



Power Supply Procurement Plan 2020

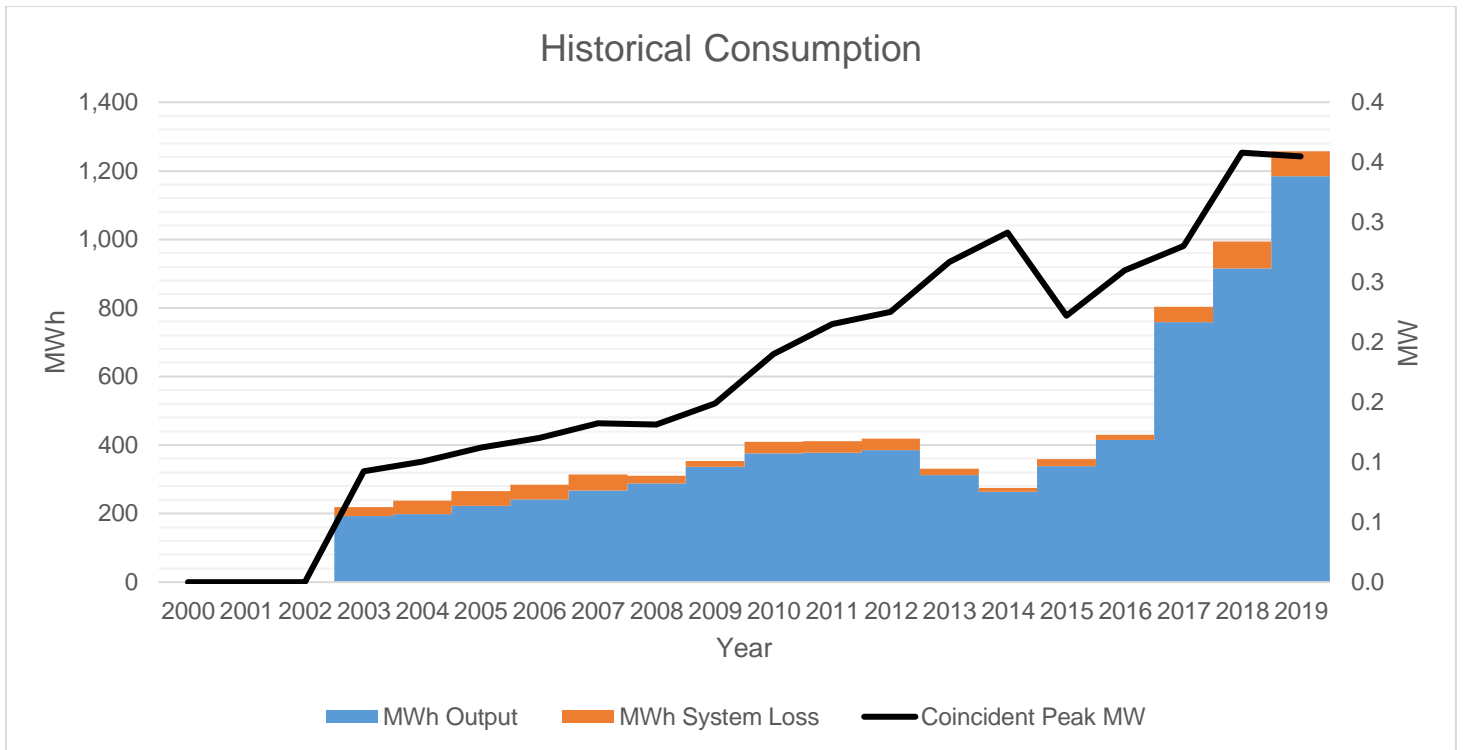
Patnanungan, Quezon

Historical Consumption Data

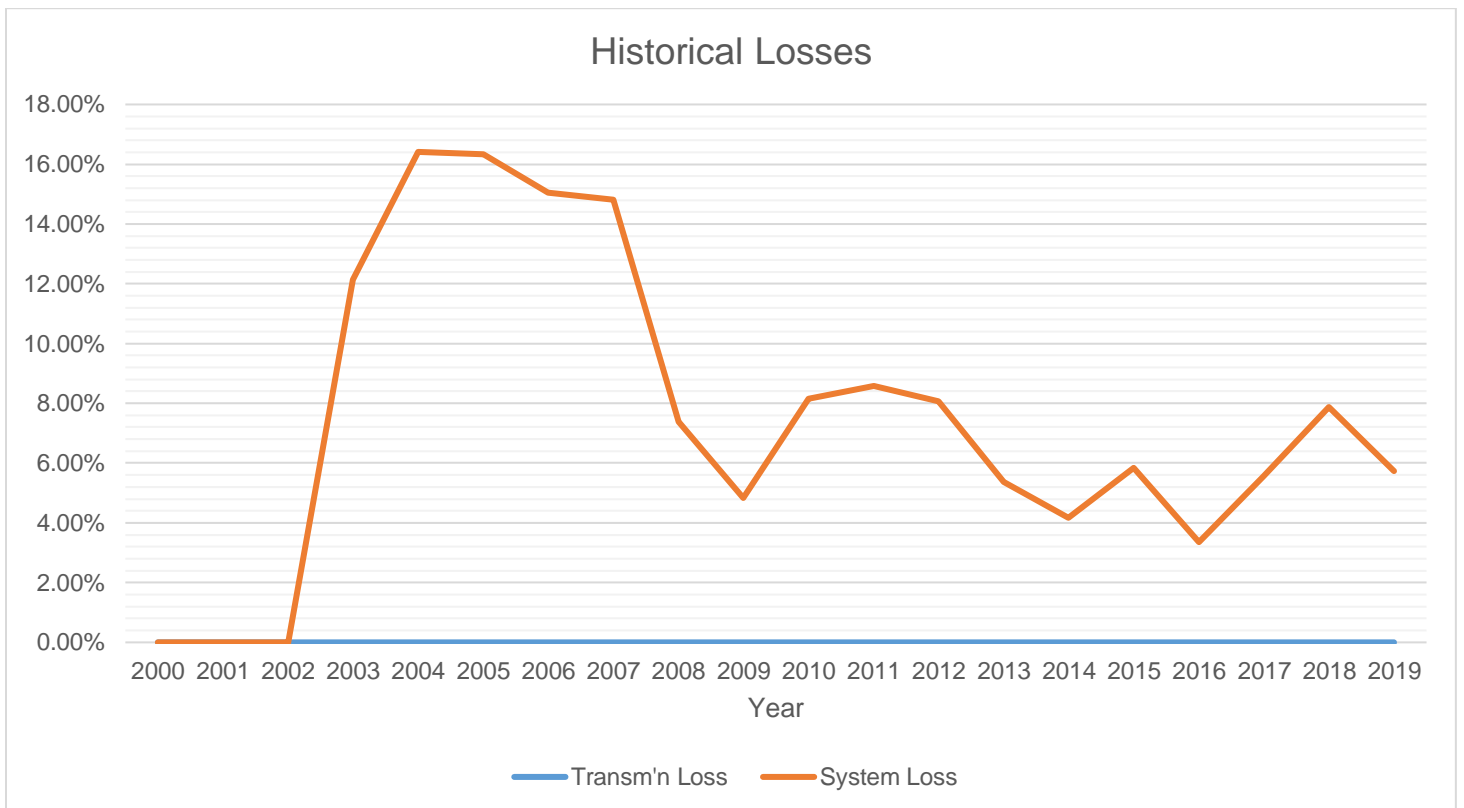
	Coincident Peak MW	MWh Offtake	WESM	MWh Input	MWh Output	MWh System Loss	Load Factor	Discrepancy	Transm'n Loss	System Loss
2000	0.00	0	0	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
2001	0.00	0	0	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
2002	0.00	0	0	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
2003	0.09	219	0	219	192	27	27%	0.00%	0.00%	12.14%
2004	0.10	238	0	238	199	39	27%	0.00%	0.00%	16.41%
2005	0.11	265	0	265	222	43	27%	0.00%	0.00%	16.34%
2006	0.12	285	0	285	241	43	27%	-0.11%	0.00%	15.04%
2007	0.13	314	0	314	267	46	27%	0.00%	0.00%	14.80%
2008	0.13	310	0	310	288	23	27%	0.00%	0.00%	7.38%
2009	0.15	353	0	353	336	17	27%	0.00%	0.00%	4.82%
2010	0.19	409	0	409	375	33	25%	0.00%	0.00%	8.15%
2011	0.22	412	0	412	377	35	22%	0.00%	0.00%	8.57%
2012	0.23	419	0	419	385	34	21%	0.00%	0.00%	8.07%
2013	0.27	331	0	331	313	18	14%	0.00%	0.00%	5.37%
2014	0.29	275	0	275	264	11	11%	0.00%	0.00%	4.16%
2015	0.22	360	0	360	339	21	19%	0.00%	0.00%	5.85%
2016	0.26	429	0	429	415	14	19%	0.00%	0.00%	3.35%
2017	0.28	804	0	804	759	45	33%	0.00%	0.00%	5.56%
2018	0.36	994	0	994	916	78	32%	0.00%	0.00%	7.88%
2019	0.36	1,256	0	1,256	1,184	72	40%	0.00%	0.00%	5.74%

