25
	May	602.48	168	0	269		28%	73%	-165.48
	Jun	598.70	168	0	279		28%	75%	-151.40
	Jul	596.77	168	0	280		28%	75%	-149.19
	Aug	590.18	168	0	279		28%	76%	-143.18
	Sep	587.19	168	0	274		29%	75%	-145.19
	Oct	608.70	168	0	294		28%	76%	-146.70
	Nov	591.69	168	0	279		28%	76%	-144.69
	Dec	612.37	168	0	283		27%	74%	-161.37
2027	Jan	579.42	168	0	185		29%	61%	-226.42
	Feb	571.61	168	0	186		29%	62%	-217.91
	Mar	592.34	168	0	195		28%	61%	-229.34
	Apr	589.24	168	0	188		29%	60%	-233.69
	May	627.45	168	0	194		27%	58%	-265.25
	Jun	623.50	168	0	204		27%	60%	-251.50
	Jul	621.48	168	0	205		27%	60%	-248.89
	Aug	614.60	168	0	204		27%	61%	-242.15
	Sep	611.50	168	0	199		27%	60%	-244.40
	Oct	633.89	168	0	219		27%	61%	-247.25
	Nov	616.18	168	0	204		27%	60%	-244.18
	Dec	637.72	168	0	208		26%	59%	-261.42
2028	Jan	602.75	168	0	185		28%	59%	-249.75
	Feb	594.49	168	0	186		28%	60%	-240.49
	Mar	590.59	108	0	195		18%	51%	-287.59
	Apr	612.95	108	0	188		18%	48%	-316.95
	May	652.74	108	0	194		17%	46%	-350.74
	Jun	648.59	108	0	204		17%	48%	-336.59
	Jul	646.44	108	0	205		17%	48%	-333.86

		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	Retail Electricity Suppliers MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
	Aug	639.29	108	0	204		17%	49%	-327.29
	Sep	636.18	108	0	199		17%	48%	-329.08
	Oct	659.43	108	0	219		16%	50%	-332.43
	Nov	640.86	108	0	204		17%	49%	-328.86
	Dec	663.23	108	0	208		16%	48%	-347.23
2029	Jan	628.56	108	0	185		17%	47%	-335.56
	Feb	619.79	108	0	186		17%	47%	-325.79
	Mar	637.83	108	0	195		17%	47%	-335.20
	Apr	639.20	108	0	188		17%	46%	-343.65
	May	680.75	108	0	194		16%	44%	-378.75
	Jun	676.40	108	0	204		16%	46%	-364.10
	Jul	674.11	108	0	205		16%	46%	-361.53
	Aug	666.61	108	0	205		16%	47%	-354.11
	Sep	663.54	108	0	199		16%	46%	-356.54
	Oct	687.73	108	0	219		16%	47%	-361.09
	Nov	668.11	108	0	204		16%	47%	-356.11
	Dec	691.42	108	0	208		16%	46%	-375.42
2030	Jan	648.62	108	0	185		17%	45%	-355.62
	Feb	640.72	108	0	186		17%	46%	-346.72
	Mar	659.37	108	0	195		16%	46%	-356.73
	Apr	659.75	108	0	188		16%	45%	-364.20
	May	702.75	108	0	194		15%	43%	-400.75
	Jun	698.54	108	0	204		15%	45%	-386.24
	Jul	696.41	108	0	205		16%	45%	-383.41
	Aug	688.17	108	0	205		16%	45%	-375.67
	Sep	684.82	108	0	199		16%	45%	-377.72
	Oct	709.59	108	0	219		15%	46%	-382.95
	Nov	690.32	108	0	204		16%	45%	-378.32
	Dec	714.43	108	0	208		15%	44%	-398.43

The Peak Demand was forecasted using historical load factor and is assumed to occur every October to December of the year due to increased production of Industrial customers in preparation for Christmas season. Monthly Peak Demand is at its lowest every January to March due to lower disposable income after the Christmas season. In general, Peak Demand is expected to grow at a rate of 4.68% annually.

