Power Supply Procurement Plan 2020

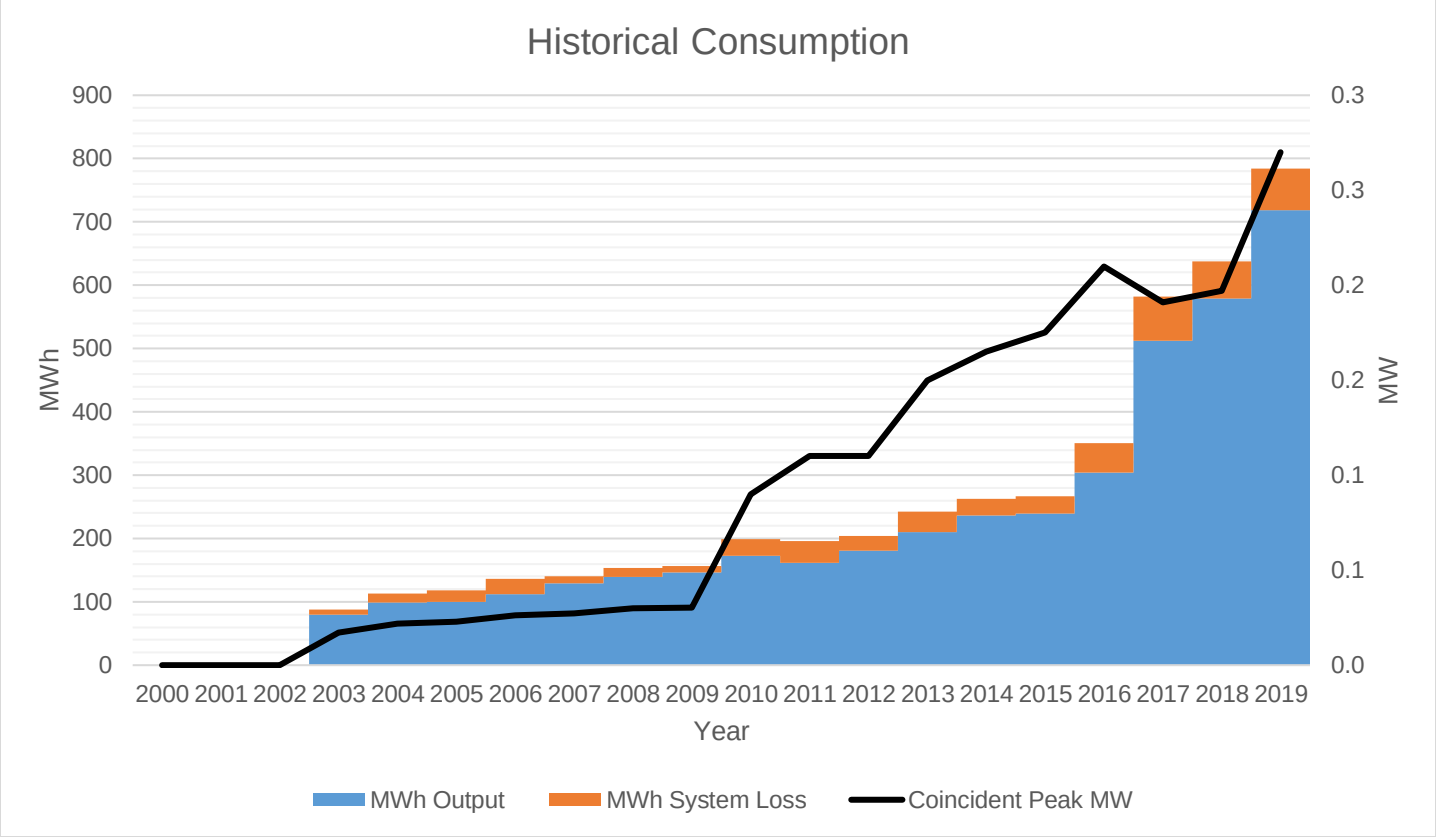
Jomalig, Quezon

Historical Consumption Data

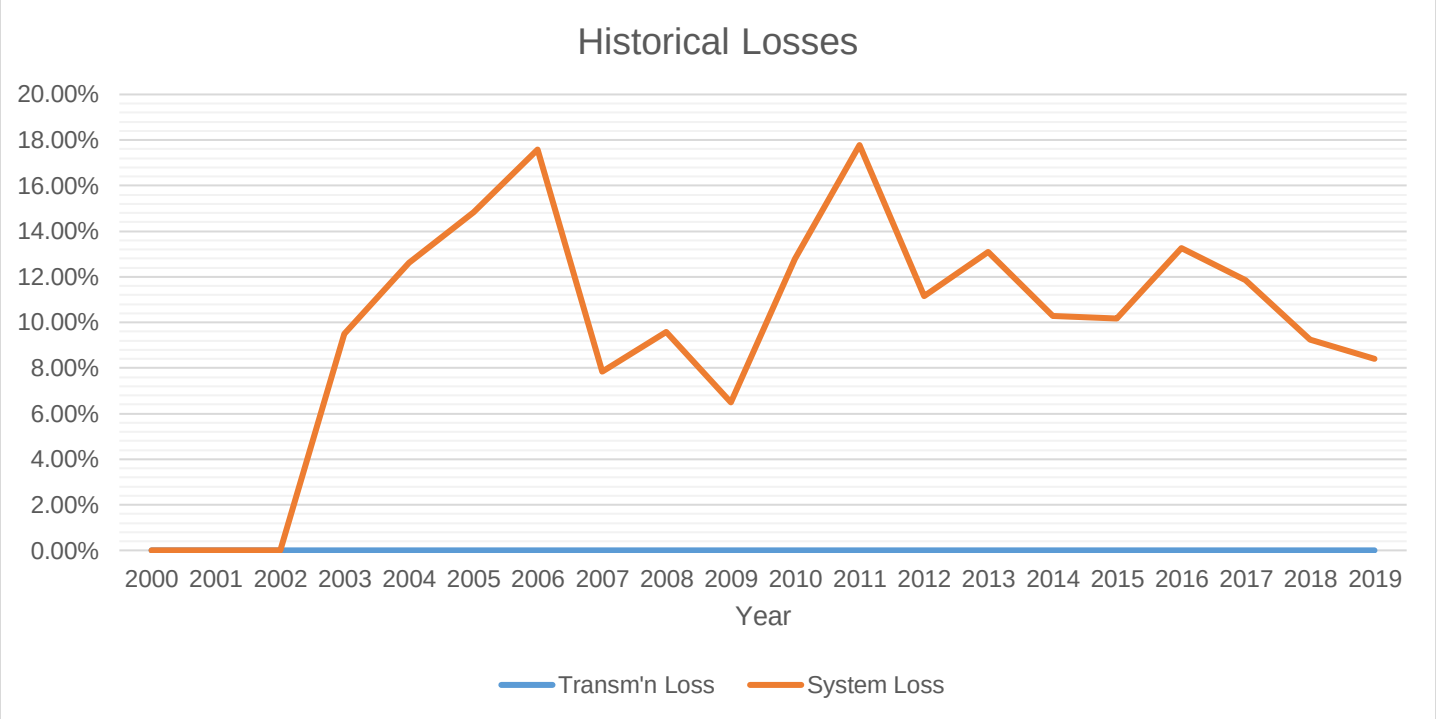
	Coincident Peak MW	MWh Offtake	WESM	MWh Input	MWh Output	MWh System Loss	Load Factor	Discrepancy	Transm'n Loss	System Loss
2000	0.00	0	0	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
2001	0.00	0	0	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
2002	0.00	0	0	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
2003	0.02	88	0	88	80	8	59%	0.00%	0.00%	9.51%
2004	0.02	113	0	113	99	14	59%	0.00%	0.00%	12.61%
2005	0.02	118	0	118	100	17	59%	-0.11%	0.00%	14.83%
2006	0.03	136	0	136	112	24	59%	0.00%	0.00%	17.57%
2007	0.03	141	0	141	130	11	59%	0.00%	0.00%	7.85%
2008	0.03	154	0	154	139	15	59%	0.00%	0.00%	9.57%
2009	0.03	157	0	157	146	10	59%	0.00%	0.00%	6.49%
2010	0.09	199	0	199	173	25	25%	0.00%	0.00%	12.79%
2011	0.11	196	0	196	162	35	20%	0.00%	0.00%	17.78%
2012	0.11	204	0	204	181	23	21%	0.00%	0.00%	11.16%
2013	0.15	242	0	242	210	32	18%	0.00%	0.00%	13.08%
2014	0.17	263	0	263	236	27	18%	0.00%	0.00%	10.27%
2015	0.18	267	0	267	240	27	17%	0.00%	0.00%	10.16%
2016	0.21	350	0	350	304	46	19%	0.00%	0.00%	13.27%
2017	0.19	582	0	582	513	69	35%	0.00%	0.00%	11.86%
2018	0.20	638	0	638	579	59	37%	0.00%	0.00%	9.25%
2019	0.27	784	0	784	718	66	33%	0.00%	0.00%	8.39%