MWh Offtake (Purchased) increased from 429 MWh in 2016 to 804 MWh in 2017 at a rate of 87.41% due to change in NPC-SPUG's operational hours from 8 hours to 16 hours per day. Within the same period, Load Factor ranged from 19% to 33%. In September 5, 2019 NPC-SPUG started its 24-hour operation.

We acknowledged NEA comments that there are some inconsistencies on QUEZELCO II data particularly on the Historical data. These data were verified and found to be incorrect. We corrected these data for the submission of QUEZELCO II's latest DDP-PSPP 2020.

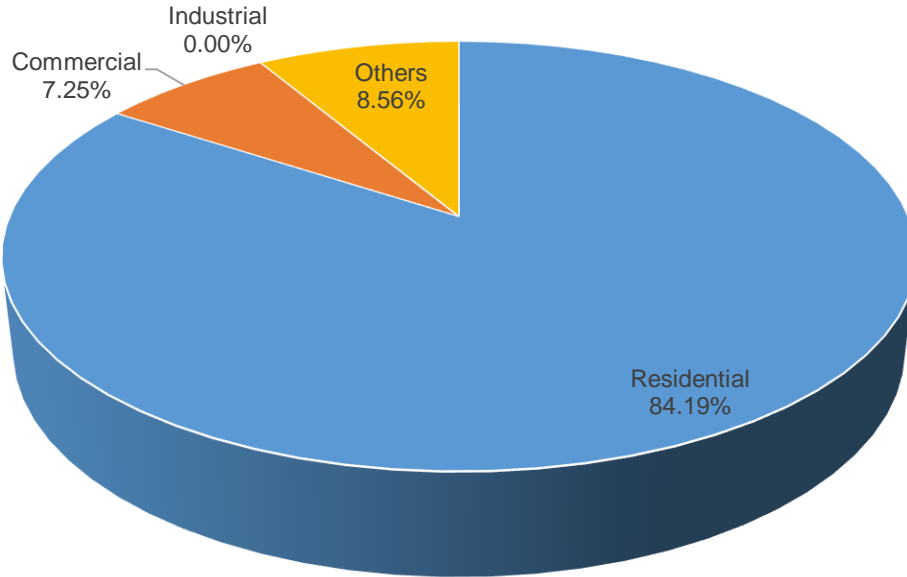


MWh Output (Sales) increased from year 2016 to year 2017 at a rate of 82.89%, while MWh System Loss increased at a rate of 221.43% within the same period.



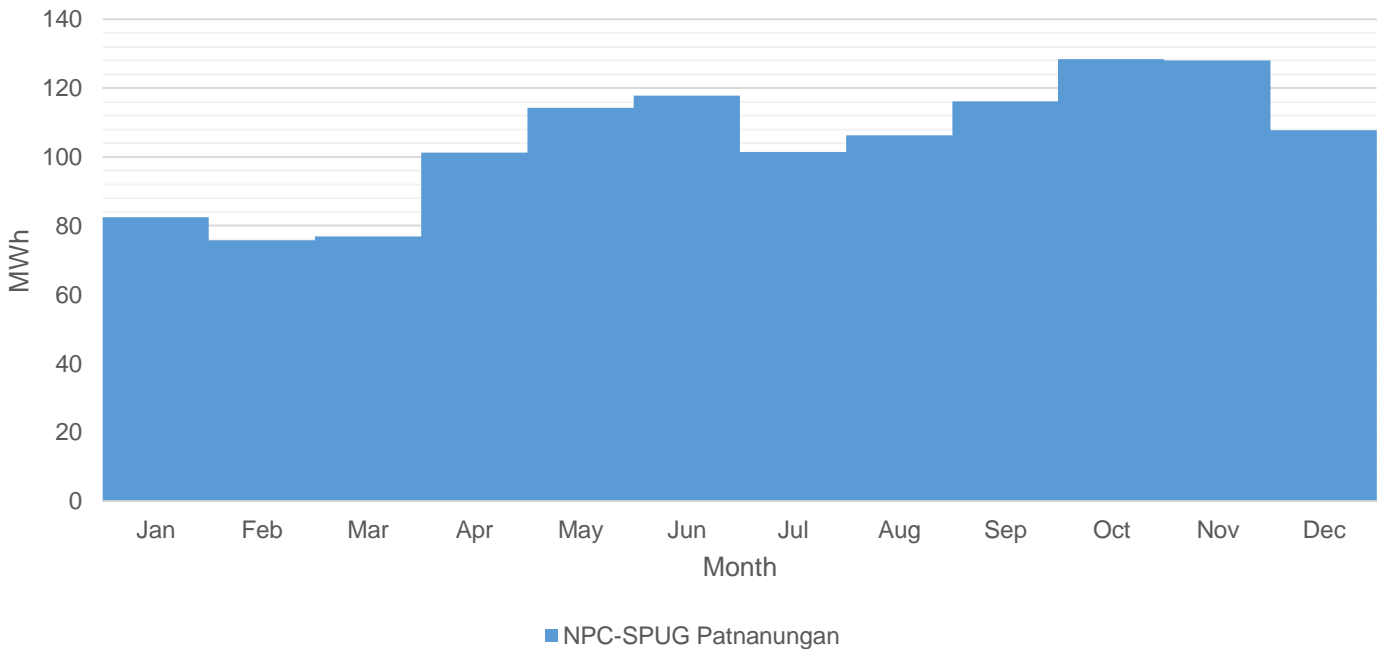
Historically, System Loss ranged from 16.41% down to 3.35%. System Loss peaked at 16.41% on year 2004 due to unrehabilitated old distribution lines.