Davao Light's forecast considered the effect of the Covid 19 pandemic of which it is expected that for the period 2021-2022, the MWh sales' growth will take a dip. Sales are projected to recover in the late 2022 – 2023. Various factors such as market research data and surveys are taken into consideration. Thus, the planned CSPs are affected and were adjusted. Davao Light's CSP procedure is scheduled for every 3 years.

Contracting of power requirement considers certain period, say 3 years, that's why we can see over contracting in the first year and under contracting thereafter due to growth of kWh sales. This will be addressed with the commercial operation of WESM in Mindanao, where DLPC will have alternative supply and thereby, minimize over contracting. Please note also that for the meantime that WESM is not available in Mindanao, the CSP for 75MW intermediate supply is a NON-FIRM supply, DLPC will only pay if it dispatches them.



The available supply is generally below the Peak Demand. This is because of the incoming expiration of WMPC nonfirm on July 29, 2021 and Therma Marine firm contract of 50MW on Dec 25, 2021. Furthermore, Hedcor Sibulan will expire on Feb 25, 2022 and PSALM on Dec 25, 2022 leaving a contracted capacity of 183 MW by 2023.



Of the available supply, the largest is 142 MW from PSALM CSEE renewal. This is followed by 108MW from ERC Case No. 2013-021 RC TSI.



The first wave of supply procurement will be for the intermediate power supply of 55 MW to handle the expiration of current intermediate supply contract and to cover RPS requirement and is expected to be available by March 2022. This will be followed by the 50MW peaking supply and 75MW non-firm load following to be available by January 2021. The 50MW peaking supply is for the replacement of current peaking supply while the 75MW load following is to address the bouncing back of demand after the pandemic and to cover intermittent power requirements given non-commercial operation of WESM in Mindanao.



Currently, there is an over-contacting by only 111%. The highest target contracting level is 113% which is expected to occur on Jan 2022 with non-commercial operation of WESM in Mindanao and the resumption of economic activities upon the easing of community quarantine measures.



Currently, there is an over-contracting by 40 MW. Given the planned CSPs, supply deficit is projected to occur in 2025. This is projected to be catered by WESM in Mindanao.

		MWh Offtake	MWh Output	MWh System Loss	Transm'n Loss	System Loss
2021	Jan	217,727	198,864	18,863	0.00%	8.66%
	Feb	222,710	204,928	17,782	0.00%	7.98%
	Mar	210,915	194,133	16,781	0.00%	7.96%
	Apr	234,891	216,170	18,721	0.00%	7.97%
	May	239,053	219,112	19,941	0.00%	8.34%
	Jun	237,965	218,846	19,119	0.00%	8.03%
	Jul	235,592	217,001	18,591	0.00%	7.89%
	Aug	236,957	218,293	18,664	0.00%	7.88%
	Sep	244,725	225,643	19,082	0.00%	7.80%
	Oct	248,728	229,646	19,081	0.00%	7.67%
	Nov	249,101	230,373	18,729	0.00%	7.52%
	Dec	242,288	223,870	18,418	0.00%	7.60%
2022	Jan	229,860	213,310	16,551	0.00%	7.20%
	Feb	238,679	221,667	17,013	0.00%	7.13%
	Mar	228,098	211,679	16,420	0.00%	7.20%
	Apr	243,574	227,195	16,379	0.00%	6.72%
	May	248,795	230,729	18,067	0.00%	7.26%
	Jun	255,571	237,211	18,360	0.00%	7.18%
	Jul	250,749	233,520	17,228	0.00%	6.87%
	Aug	249,505	232,530	16,975	0.00%	6.80%
	Sep	258,446	241,032	17,415	0.00%	6.74%
	Oct	265,438	247,160	18,278	0.00%	6.89%
	Nov	263,442	245,333	18,109	0.00%	6.87%
	Dec	257,120	239,524	17,597	0.00%	6.84%
2023	Jan	251,645	231,820	19,825	0.00%	7.88%
	Feb	248,362	234,608	13,754	0.00%	5.54%
	Mar	230,635	217,968	12,667	0.00%	5.49%
	Apr	255,965	236,418	19,547	0.00%	7.64%
	May	263,765	243,717	20,048	0.00%	7.60%