Peak Demand increased from 0.18 MW in 2015 to 0.21 MW in 2016 at a rate of 16.67% due to 8 hours additional operating hours of NPC-SPUG from 8 hours to 16 hours a day. Also, for this reason, MWh Offtake (Purchased) increased from 350 MWh in 2016 to 582 MWh in 2017 at a rate of 66.29%. Within the same period, Load Factor ranged from 19% to 59%.

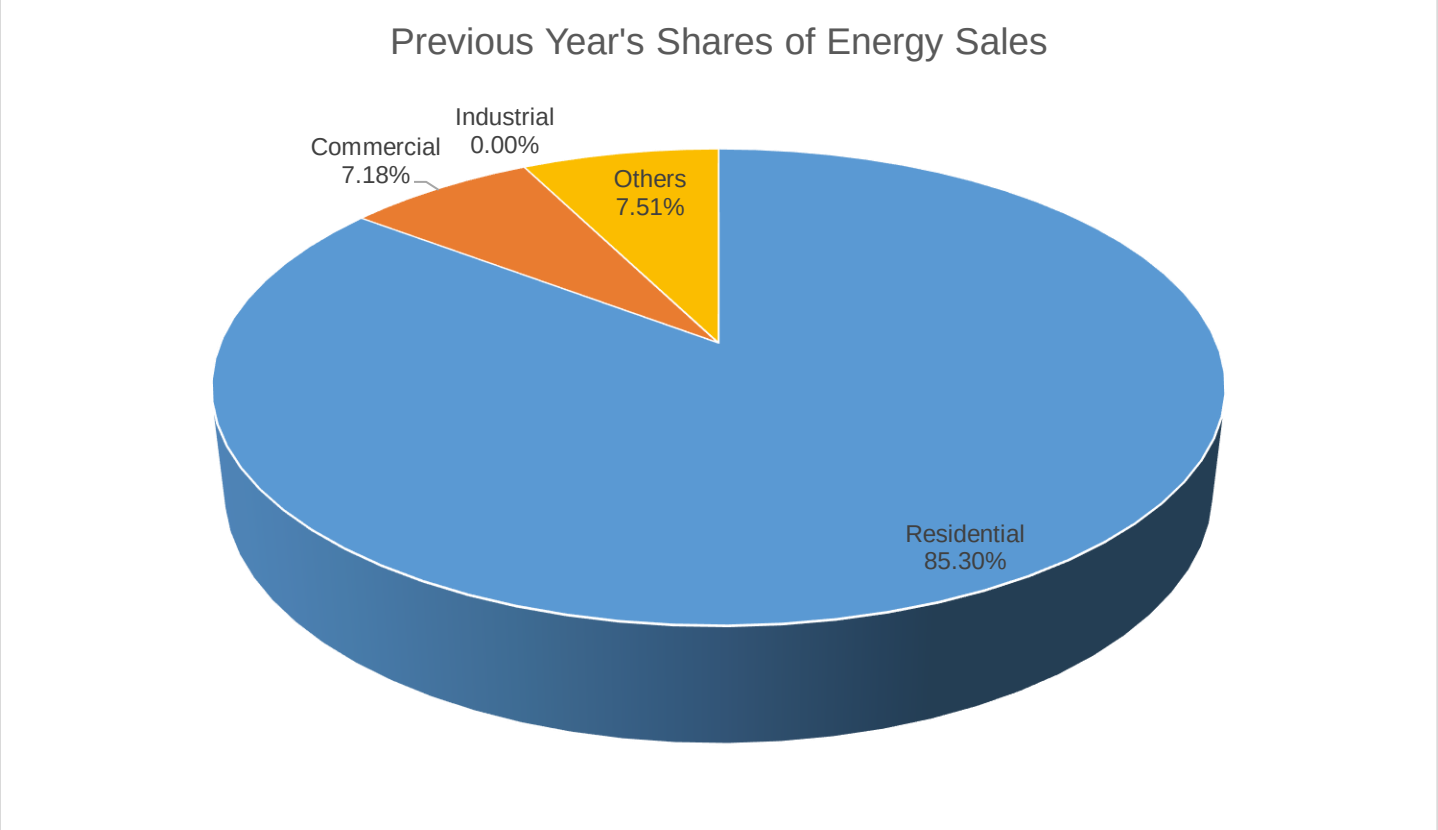
We acknowledged NEA comments that there are some inconsistencies on QUEZELCO II data particularly on the Historical data. These data were verified and found to be incorrect. We corrected these data for the submission of QUEZELCO II's latest DDP-PSPP 2020.