Previous Year's Shares of Energy Sales



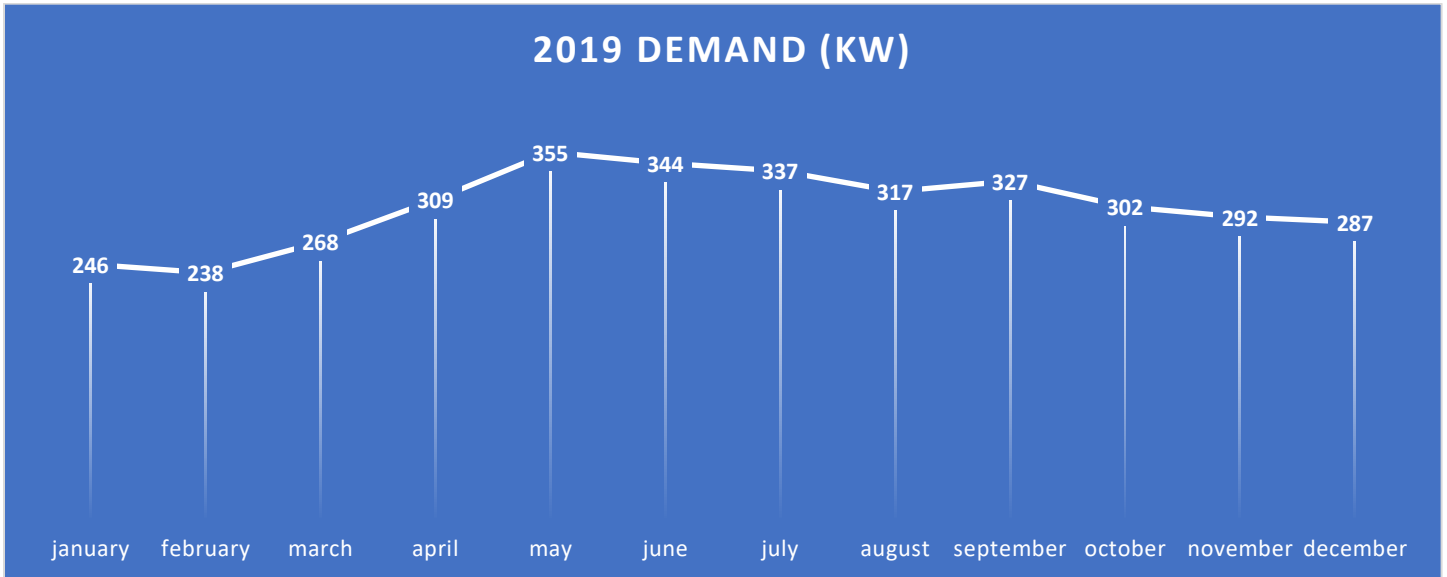
Residential customers account for the bulk of energy sales at 84.19% due to the high number of connections. In contrast, Commercial customers accounted for only 7.25% of energy sales due to the low number of connections. There are no Industrial customers in Patnanungan, Quezon.

MWh Offtake for Last Historical Year



MWh Offtake peaked at 128 MWh in the months of October and November due to NPC-SPUG's change in operational hours from 16 hours to 24 hours a day. 24-hour operation of NPC-SPUG started on September 5, 2019.

Previous Year's Load Profile



Peak kW occurred on May 2019 due to summer season. Off-peak occurred on the first quarter of the year due to rainy season.

Forecasted Consumption Data

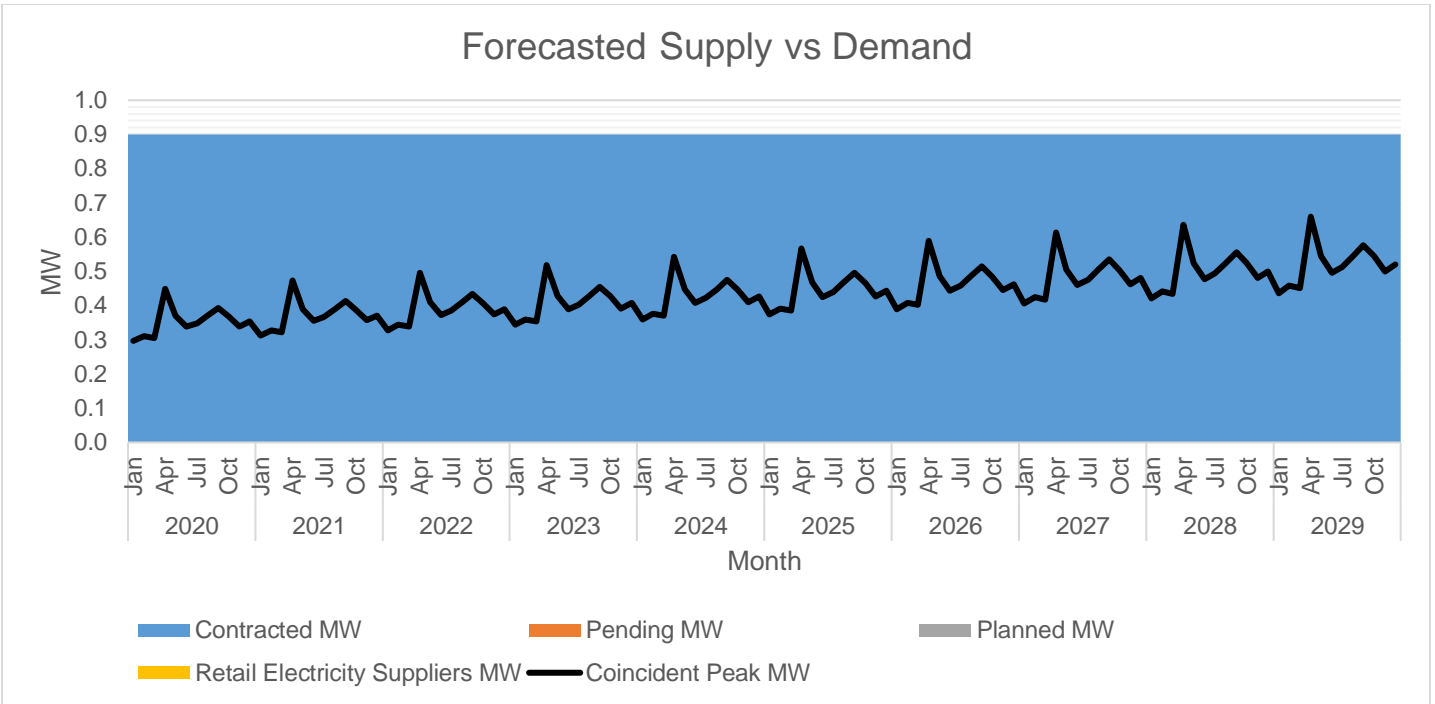
		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	Retail Electricity Suppliers MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
2020	Jan	0.30	0.90	0.00	0.000		303%	303%	0.60
	Feb	0.31	0.90	0.00	0.000		289%	289%	0.59
	Mar	0.31	0.90	0.00	0.000		294%	294%	0.59
	Apr	0.45	0.90	0.00	0.000		200%	200%	0.45
	May	0.37	0.90	0.00	0.000		243%	243%	0.53
	Jun	0.34	0.90	0.00	0.000		266%	266%	0.56
	Jul	0.35	0.90	0.00	0.000		258%	258%	0.55
	Aug	0.37	0.90	0.00	0.000		243%	243%	0.53
	Sep	0.39	0.90	0.00	0.000		229%	229%	0.51
	Oct	0.37	0.90	0.00	0.000		244%	244%	0.53
	Nov	0.34	0.90	0.00	0.000		265%	265%	0.56
	Dec	0.35	0.90	0.00	0.000		255%	255%	0.55
2021	Jan	0.31	0.90	0.00	0.000		288%	288%	0.59
	Feb	0.33	0.90	0.00	0.000		275%	275%	0.57
	Mar	0.32	0.90	0.00	0.000		280%	280%	0.58
	Apr	0.47	0.90	0.00	0.000		190%	190%	0.43
	May	0.39	0.90	0.00	0.000		231%	231%	0.51
	Jun	0.36	0.90	0.00	0.000		254%	254%	0.55
	Jul	0.37	0.90	0.00	0.000		245%	245%	0.53
	Aug	0.39	0.90	0.00	0.000		231%	231%	0.51
	Sep	0.41	0.90	0.00	0.000		218%	218%	0.49
	Oct	0.39	0.90	0.00	0.000		232%	232%	0.51
	Nov	0.36	0.90	0.00	0.000		252%	252%	0.54
	Dec	0.37	0.90	0.00	0.000		243%	243%	0.53
2022	Jan	0.33	0.90	0.00	0.000		274%	274%	0.57
	Feb	0.34	0.90	0.00	0.000		262%	262%	0.56
	Mar	0.34	0.90	0.00	0.000		266%	266%	0.56
	Apr	0.50	0.90	0.00	0.000		181%	181%	0.40
	May	0.41	0.90	0.00	0.000		220%	220%	0.49