		MWh Offtake	MWh Output	MWh System Loss	Transm'n Loss	System Loss
	Jun	270,931	251,629	19,302	0.00%	7.12%
	Jul	261,348	244,204	17,144	0.00%	6.56%
	Aug	267,133	247,532	19,602	0.00%	7.34%
	Sep	265,644	244,562	21,082	0.00%	7.94%
	Oct	266,551	244,702	21,850	0.00%	8.20%
	Nov	267,870	251,059	16,811	0.00%	6.28%
	Dec	268,316	251,670	16,646	0.00%	6.20%
2024	Jan	262,083	241,391	20,691	0.00%	7.89%
	Feb	258,452	244,245	14,207	0.00%	5.50%
	Mar	240,053	226,914	13,138	0.00%	5.47%
	Apr	266,568	246,176	20,393	0.00%	7.65%
	May	274,735	253,804	20,931	0.00%	7.62%
	Jun	282,155	262,035	20,121	0.00%	7.13%
	Jul	272,112	254,261	17,851	0.00%	6.56%
	Aug	278,152	257,723	20,429	0.00%	7.34%
	Sep	276,733	254,693	22,040	0.00%	7.96%
	Oct	277,649	254,818	22,831	0.00%	8.22%
	Nov	278,794	261,385	17,408	0.00%	6.24%
	Dec	279,242	262,009	17,233	0.00%	6.17%
2025	Jan	274,090	252,452	21,638	0.00%	7.89%
	Feb	270,285	255,399	14,886	0.00%	5.51%
	Mar	251,052	237,258	13,794	0.00%	5.49%
	Apr	278,775	257,451	21,324	0.00%	7.65%
	May	287,327	265,458	21,870	0.00%	7.61%
	Jun	295,081	274,061	21,020	0.00%	7.12%
	Jul	284,568	265,892	18,677	0.00%	6.56%
	Aug	290,872	269,506	21,367	0.00%	7.35%
	Sep	289,411	266,389	23,022	0.00%	7.95%
	Oct	290,355	266,506	23,849	0.00%	8.21%
	Nov	291,548	273,342	18,206	0.00%	6.24%
2026	Dec	292,010	273,985	18,025	0.00%	6.17%
2026	Jan	287,756	265,062	22,694	0.00%	7.89%
	Feb	283,853	268,133	15,720	0.00%	5.54%
	Ividi	203,034	249,045	14,589	0.00%	5.55%
	Арі	292,071	270,304	22,307	0.00%	7.04%
	lup	301,051	278,740	22,911	0.00%	7.00%
	Jul	209,800	207,771	10.624	0.00%	6.57%
	Jur	296,772	279,149	22,426	0.00%	7 2 4 %
	Sen	303,303	279 709	22,420 24 NQ7	0.00%	7.34%
	Oct	303,800	279,709	24,037	0.00%	8 10%
	Nov	306 150	286 997	19 153	0.00%	6 26%
	Dec	306 635	287 665	18 970	0.00%	6 19%
2027	lan	299 557	276 089	23 468	0.00%	7 83%
	Feb	295.488	279.246	16.243	0.00%	5.50%
	Mar	276.431	259.355	17.076	0.00%	6.18%
	Apr	304.669	281.544	23.125	0.00%	7.59%
	May	314,029	290,358	23,671	0.00%	7.54%