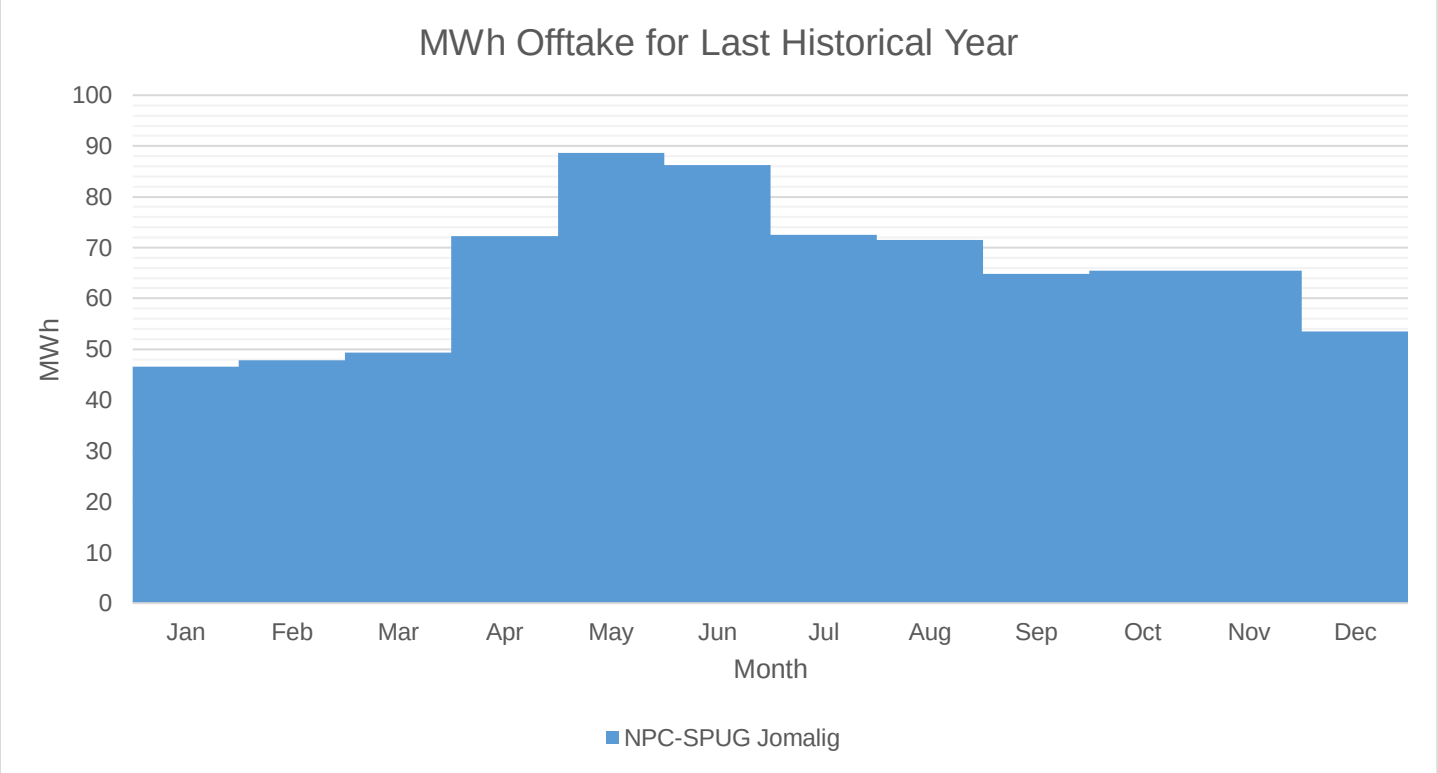
MWh Output (Sales) increased from year 2016 to year 2017 at a rate of 68.75%, while MWh System Loss increased at a rate of 50% within the same period.



Historically, System Loss ranged from 6.49% to 17.78%. System Loss peaked at 17.78% on year 2011 because of old distribution lines that was subject for upgrading and rehabilitation. Another reason is the ongoing expansion of distribution lines in different barangays of Jomalig, Quezon resulted to additional line losses.

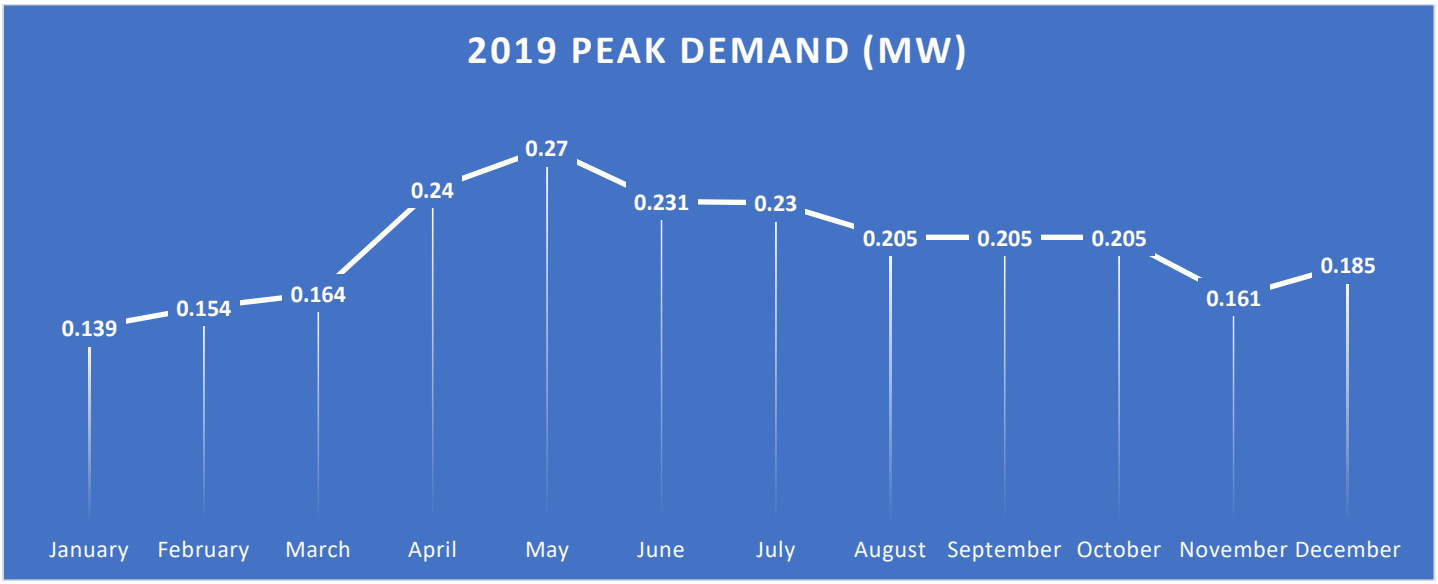


Residential customers account for the bulk of energy sales at 85.30% due to the high number of connections. In contrast, Commercial customers accounted for only 7.18% of energy sales due to the low number of connections. There are no Industrial customers in Jomalig, Quezon.



MWh Offtake peaked at 89 MWh in the month of May due to summer season.