		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	Retail Electricity Suppliers MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
	Jun	0.37	0.90	0.00	0.000		241%	241%	0.53
	Jul	0.39	0.90	0.00	0.000		234%	234%	0.52
	Aug	0.41	0.90	0.00	0.000		220%	220%	0.49
	Sep	0.43	0.90	0.00	0.000		207%	207%	0.47
	Oct	0.41	0.90	0.00	0.000		221%	221%	0.49
	Nov	0.37	0.90	0.00	0.000		241%	241%	0.53
	Dec	0.39	0.90	0.00	0.000		231%	231%	0.51
2023	Jan	0.34	0.90	0.00	0.000		262%	262%	0.56
	Feb	0.36	0.90	0.00	0.000		250%	250%	0.54
	Mar	0.35	0.90	0.00	0.000		254%	254%	0.55
	Apr	0.52	0.90	0.00	0.000		173%	173%	0.38
	May	0.43	0.90	0.00	0.000		210%	210%	0.47
	Jun	0.39	0.90	0.00	0.000		231%	231%	0.51
	Jul	0.40	0.90	0.00	0.000		223%	223%	0.50
	Aug	0.43	0.90	0.00	0.000		210%	210%	0.47
	Sep	0.45	0.90	0.00	0.000		198%	198%	0.45
	Oct	0.43	0.90	0.00	0.000		211%	211%	0.47
	Nov	0.39	0.90	0.00	0.000		230%	230%	0.51
	Dec	0.41	0.90	0.00	0.000		221%	221%	0.49
2024	Jan	0.36	0.90	0.00	0.000		251%	251%	0.54
	Feb	0.38	0.90	0.00	0.000		239%	239%	0.52
	Mar	0.37	0.90	0.00	0.000		243%	243%	0.53
	Apr	0.54	0.90	0.00	0.000		166%	166%	0.36
	May	0.45	0.90	0.00	0.000		201%	201%	0.45
	Jun	0.41	0.90	0.00	0.000		221%	221%	0.49
	Jul	0.42	0.90	0.00	0.000		213%	213%	0.48
	Aug	0.45	0.90	0.00	0.000		201%	201%	0.45
	Sep	0.48	0.90	0.00	0.000		189%	189%	0.43
	Oct	0.45	0.90	0.00	0.000		202%	202%	0.45
	Nov	0.41	0.90	0.00	0.000		220%	220%	0.49
	Dec	0.43	0.90	0.00	0.000		211%	211%	0.47