		MWh Offtake	MWh Output	MWh System Loss	Transm'n Loss	System Loss
	Jun	322,511	299,758	22,753	0.00%	7.05%
	Jul	311,018	290,740	20,278	0.00%	6.52%
	Aug	317,878	294,680	23,197	0.00%	7.30%
	Sep	316,264	291,370	24,895	0.00%	7.87%
	Oct	317,274	291,472	25,802	0.00%	8.13%
	Nov	318,702	298,907	19,795	0.00%	6.21%
	Dec	319,204	299,594	19,609	0.00%	6.14%
2028	Jan	311,741	287,150	24,591	0.00%	7.89%
	Feb	307,440	290,373	17,067	0.00%	5.55%
	Mar	285,564	269,690	15,874	0.00%	5.56%
	Apr	317,054	292,823	24,231	0.00%	7.64%
	May	326,808	302,024	24,784	0.00%	7.58%
	Jun	335,616	311,793	23,823	0.00%	7.10%
	Jul	323,636	302,371	21,265	0.00%	6.57%
	Aug	330,770	306,460	24,310	0.00%	7.35%
	Sep	329,149	303,092	26,057	0.00%	7.92%
	Oct	330,182	303,178	27,004	0.00%	8.18%
	Nov	331,586	310,836	20,751	0.00%	6.26%
	Dec	332,098	311,538	20,561	0.00%	6.19%
2029	Jan	325,129	299,483	25,646	0.00%	7.89%
	Feb	320,561	302,739	17,822	0.00%	5.56%
	Mar	297,810	281,211	16,599	0.00%	5.57%
	Apr	330,670	305,402	25,269	0.00%	7.64%
	May	340,872	315,042	25,830	0.00%	7.58%
	Jun	350,042	325,217	24,824	0.00%	7.09%
	Jul	337,525	315,341	22,184	0.00%	6.57%
	Aug	344,944	319,587	25,357	0.00%	7.35%
	Sep	343,344	316,193	27,151	0.00%	7.91%
	Oct	344,388	316,250	28,139	0.00%	8.17%
	Nov	345,727	324,086	21,641	0.00%	6.26%
	Dec	346,248	324,802	21,446	0.00%	6.19%
2030	Jan	337 <i>,</i> 803	311,336	26,466	0.00%	7.83%
	Feb	333,688	314,651	19,037	0.00%	5.71%
	Mar	310,166	292,291	17,875	0.00%	5.76%
	Apr	343,596	317,488	26,108	0.00%	7.60%
	May	354,186	327,544	26,641	0.00%	7.52%
	Jun	363,799	338,113	25,686	0.00%	7.06%
	Jul	350,989	327,810	23,179	0.00%	6.60%
	Aug	358,399	332,208	26,192	0.00%	7.31%
	Sep	356,653	328,758	27,895	0.00%	7.82%
	Oct	357,631	328,798	28,833	0.00%	8.06%
	Nov	359,518	336,855	22,663	0.00%	6.30%
	Dec	360,070	337,592	22,478	0.00%	6.24%

MWh Offtake was forecasted using lowest price dispatch. The assumed load factor ranges from 68-72%.

System Loss was calculated through a Load Flow Study conducted on all Davao Light Substation Feeders by the Revenue Protection Department using Synergi Simulation 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 4.6% annually.



Transmission Loss is expected to be zero since it is practiced by Davao Light to record MWh Offtake at NGCP delivery points. On the other hand, monthly System Loss is expected to range from 5.5% to 8.7%.