Previous Year's Load Profile



Peak MW 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

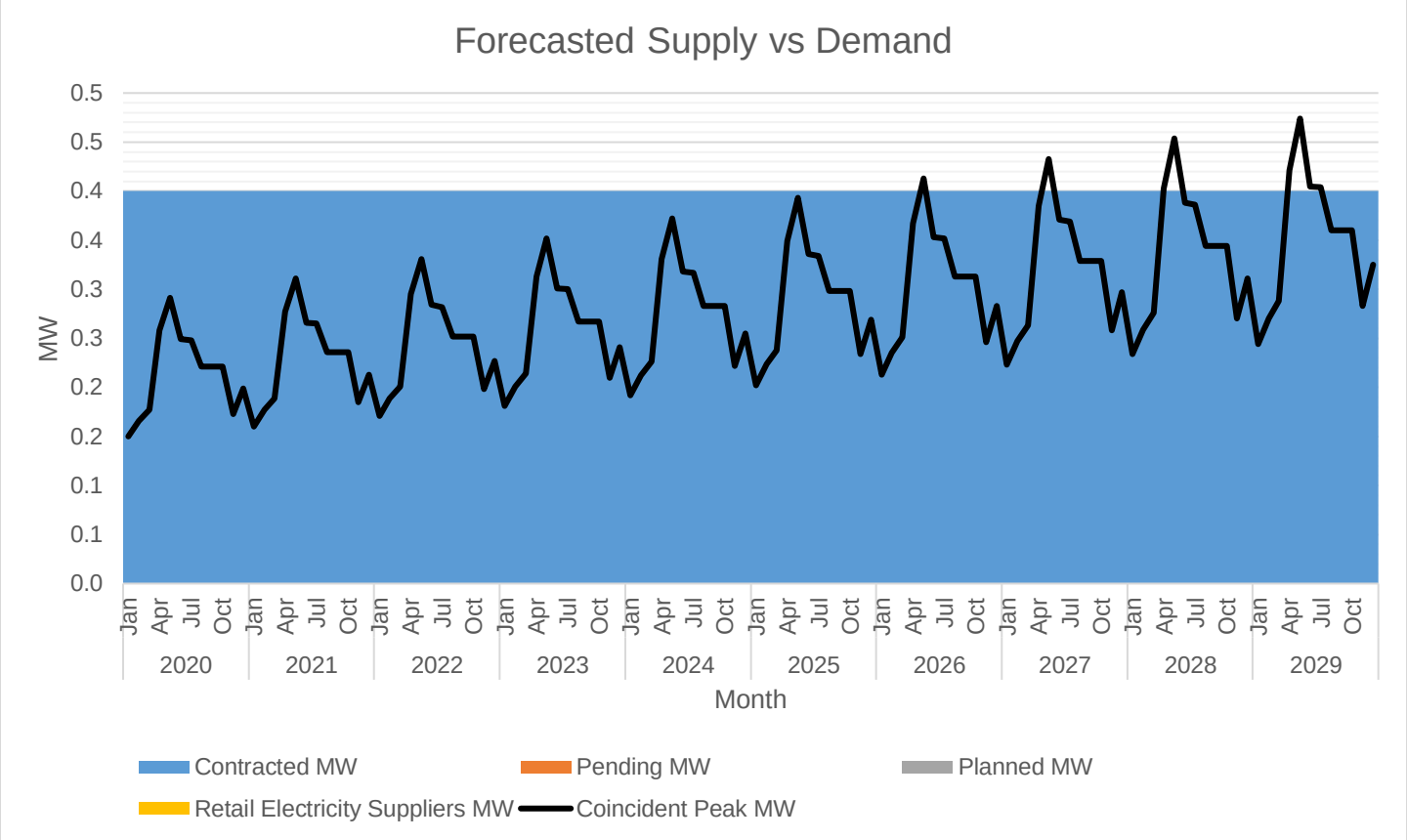
		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	Retail Electricity Suppliers MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
2020	Jan	0.15	0.40	0.00	0.000		267%	267%	0.25
	Feb	0.17	0.40	0.00	0.000		241%	241%	0.23
	Mar	0.18	0.40	0.00	0.000		226%	226%	0.22
	Apr	0.26	0.40	0.00	0.000		155%	155%	0.14
	May	0.29	0.40	0.00	0.000		137%	137%	0.11
	Jun	0.25	0.40	0.00	0.000		161%	161%	0.15
	Jul	0.25	0.40	0.00	0.000		161%	161%	0.15
	Aug	0.22	0.40	0.00	0.000		181%	181%	0.18
	Sep	0.22	0.40	0.00	0.000		181%	181%	0.18
	Oct	0.22	0.40	0.00	0.000		181%	181%	0.18
	Nov	0.17	0.40	0.00	0.000		231%	231%	0.23
	Dec	0.20	0.40	0.00	0.000		201%	201%	0.20
2021	Jan	0.16	0.40	0.00	0.000		250%	250%	0.24
	Feb	0.18	0.40	0.00	0.000		226%	226%	0.22
	Mar	0.19	0.40	0.00	0.000		212%	212%	0.21
	Apr	0.28	0.40	0.00	0.000		144%	144%	0.12
	May	0.31	0.40	0.00	0.000		129%	129%	0.09
	Jun	0.27	0.40	0.00	0.000		150%	150%	0.13
	Jul	0.27	0.40	0.00	0.000		151%	151%	0.14
	Aug	0.24	0.40	0.00	0.000		169%	169%	0.16
	Sep	0.24	0.40	0.00	0.000		169%	169%	0.16
	Oct	0.24	0.40	0.00	0.000		169%	169%	0.16
	Nov	0.19	0.40	0.00	0.000		216%	216%	0.22
	Dec	0.21	0.40	0.00	0.000		188%	188%	0.19
2022	Jan	0.17	0.40	0.00	0.000		234%	234%	0.23
	Feb	0.19	0.40	0.00	0.000		212%	212%	0.21
	Mar	0.20	0.40	0.00	0.000		199%	199%	0.20
	Apr	0.30	0.40	0.00	0.000		136%	136%	0.11
	May	0.33	0.40	0.00	0.000		121%	121%	0.07

		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	Retail Electricity Suppliers MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
	Jun	0.28	0.40	0.00	0.000		141%	141%	0.12
	Jul	0.28	0.40	0.00	0.000		142%	142%	0.12
	Aug	0.25	0.40	0.00	0.000		159%	159%	0.15
	Sep	0.25	0.40	0.00	0.000		159%	159%	0.15
	Oct	0.25	0.40	0.00	0.000		159%	159%	0.15
	Nov	0.20	0.40	0.00	0.000		202%	202%	0.20
	Dec	0.23	0.40	0.00	0.000		176%	176%	0.17
2023	Jan	0.18	0.40	0.00	0.000		221%	221%	0.22
	Feb	0.20	0.40	0.00	0.000		199%	199%	0.20
	Mar	0.21	0.40	0.00	0.000		187%	187%	0.19
	Apr	0.31	0.40	0.00	0.000		128%	128%	0.09
	May	0.35	0.40	0.00	0.000		114%	114%	0.05
	Jun	0.30	0.40	0.00	0.000		133%	133%	0.10
	Jul	0.30	0.40	0.00	0.000		133%	133%	0.10
	Aug	0.27	0.40	0.00	0.000		150%	150%	0.13
	Sep	0.27	0.40	0.00	0.000		150%	150%	0.13
	Oct	0.27	0.40	0.00	0.000		150%	150%	0.13
	Nov	0.21	0.40	0.00	0.000		190%	190%	0.19
	Dec	0.24	0.40	0.00	0.000		166%	166%	0.16
2024	Jan	0.19	0.40	0.00	0.000		208%	208%	0.21
	Feb	0.21	0.40	0.00	0.000		189%	189%	0.19
	Mar	0.23	0.40	0.00	0.000		177%	177%	0.17
	Apr	0.33	0.40	0.00	0.000		121%	121%	0.07
	May	0.37	0.40	0.00	0.000		108%	108%	0.03
	Jun	0.32	0.40	0.00	0.000		126%	126%	0.08
	Jul	0.32	0.40	0.00	0.000		126%	126%	0.08
	Aug	0.28	0.40	0.00	0.000		141%	141%	0.12
	Sep	0.28	0.40	0.00	0.000		141%	141%	0.12
	Oct	0.28	0.40	0.00	0.000		141%	141%	0.12
	Nov	0.22	0.40	0.00	0.000		180%	180%	0.18
	Dec	0.26	0.40	0.00	0.000		157%	157%	0.15