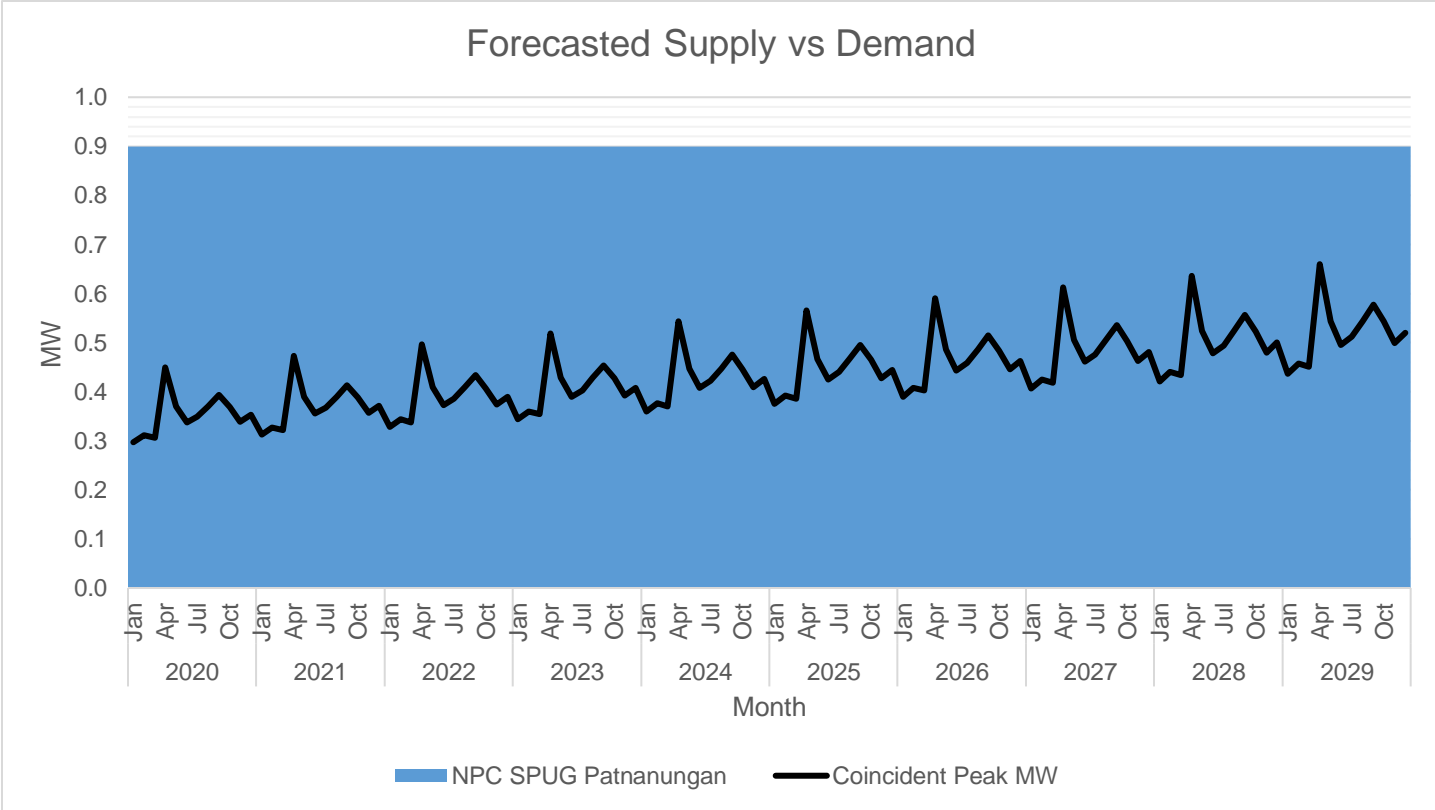
		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	Retail Electricity Suppliers MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
2025	Jan	0.38	0.90	0.00	0.000		240%	240%	0.53
	Feb	0.39	0.90	0.00	0.000		230%	230%	0.51
	Mar	0.39	0.90	0.00	0.000		233%	233%	0.51
	Apr	0.57	0.90	0.00	0.000		159%	159%	0.33
	May	0.47	0.90	0.00	0.000		193%	193%	0.43
	Jun	0.43	0.90	0.00	0.000		212%	212%	0.48
	Jul	0.44	0.90	0.00	0.000		205%	205%	0.46
	Aug	0.47	0.90	0.00	0.000		193%	193%	0.43
	Sep	0.50	0.90	0.00	0.000		182%	182%	0.41
	Oct	0.47	0.90	0.00	0.000		194%	194%	0.44
	Nov	0.43	0.90	0.00	0.000		211%	211%	0.47
	Dec	0.44	0.90	0.00	0.000		203%	203%	0.46
2026	Jan	0.39	0.90	0.00	0.000		231%	231%	0.51
	Feb	0.41	0.90	0.00	0.000		221%	221%	0.49
	Mar	0.40	0.90	0.00	0.000		224%	224%	0.50
	Apr	0.59	0.90	0.00	0.000		153%	153%	0.31
	May	0.49	0.90	0.00	0.000		185%	185%	0.41
	Jun	0.44	0.90	0.00	0.000		203%	203%	0.46
	Jul	0.46	0.90	0.00	0.000		197%	197%	0.44
	Aug	0.49	0.90	0.00	0.000		185%	185%	0.41
	Sep	0.52	0.90	0.00	0.000		175%	175%	0.39
	Oct	0.48	0.90	0.00	0.000		186%	186%	0.42
	Nov	0.45	0.90	0.00	0.000		202%	202%	0.46
	Dec	0.46	0.90	0.00	0.000		194%	194%	0.44
2027	Jan	0.41	0.90	0.00	0.000		222%	222%	0.49
	Feb	0.43	0.90	0.00	0.000		212%	212%	0.48
	Mar	0.42	0.90	0.00	0.000		215%	215%	0.48
	Apr	0.61	0.90	0.00	0.000		147%	147%	0.29
	May	0.51	0.90	0.00	0.000		178%	178%	0.40
	Jun	0.46	0.90	0.00	0.000		195%	195%	0.44
	Jul	0.48	0.90	0.00	0.000		189%	189%	0.42

		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	Retail Electricity Suppliers MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
	Aug	0.51	0.90	0.00	0.000		178%	178%	0.40
	Sep	0.54	0.90	0.00	0.000		168%	168%	0.36
	Oct	0.50	0.90	0.00	0.000		179%	179%	0.40
	Nov	0.46	0.90	0.00	0.000		195%	195%	0.44
	Dec	0.48	0.90	0.00	0.000		187%	187%	0.42
2028	Jan	0.42	0.90	0.00	0.000		214%	214%	0.48
	Feb	0.44	0.90	0.00	0.000		204%	204%	0.46
	Mar	0.43	0.90	0.00	0.000		207%	207%	0.47
	Apr	0.64	0.90	0.00	0.000		142%	142%	0.26
	May	0.52	0.90	0.00	0.000		172%	172%	0.38
	Jun	0.48	0.90	0.00	0.000		188%	188%	0.42
	Jul	0.49	0.90	0.00	0.000		182%	182%	0.41
	Aug	0.52	0.90	0.00	0.000		172%	172%	0.38
	Sep	0.56	0.90	0.00	0.000		162%	162%	0.34
	Oct	0.52	0.90	0.00	0.000		172%	172%	0.38
	Nov	0.48	0.90	0.00	0.000		188%	188%	0.42
	Dec	0.50	0.90	0.00	0.000		180%	180%	0.40
2029	Jan	0.44	0.90	0.00	0.000		206%	206%	0.46
	Feb	0.46	0.90	0.00	0.000		197%	197%	0.44
	Mar	0.45	0.90	0.00	0.000		200%	200%	0.45
	Apr	0.66	0.90	0.00	0.000		136%	136%	0.24
	May	0.54	0.90	0.00	0.000		166%	166%	0.36
	Jun	0.50	0.90	0.00	0.000		182%	182%	0.40
	Jul	0.51	0.90	0.00	0.000		176%	176%	0.39
	Aug	0.54	0.90	0.00	0.000		166%	166%	0.36
	Sep	0.58	0.90	0.00	0.000		156%	156%	0.32
	Oct	0.54	0.90	0.00	0.000		166%	166%	0.36
	Nov	0.50	0.90	0.00	0.000		180%	180%	0.40
	Dec	0.52	0.90	0.00	0.000		173%	173%	0.38

The Peak Demand was forecasted using Linear Trend Method of Forecasting. Quezelco II uses Historical Data on this process. Peak Demand was forecasted to occur on the month of April due to summer season. Monthly Peak Demand is at its lowest on the month of January due to rainy season. In general, Peak Demand is expected to grow at an average rate of 4.37% annually.