#### **Power Supply**

Case No.	Туре	GenCo	Minimum MW	Minimum MWh/yr	PSA Start	PSA End
ERC CASE NO. 2005-002 RC Hedcor Inc.	Intermediate	Hedcor, Inc.	4.47	0	14-Feb-06	13-Feb-21
ERC CASE NO. 2007-137 RC Hedcor Sibulan Inc	Intermediate	Hedcor Sibulan, Inc.	49.00	200,000	26-Feb-10	25-Feb-22
REPA-0064 Hedcor Bukidnon Inc.	Intermediate	HEDCOR Bukidnon, Inc.	14.80	0	26-Jul-18	25-Dec-24
ERC CASE NO. 2013-021 RC TSI	Base	Therma South, Inc.	108.00	145,440	18-Sep-15	17-Sep-40
ERC CASE NO. 2017-029 RC SMCPC	Base	San Miguel Consolidated Power Corporation	60.00	0	26-Feb-18	25-Feb-28
ERC CASE NO. 2020-005 RC SMCPC	Emergency Power Supply	San Miguel Consolidated Power Corporation	50.00	210,240	26-Feb-20	25-Dec-20
ERC CASE NO. 2018-041 RC TMI Non-Firm (45MW)	Peaking	Therma Marine Inc.	45.00	378,432	30-Jul-18	25-Dec-20
ERC CASE NO. 2018-121 RC TMI Firm (50MW)	Peaking	Therma Marine Inc.	50.00	0	26-Dec-20	26-Dec-21
ERC Case No. 2018-054 RC PSALM	Base	Power Sector Assets and Liabilities Management Corporation	139.97	859,914	26-Dec-17	25-Dec-20
ERC Case No. RC PSALM	Base	Power Sector Assets and Liabilities Management Corporation	141.92	872,065	26-Dec-20	25-Dec-22

The **PSA with Hedcor Inc. filed with ERC under Case No. 2005-002 RC** was procured through a procurement process. Proposals were received from 3 different companies and after thorough evaluation of the said proposals, Davao Light considered HEDCOR's proposal as the most efficient, cost-effective, reliable and environmentally friendly source of power and energy. It was selected to provide intermediate requirements to meet Davao Light's increasing demand and the future power requirements of its customers. The contract is for the purchase of all the electric power and energy generated and produced by the hydro plants owned by HEDCOR, Inc. The price for the electricity generated and delivered to the Company shall be equal to the average cost of electricity procured, delivered and accepted by the Company from NPC, inclusive of transmission and connection charges. The actual billed overall monthly charge under the PSA ranged from 5.04 P/kWh to 5.68 P/kWh in the past year. This PSA will expire on February 2021.

The **PSA with Hedcor Sibulan, Inc. filed with ERC under Case No. 2007-137 RC** was procured through a competitive selection process. Three proposals were received and Hedcor Sibulan Inc emerged to be the winning bidder. It was selected to provide intermediate requirements to address the imminent increase in power demand in Mindanao grid by year 2009 and to avoid any shortage as predicted by DOE. The actual billed overall monthly charge under the PSA ranged from 6.44 P/kWh to 6.86 P/kWh in the past year.

On the other hand, **DLPC and Hedcor Bukidnon entered into a Feed-In Tariff (FIT) Renewable Energy Supply Agreement**. Under Section 2.7 of the FIT Rules, all Eligible RE Plants shall enjoy priority connection to the transmission and distribution system. The actual billed overall monthly charge under the PSA ranged from 4.54 P/kWh to 5.12 P/kWh in the past year.

The **PSA with TSI filed with ERC under Case No. 2013-021 RC** was procured through a negotiation process. It was selected to provide base load requirements to address deficiency of supply upon expiration of the CSEE with NPC/PSALM, which will further be aggravated by a projected increase in the energy requirements of Davao Light customers. At the time of the expiration of its CSEE, TSI will be the only power project in Mindanao already on line. The actual billed overall monthly charge under the PSA ranged from 5.05 P/kWh to 5.58 P/kWh in the past year.

The **PSA with SMCPC filed with ERC under Case No. 2017-029 RC** was procured through a negotiation process after two failed competitive biddings. It was selected to provide base load requirements to address projected deficit between its supply portfolio and projected demand for 2016 to 2020. The actual billed overall monthly charge under the PSA ranged from 4.57 P/kWh to 5.21 P/KWh in the past year.

The **non-firm PSA with TMI filed with ERC under Case No. 2018-041 RC** was procured through competitive selection process. In order to ensure that there is a reliable source of electricity to address power needs of its customers, Davao Light deemed it prudent to have an alternative source of power from suppliers that are willing and capable of supplying power to Davao Light on an as-needed, or non-firm basis. The actual billed overall monthly charge under the PSA ranged from 5.30 P/kWh to 7.49 P/kWh in the past year.