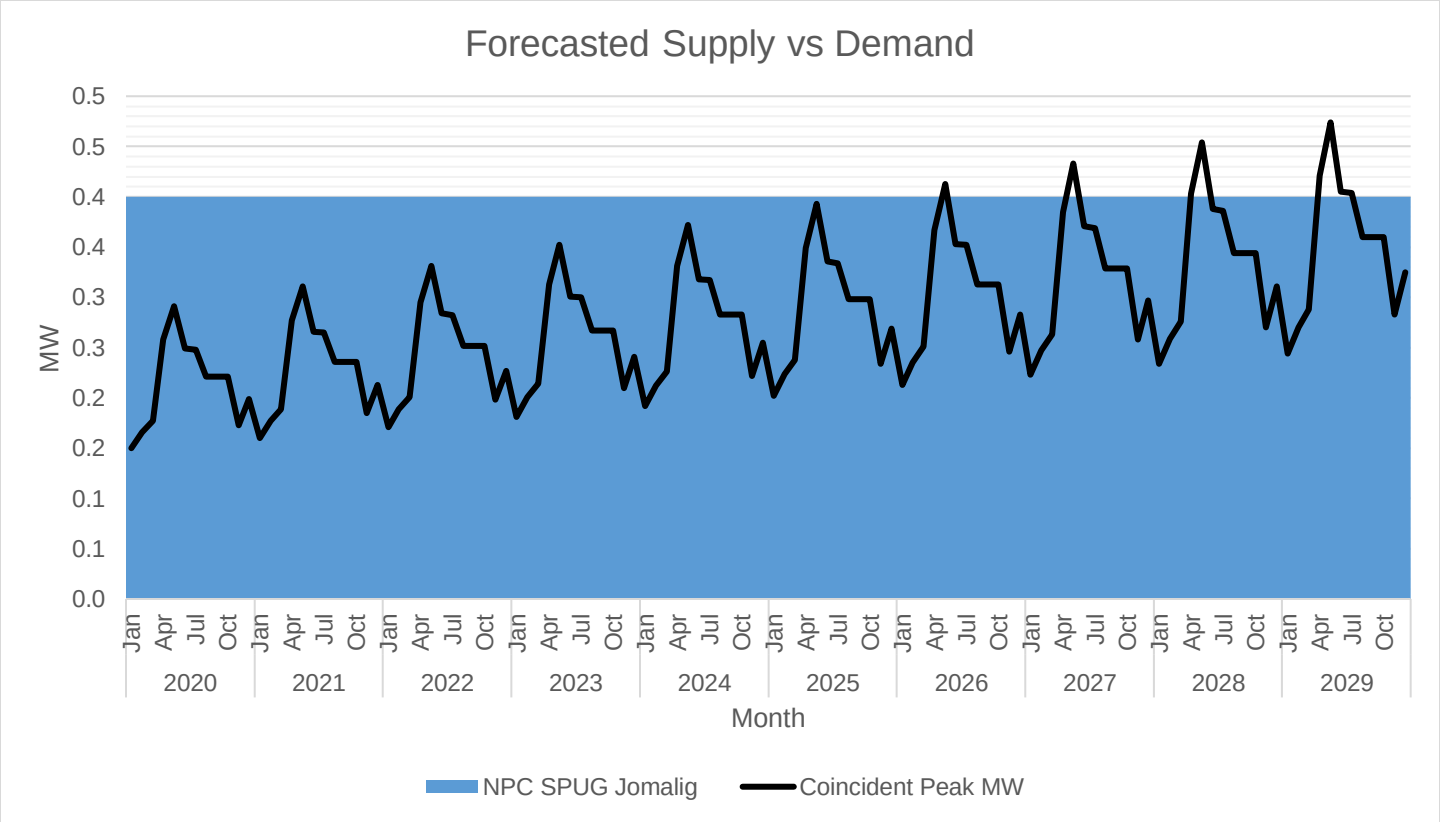
		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	Retail Electricity Suppliers MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
2025	Jan	0.20	0.40	0.00	0.000		198%	198%	0.20
	Feb	0.22	0.40	0.00	0.000		179%	179%	0.18
	Mar	0.24	0.40	0.00	0.000		168%	168%	0.16
	Apr	0.35	0.40	0.00	0.000		115%	115%	0.05
	May	0.39	0.40	0.00	0.000		102%	102%	0.01
	Jun	0.34	0.40	0.00	0.000		119%	119%	0.06
	Jul	0.33	0.40	0.00	0.000		120%	120%	0.07
	Aug	0.30	0.40	0.00	0.000		134%	134%	0.10
	Sep	0.30	0.40	0.00	0.000		134%	134%	0.10
	Oct	0.30	0.40	0.00	0.000		134%	134%	0.10
	Nov	0.23	0.40	0.00	0.000		171%	171%	0.17
	Dec	0.27	0.40	0.00	0.000		149%	149%	0.13
2026	Jan	0.21	0.40	0.00	0.000		188%	188%	0.19
	Feb	0.24	0.40	0.00	0.000		170%	170%	0.17
	Mar	0.25	0.40	0.00	0.000		159%	159%	0.15
	Apr	0.37	0.40	0.00	0.000		109%	109%	0.03
	May	0.41	0.40	0.00	0.000		97%	97%	-0.01
	Jun	0.35	0.40	0.00	0.000		113%	113%	0.05
	Jul	0.35	0.40	0.00	0.000		114%	114%	0.05
	Aug	0.31	0.40	0.00	0.000		128%	128%	0.09
	Sep	0.31	0.40	0.00	0.000		128%	128%	0.09
	Oct	0.31	0.40	0.00	0.000		128%	128%	0.09
	Nov	0.25	0.40	0.00	0.000		163%	163%	0.15
	Dec	0.28	0.40	0.00	0.000		141%	141%	0.12
2027	Jan	0.22	0.40	0.00	0.000		179%	179%	0.18
	Feb	0.25	0.40	0.00	0.000		162%	162%	0.15
	Mar	0.26	0.40	0.00	0.000		152%	152%	0.14
	Apr	0.39	0.40	0.00	0.000		104%	104%	0.02
	May	0.43	0.40	0.00	0.000		92%	92%	-0.03
	Jun	0.37	0.40	0.00	0.000		108%	108%	0.03
	Jul	0.37	0.40	0.00	0.000		108%	108%	0.03

		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	Retail Electricity Suppliers MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
	Aug	0.33	0.40	0.00	0.000		122%	122%	0.07
	Sep	0.33	0.40	0.00	0.000		122%	122%	0.07
	Oct	0.33	0.40	0.00	0.000		122%	122%	0.07
	Nov	0.26	0.40	0.00	0.000		155%	155%	0.14
	Dec	0.30	0.40	0.00	0.000		135%	135%	0.10
2028	Jan	0.23	0.40	0.00	0.000		171%	171%	0.17
	Feb	0.26	0.40	0.00	0.000		154%	154%	0.14
	Mar	0.28	0.40	0.00	0.000		145%	145%	0.12
	Apr	0.40	0.40	0.00	0.000		99%	99%	0.00
	May	0.45	0.40	0.00	0.000		88%	88%	-0.05
	Jun	0.39	0.40	0.00	0.000		103%	103%	0.01
	Jul	0.39	0.40	0.00	0.000		104%	104%	0.01
	Aug	0.34	0.40	0.00	0.000		116%	116%	0.06
	Sep	0.34	0.40	0.00	0.000		116%	116%	0.06
	Oct	0.34	0.40	0.00	0.000		116%	116%	0.06
	Nov	0.27	0.40	0.00	0.000		148%	148%	0.13
	Dec	0.31	0.40	0.00	0.000		129%	129%	0.09
2029	Jan	0.24	0.40	0.00	0.000		164%	164%	0.16
	Feb	0.27	0.40	0.00	0.000		148%	148%	0.13
	Mar	0.29	0.40	0.00	0.000		139%	139%	0.11
	Apr	0.42	0.40	0.00	0.000		95%	95%	-0.02
	May	0.47	0.40	0.00	0.000		84%	84%	-0.07
	Jun	0.41	0.40	0.00	0.000		99%	99%	-0.01
	Jul	0.40	0.40	0.00	0.000		99%	99%	0.00
	Aug	0.36	0.40	0.00	0.000		111%	111%	0.04
	Sep	0.36	0.40	0.00	0.000		111%	111%	0.04
	Oct	0.36	0.40	0.00	0.000		111%	111%	0.04
	Nov	0.28	0.40	0.00	0.000		141%	141%	0.12
	Dec	0.33	0.40	0.00	0.000		123%	123%	0.08