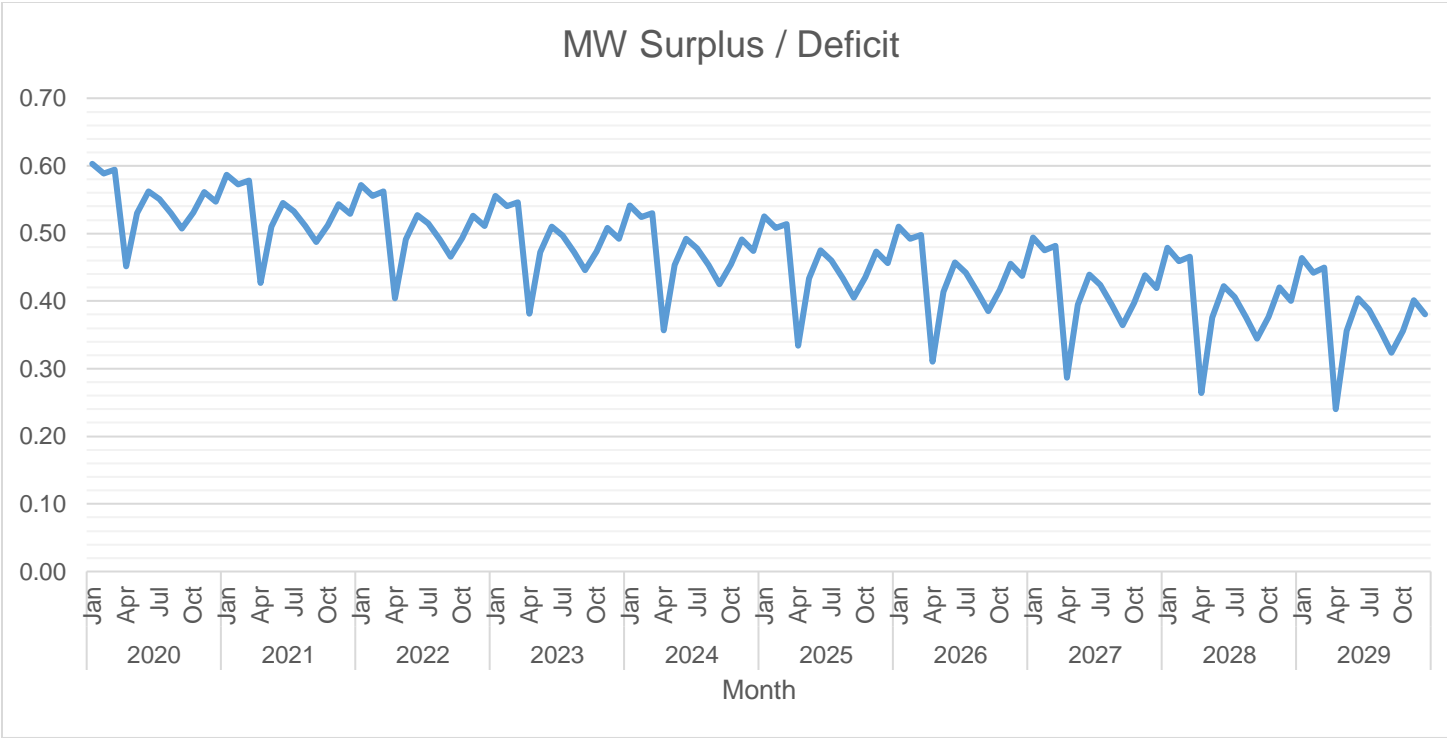
The NPC Plant Dependable Capacity is enough to serve the peak demand of the Island of Patnanungan. The available supply is generally above the Peak Demand. This is because of NPC-SPUG's installed standby generator sets.



The NPC Plant available installed capacity is 1.059 MW while dependable capacity is 0.9 MW.



Currently, there is available capacity by 250%. The highest target contracting level is 303% which is expected to occur on 2020. The lowest target contracting level is 136% which is expected to occur on 2029.



Currently, there is available capacity surplus of 0.54 MW. The highest surplus is 0.6 MW which is expected to occur on the month of January 2020. The lowest surplus is 0.24 MW which is expected to occur on the month of April 2029.

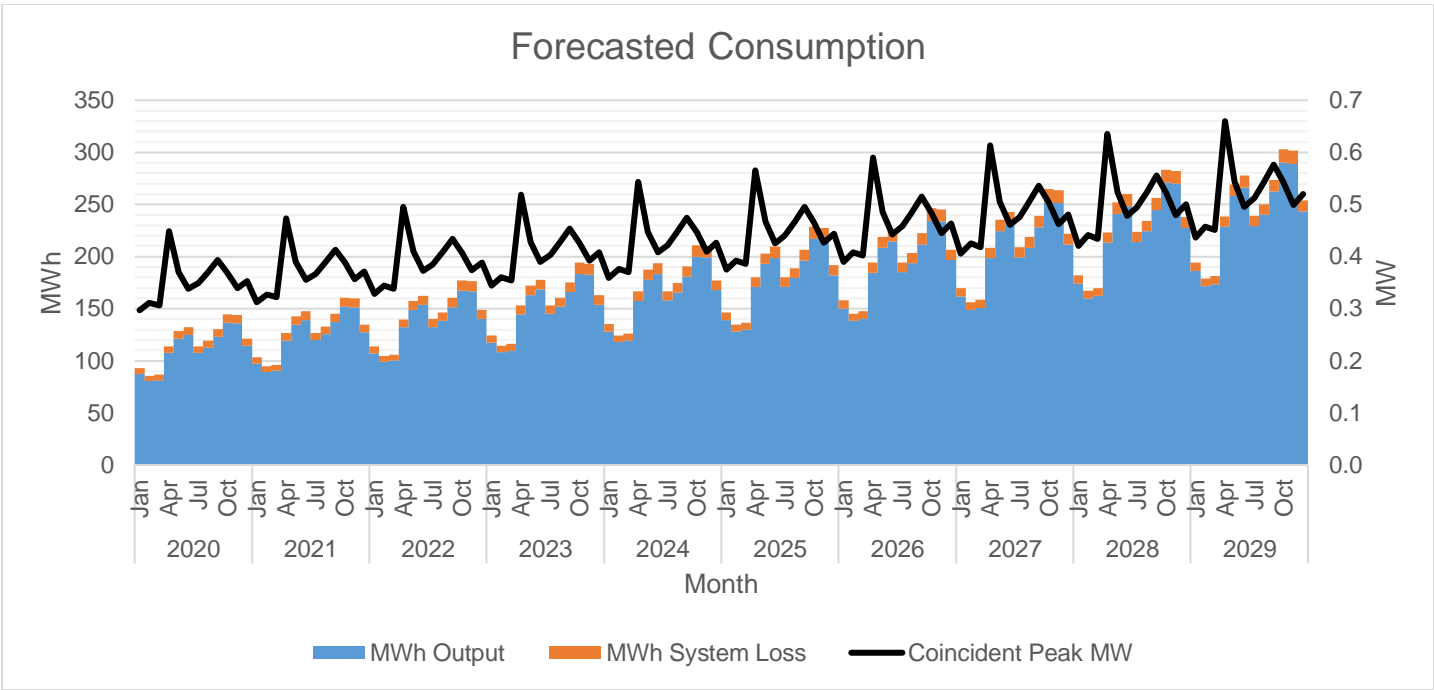
		MWh Offtake	MWh Output	MWh System Loss	Transm'n Loss	System Loss
2020	Jan	93	87	5	0.00%	5.71%
	Feb	85	80	5	0.00%	5.71%
	Mar	86	82	5	0.00%	5.71%
	Apr	114	107	7	0.00%	5.71%
	May	128	121	7	0.00%	5.71%
	Jun	133	125	8	0.00%	5.71%
	Jul	114	108	7	0.00%	5.71%
	Aug	120	113	7	0.00%	5.71%
	Sep	131	123	7	0.00%	5.71%
	Oct	145	136	8	0.00%	5.71%
	Nov	144	136	8	0.00%	5.71%
	Dec	121	114	7	0.00%	5.71%
2021	Jan	103	97	6	0.00%	5.64%
	Feb	95	90	5	0.00%	5.64%
	Mar	96	91	5	0.00%	5.64%
	Apr	127	120	7	0.00%	5.64%
	May	143	135	8	0.00%	5.64%
	Jun	147	139	8	0.00%	5.64%
	Jul	127	120	7	0.00%	5.64%
	Aug	133	125	8	0.00%	5.64%
	Sep	145	137	8	0.00%	5.64%
	Oct	161	152	9	0.00%	5.64%
	Nov	160	151	9	0.00%	5.64%
	Dec	135	127	8	0.00%	5.64%
2022	Jan	114	107	6	0.00%	5.55%
	Feb	105	99	6	0.00%	5.55%
	Mar	106	100	6	0.00%	5.55%
	Apr	140	132	8	0.00%	5.55%
	May	158	149	9	0.00%	5.55%
	Jun	163	153	9	0.00%	5.55%
	Jul	140	132	8	0.00%	5.55%
	Aug	147	138	8	0.00%	5.55%
	Sep	160	151	9	0.00%	5.55%
	Oct	177	167	10	0.00%	5.55%
	Nov	177	167	10	0.00%	5.55%
	Dec	149	140	8	0.00%	5.55%
2023	Jan	124	118	7	0.00%	5.43%
	Feb	114	108	6	0.00%	5.43%
	Mar	116	110	6	0.00%	5.43%
	Apr	153	145	8	0.00%	5.43%
	May	172	163	9	0.00%	5.43%
	Jun	178	168	10	0.00%	5.43%
	Jul	153	145	8	0.00%	5.43%