On the other hand, the **firm PSA with TMI filed with ERC under Case No. 2018-121 RC** was procured through negotiation process after two failed competitive selection process. It was selected to provide peaking requirement due to projected supply deficit in 2019 given lower allocation from PSALM and expiration of Davao Light's two peaking plants in 2018. The application for provisional authority was denied by ERC in its Order dated 12 March 2019.

The **PSA with TMI for the 50 MW firm** was not implemented pursuant to the Certificate of Exemption (COE) of DOE to DLPC dated 19 December 2019. DLPC entered into an Emergency Supply Agreement with SMCPC of 50MW under the mentioned COE which was applied to ERC under Case No. 2020-005 RC and was heard on 17 September 2020.

On the other hand, ERC granted interim relief to DLPC and TMI on the 50 MW firm PSA in its Order dated 25 March 2020, subject to the withdrawal of its non-firm ESAs with TMI and WMPC. With the commencement of TMI firm in Dec 26, 2020, the non-firm TMI PSA was terminated.

The **CSEE with PSALM filed with ERC under Case No. 2018-054 RC** from 2018 to 2020 was renewed through a negotiation process. The actual billed overall monthly charge under the PSA ranged from 2.57 P/kWh to 2.93 P/kWh in the past year. It was further renewed for another 2 years from 2021 to 2022.

Case No.	Туре	GenCo	Minimum MW	Minimum MWh/yr	PSA Start	PSA End
ERC CASE NO. 2018-046 RC WMPC Non-Firm (60MW)	Peaking	Western Mindanao Power Corporation	60.00	0	30-Jul-18	29-Jul-21

The pending **non-firm PSA with WMPC filed with ERC under Case No. 2018-046 RC** was procured through competitive selection process. As WMPC submitted with the bid with second lowest effective rate, WMPC may be dispatch by Davao Light only in case of unavailability of non-firm supply from TMI, fully or partially. WMPC non-firm was reduced to 30MW upon the commencement of TMI firm in Dec. 26, 2020.

	55 MW RPS	75 MW Load Following (Non- Firm)	50 MW Peaking (Firm)
Туре	Intermediate	Intermediate	Peaking
Minimum MW	55.00	75.00	50.00
Minimum MWh/yr			
PSA Start	26-Mar-22	26-Dec-21	26-Dec-21
PSA End	25-Mar-32	25-Dec-26	25-Dec-24
Publication	8-Feb-21	26-Jun-21	26-Jun-21
Pre-bid	1-Mar-21	17-Jul-21	17-Jul-21
Opening	30-Apr-21	15-Sep-21	15-Sep-21
Awarding	30-May-21	15-Oct-21	15-Oct-21
PSA Signing	29-Jun-21	14-Nov-21	14-Nov-21
Joint Filing	8-Jul-21	23-Nov-21	23-Nov-21



For the procurement of 55 MW of intermediate RPS supply which is planned to be available on February 26, 2022, the first publication or launch of CSP will be on Feb 8, 2021. Joint filing is planned on July 8, 2021, or 150 days later, in accordance with DOE's 2018 CSP Policy.

For the procurement of 50 MW peaking 75 MW non-firm load following supply which are planned to be available on December 26, 2020, the first publication or launch of CSP will be on June 26, 2021. Joint filing is planned on November 23, 2021, or 150 days later, in accordance with DOE's 2018 CSP Policy.

The 50 MW peaking CSP is set to replace the TMI 50MW firm supply which will expire on Dec 25, 2021 while the 75MW intermediate supply is set to handle growth of kWh sales meantime that WESM is not available in Mindanao. It is a non-firm supply, on as available and as need basis, wherein DLPC will not pay fixed capacity fee but will only pay when dispatched.

### **Captive Customer Connections**



The number of connections is expected to grow at a rate of 3.2% annually. Residential is expected to grow at 3.1% annually, Commercial at 3.9% and Industrial at 3.6%. As of 2020, Residential accounts 37% of MWh output, Commercial at 9%, Industrial at 52% while Streetlight and government institutions constituting a small part of the system at 2%.