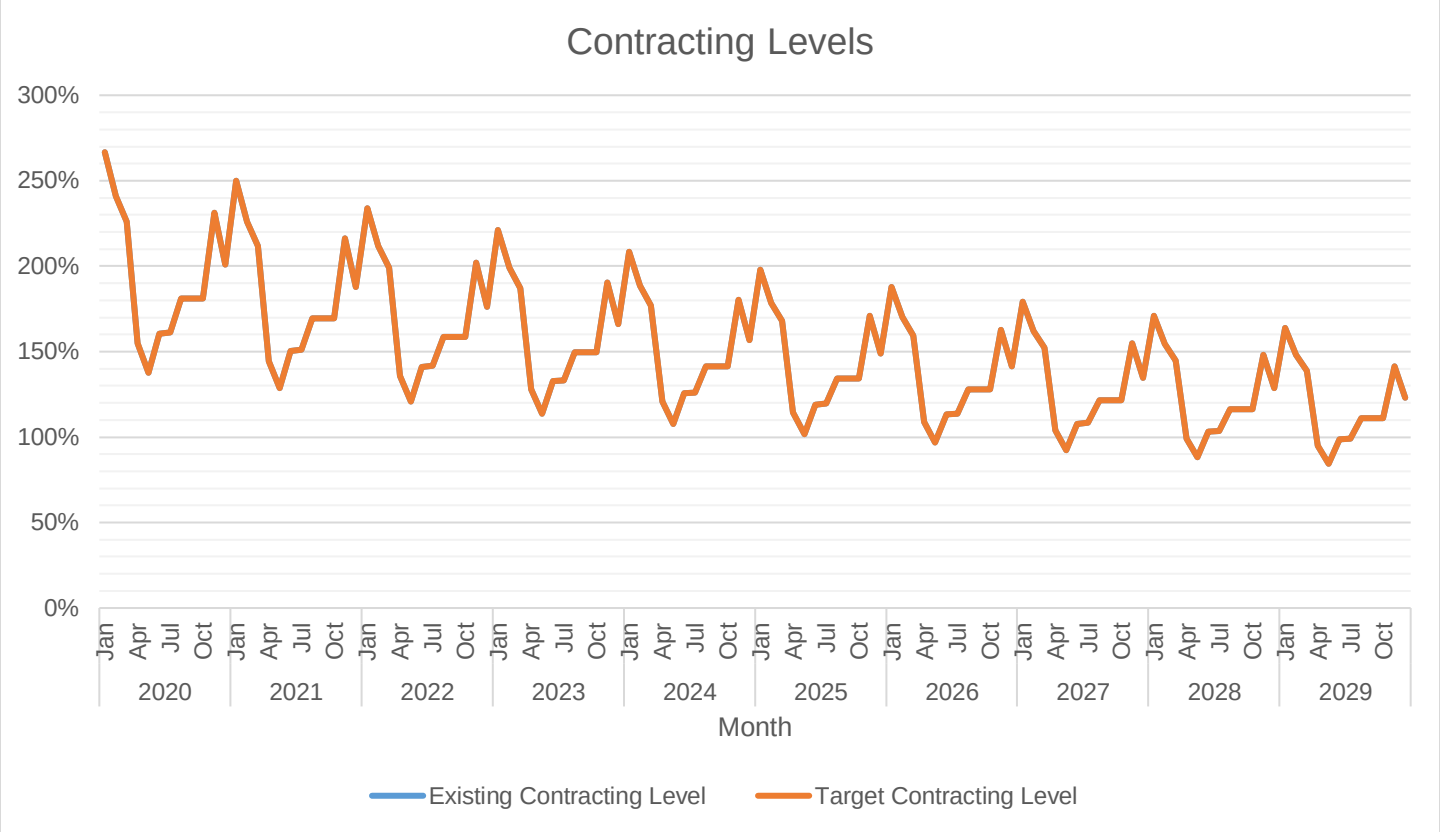
The Peak Demand was forecasted using Linear Trend Method of Forecasting. Quezelco II uses Historical Data on this process. Peak Demand was forecasted to occur on the month of May due to summer season. Monthly Peak Demand is at its lowest on the month of January due to rainy season. In general, Peak Demand is expected to grow at an average rate of 5.57% annually.



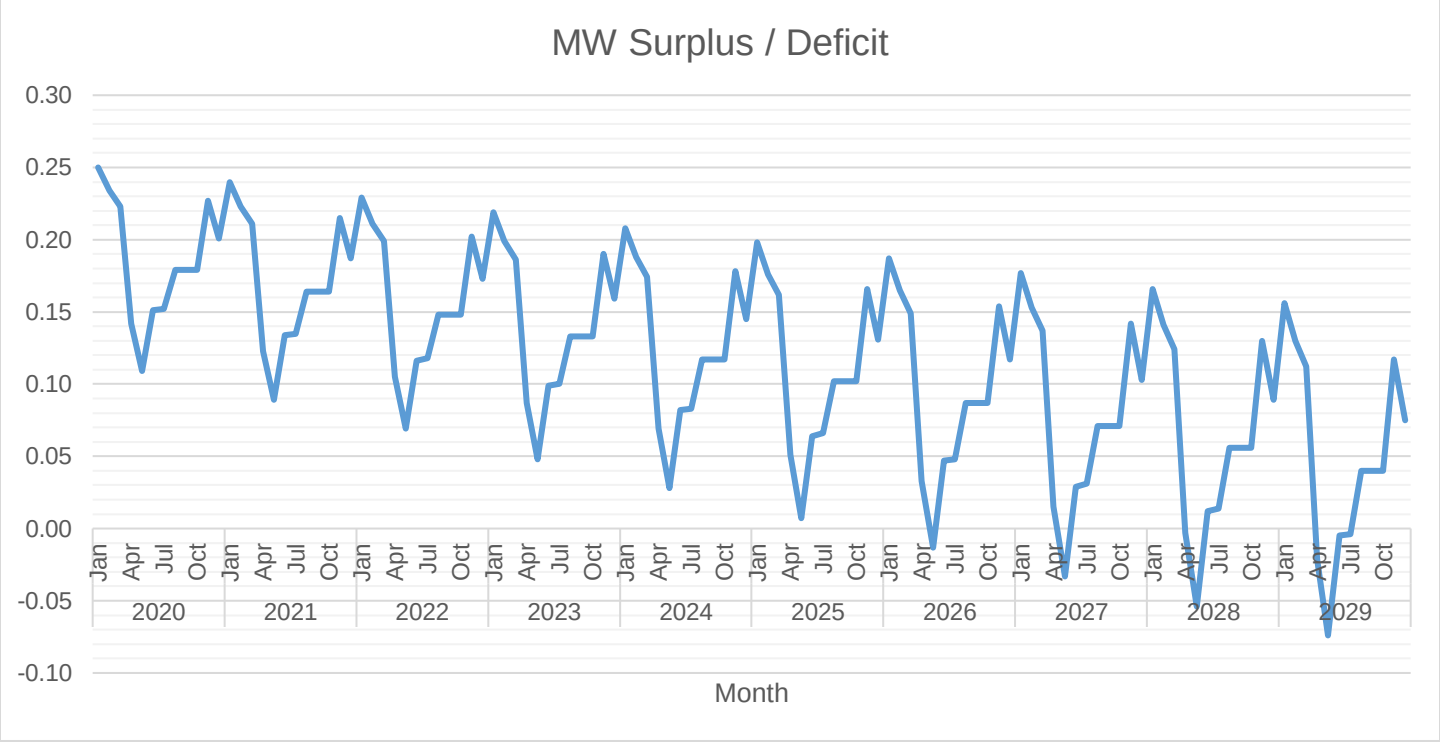
The NPC Plant Dependable Capacity is enough to serve the peak demand of the Island of Jomalig. The available supply is generally above the Peak Demand. This is because of NPC-SPUG's installed standby generator sets.