		MWh Offtake	MWh Output	MWh System Loss	Transm'n Loss	System Loss
	Aug	160	152	9	0.00%	5.43%
	Sep	175	166	10	0.00%	5.43%
	Oct	194	183	11	0.00%	5.43%
	Nov	193	183	10	0.00%	5.43%
	Dec	163	154	9	0.00%	5.43%
2024	Jan	135	128	7	0.00%	5.28%
	Feb	125	118	7	0.00%	5.28%
	Mar	126	120	7	0.00%	5.28%
	Apr	166	158	9	0.00%	5.28%
	May	188	178	10	0.00%	5.28%
	Jun	194	183	10	0.00%	5.29%
	Jul	167	158	9	0.00%	5.28%
	Aug	175	165	9	0.00%	5.28%
	Sep	191	181	10	0.00%	5.28%
	Oct	211	200	11	0.00%	5.28%
	Nov	210	199	11	0.00%	5.28%
	Dec	177	168	9	0.00%	5.28%
2025	Jan	147	139	7	0.00%	5.11%
	Feb	135	128	7	0.00%	5.11%
	Mar	137	130	7	0.00%	5.11%
	Apr	180	171	9	0.00%	5.11%
	May	203	193	10	0.00%	5.11%
	Jun	209	199	11	0.00%	5.11%
	Jul	180	171	9	0.00%	5.11%
	Aug	189	179	10	0.00%	5.11%
	Sep	207	196	11	0.00%	5.11%
	Oct	229	217	12	0.00%	5.11%
	Nov	228	216	12	0.00%	5.11%
	Dec	192	182	10	0.00%	5.11%
2026	Jan	158	150	8	0.00%	4.91%
	Feb	145	138	7	0.00%	4.91%
	Mar	147	140	7	0.00%	4.91%
	Apr	194	185	10	0.00%	4.91%
	May	219	208	11	0.00%	4.91%
	Jun	226	215	11	0.00%	4.91%
	Jul	195	185	10	0.00%	4.91%
	Aug	204	194	10	0.00%	4.91%
	Sep	223	212	11	0.00%	4.91%
	Oct	246	234	12	0.00%	4.91%
	Nov	245	233	12	0.00%	4.91%
	Dec	207	196	10	0.00%	4.91%
2027	Jan	170	162	8	0.00%	4.68%
	Feb	156	149	7	0.00%	4.68%

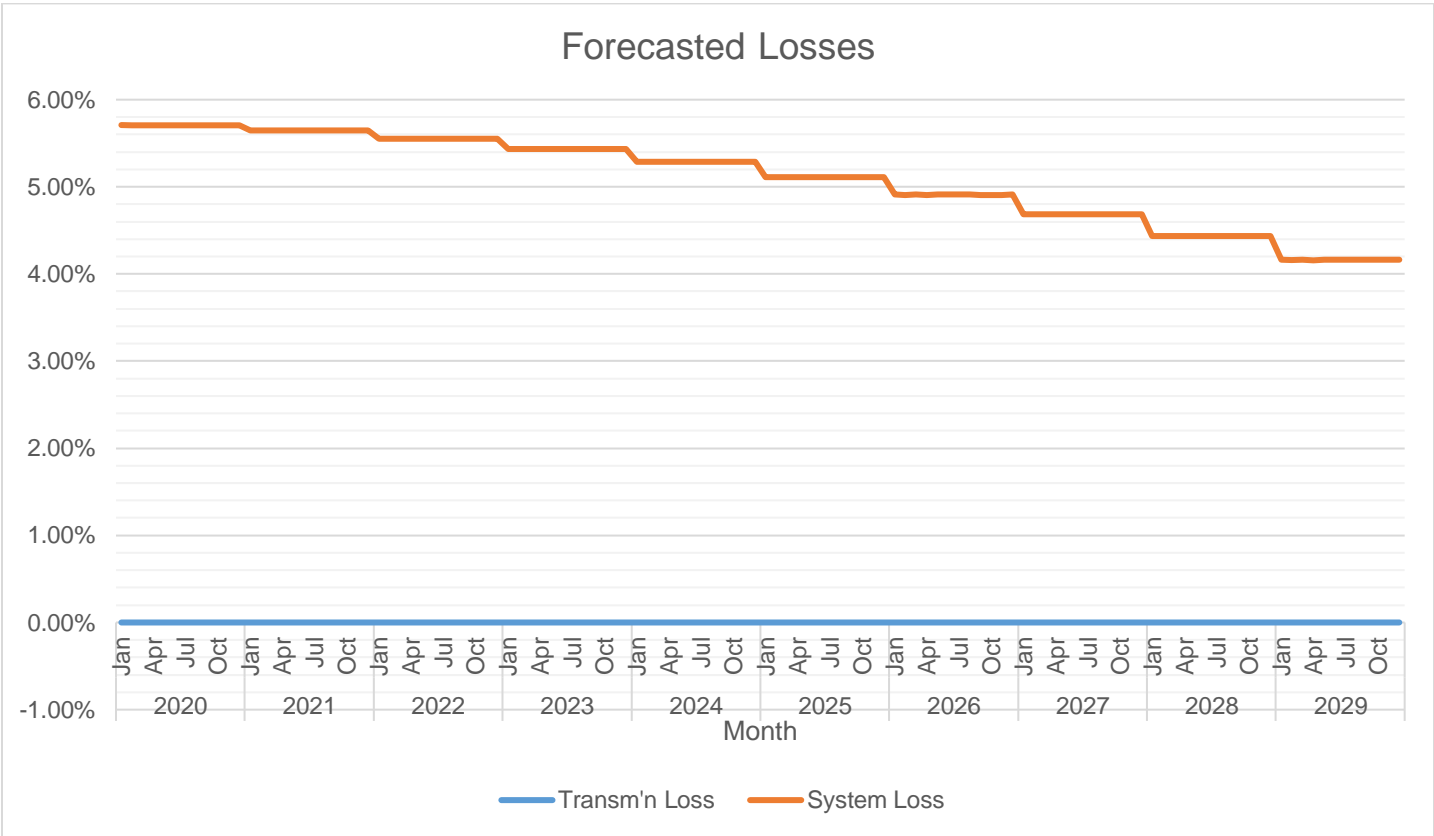
		MWh Offtake	MWh Output	MWh System Loss	Transm'n Loss	System Loss
	Mar	158	151	7	0.00%	4.68%
	Apr	209	199	10	0.00%	4.68%
	May	235	224	11	0.00%	4.68%
	Jun	243	231	11	0.00%	4.68%
	Jul	209	199	10	0.00%	4.68%
	Aug	219	209	10	0.00%	4.68%
	Sep	239	228	11	0.00%	4.68%
	Oct	265	252	12	0.00%	4.68%
	Nov	264	251	12	0.00%	4.68%
	Dec	222	212	10	0.00%	4.68%
2028	Jan	182	174	8	0.00%	4.43%
	Feb	167	160	7	0.00%	4.43%
	Mar	170	162	8	0.00%	4.43%
	Apr	223	214	10	0.00%	4.43%
	May	252	241	11	0.00%	4.43%
	Jun	260	248	12	0.00%	4.43%
	Jul	224	214	10	0.00%	4.43%
	Aug	234	224	10	0.00%	4.43%
	Sep	256	245	11	0.00%	4.43%
	Oct	283	271	13	0.00%	4.43%
	Nov	282	270	13	0.00%	4.43%
	Dec	238	227	11	0.00%	4.43%
2029	Jan	194	186	8	0.00%	4.16%
	Feb	179	171	7	0.00%	4.16%
	Mar	181	174	8	0.00%	4.16%
	Apr	239	229	10	0.00%	4.16%
	May	269	258	11	0.00%	4.16%
	Jun	278	266	12	0.00%	4.16%
	Jul	239	229	10	0.00%	4.16%
	Aug	250	240	10	0.00%	4.16%
	Sep	274	262	11	0.00%	4.16%
	Oct	303	290	13	0.00%	4.16%
	Nov	302	289	13	0.00%	4.16%
	Dec	254	243	11	0.00%	4.16%

MWh Offtake was forecasted using Linear Trend Method of Forecasting based on Historical Data. The assumed load factor is 56.74% average.

Quezelco II is on the process of data gathering to segregate system losses to facilitate load flow simulations. The target completion is on June 2020.



MWh Output was expected to grow at an average rate of 8.77% annually.



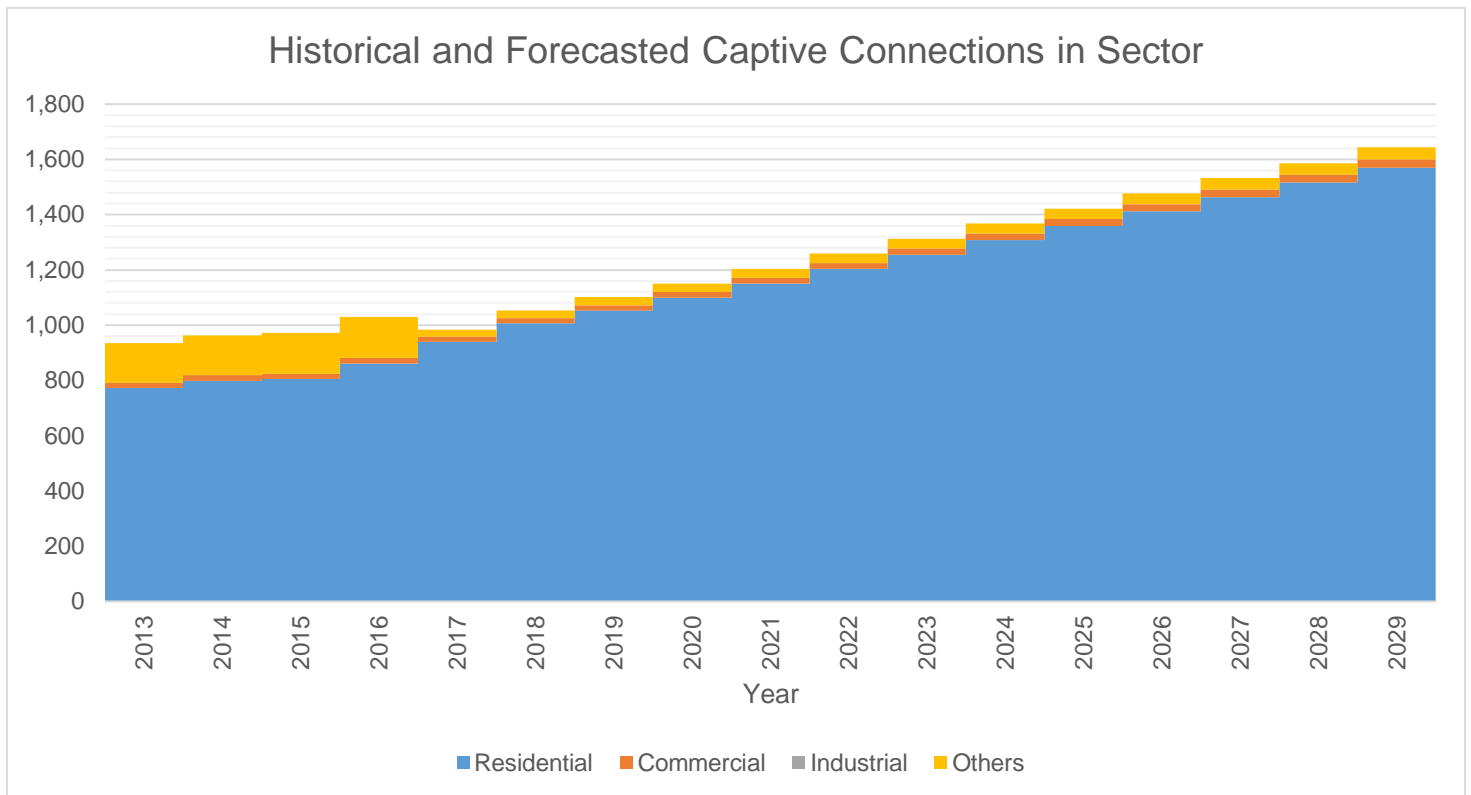
System Loss is expected to range from 5.71% down to 4.16%.

Power Supply

Case No.	Type	GenCo	Minimum MW	Minimum MWh/yr	PSA Start	PSA End
NPC SPUG Patnanungan	Base	National Power Corporation	0.30	2,592	8/15/2011	12/25/2029

Quezelco II has no schedule for Power Procurement in this Island. Presently, NPC is the one who supply the power requirement of Quezelco II for Patnanungan, Quezon.

Captive Customer Connections



For Patnanungan, Quezon, the number of Residential connections is expected to grow at an average rate of 4.08% annually. Said customer class is expected to account for 84.19% of the total consumption.

We acknowledged NEA comments that there are some inconsistencies on QUEZELCO II data particularly on the Historical data. These data were verified and found to be incorrect. We corrected these data for the submission of QUEZELCO II's latest DDP-PSPP 2020.

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