The NPC Plant available installed capacity is 0.616 MW while dependable capacity is 0.4 MW.



Currently, there is available capacity by 148.15%. The highest target contracting level is 267% which is expected to occur on January 2020. The lowest target contracting level is 84% which is expected to occur on May 2029.



Currently, there is available capacity surplus of 0.13 MW. The highest surplus is 0.25 MW which is expected to occur on the month of January 2020. The highest deficit is 0.07 MW which is expected to occur on the month of May 2029.

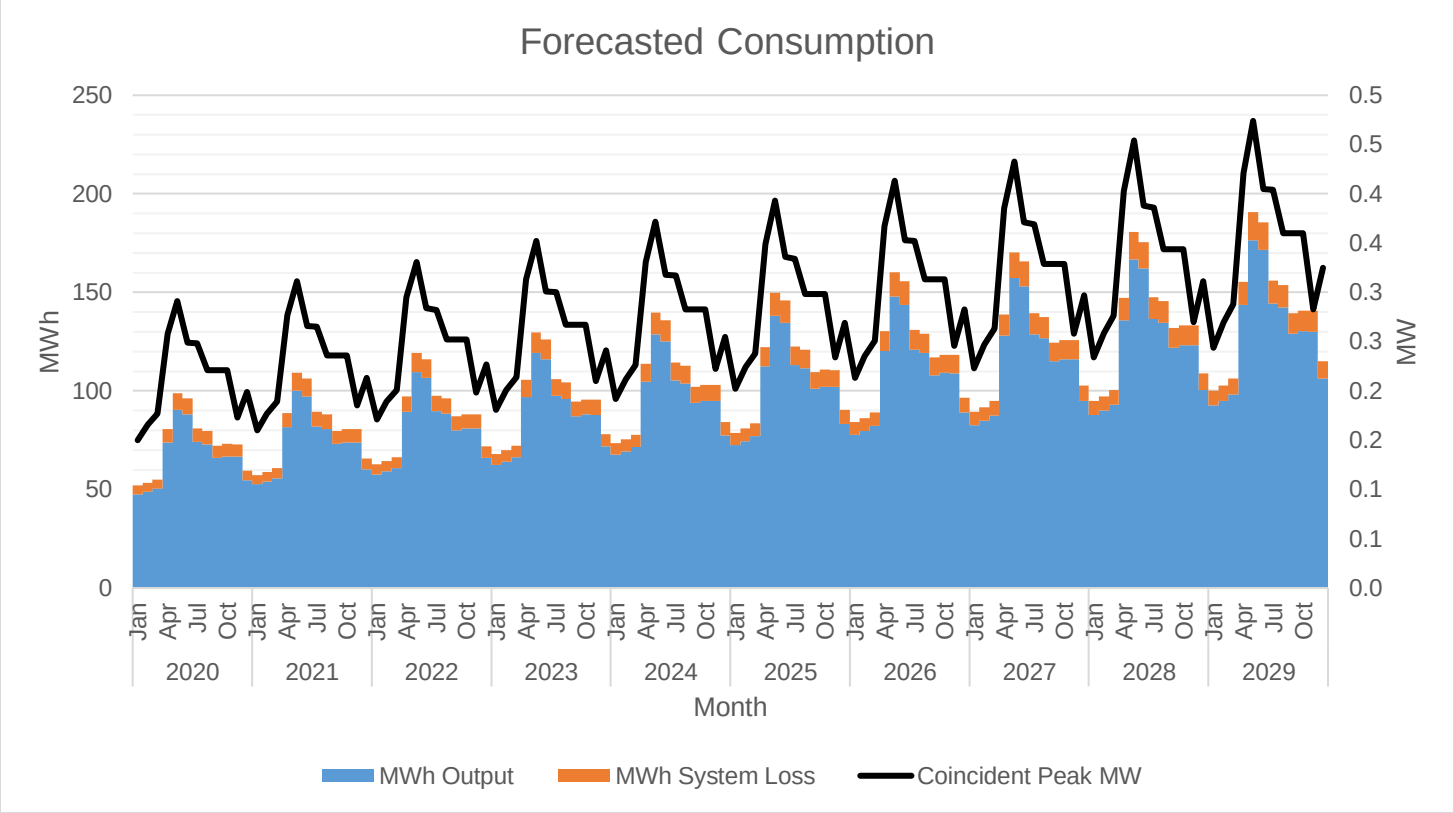
		MWh Offtake	MWh Output	MWh System Loss	Transm'n Loss	System Loss
2020	Jan	52	48	4	0.00%	8.50%
	Feb	53	49	5	0.00%	8.50%
	Mar	55	50	5	0.00%	8.51%
	Apr	81	74	7	0.00%	8.51%
	May	99	90	8	0.00%	8.51%
	Jun	96	88	8	0.00%	8.51%
	Jul	81	74	7	0.00%	8.50%
	Aug	80	73	7	0.00%	8.51%
	Sep	72	66	6	0.00%	8.51%
	Oct	73	67	6	0.00%	8.51%
	Nov	73	67	6	0.00%	8.51%
	Dec	60	55	5	0.00%	8.50%
2021	Jan	57	53	5	0.00%	8.31%
	Feb	59	54	5	0.00%	8.31%
	Mar	61	56	5	0.00%	8.31%
	Apr	89	81	7	0.00%	8.31%
	May	109	100	9	0.00%	8.31%
	Jun	106	97	9	0.00%	8.31%
	Jul	89	82	7	0.00%	8.31%
	Aug	88	81	7	0.00%	8.31%
	Sep	80	73	7	0.00%	8.31%
	Oct	81	74	7	0.00%	8.31%
	Nov	81	74	7	0.00%	8.31%
	Dec	66	60	5	0.00%	8.31%
2022	Jan	63	58	5	0.00%	8.15%
	Feb	64	59	5	0.00%	8.15%
	Mar	66	61	5	0.00%	8.15%
	Apr	97	89	8	0.00%	8.15%
	May	119	110	10	0.00%	8.15%
	Jun	116	107	9	0.00%	8.15%
	Jul	98	90	8	0.00%	8.15%
	Aug	96	88	8	0.00%	8.15%
	Sep	87	80	7	0.00%	8.15%
	Oct	88	81	7	0.00%	8.15%
	Nov	88	81	7	0.00%	8.15%
	Dec	72	66	6	0.00%	8.15%
2023	Jan	68	63	5	0.00%	8.02%
	Feb	70	64	6	0.00%	8.02%
	Mar	72	66	6	0.00%	8.02%
	Apr	105	97	8	0.00%	8.02%
	May	130	119	10	0.00%	8.02%
	Jun	126	116	10	0.00%	8.02%

		MWh Offtake	MWh Output	MWh System Loss	Transm'n Loss	System Loss
	Jul	106	97	8	0.00%	8.02%
	Aug	104	96	8	0.00%	8.02%
	Sep	95	87	8	0.00%	8.02%
	Oct	96	88	8	0.00%	8.02%
	Nov	96	88	8	0.00%	8.02%
	Dec	78	72	6	0.00%	8.02%
2024	Jan	73	68	6	0.00%	7.91%
	Feb	75	69	6	0.00%	7.91%
	Mar	78	72	6	0.00%	7.91%
	Apr	114	105	9	0.00%	7.91%
	May	140	129	11	0.00%	7.91%
	Jun	136	125	11	0.00%	7.91%
	Jul	114	105	9	0.00%	7.91%
	Aug	113	104	9	0.00%	7.91%
	Sep	102	94	8	0.00%	7.91%
	Oct	103	95	8	0.00%	7.91%
	Nov	103	95	8	0.00%	7.91%
	Dec	84	78	7	0.00%	7.91%
2025	Jan	79	73	6	0.00%	7.81%
	Feb	81	74	6	0.00%	7.81%
	Mar	83	77	7	0.00%	7.81%
	Apr	122	113	10	0.00%	7.81%
	May	150	138	12	0.00%	7.81%
	Jun	146	134	11	0.00%	7.81%
	Jul	123	113	10	0.00%	7.81%
	Aug	121	111	9	0.00%	7.81%
	Sep	110	101	9	0.00%	7.81%
	Oct	111	102	9	0.00%	7.81%
	Nov	111	102	9	0.00%	7.81%
	Dec	90	83	7	0.00%	7.81%
2026	Jan	84	78	6	0.00%	7.72%
	Feb	86	80	7	0.00%	7.72%
	Mar	89	82	7	0.00%	7.72%
	Apr	130	120	10	0.00%	7.72%
	May	160	148	12	0.00%	7.72%
	Jun	156	144	12	0.00%	7.72%
	Jul	131	121	10	0.00%	7.72%
	Aug	129	119	10	0.00%	7.72%
	Sep	117	108	9	0.00%	7.72%
	Oct	118	109	9	0.00%	7.72%
	Nov	118	109	9	0.00%	7.72%
	Dec	96	89	7	0.00%	7.72%
2027	Jan	90	83	7	0.00%	7.65%

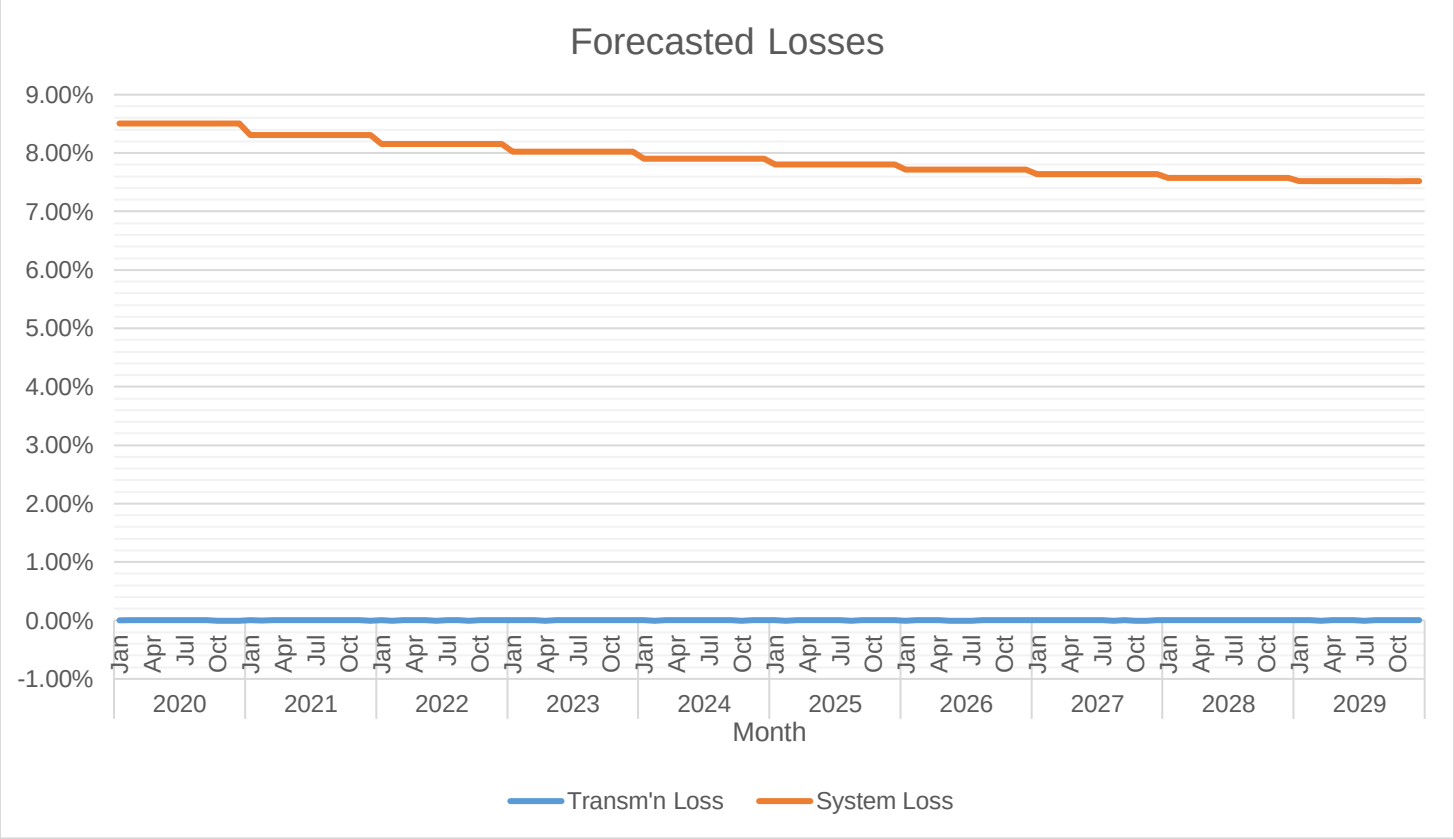
		MWh Offtake	MWh Output	MWh System Loss	Transm'n Loss	System Loss
	Feb	92	85	7	0.00%	7.64%
	Mar	95	88	7	0.00%	7.65%
	Apr	139	128	11	0.00%	7.64%
	May	170	157	13	0.00%	7.64%
	Jun	166	153	13	0.00%	7.64%
	Jul	139	129	11	0.00%	7.65%
	Aug	137	127	10	0.00%	7.65%
	Sep	125	115	10	0.00%	7.65%
	Oct	126	116	10	0.00%	7.64%
	Nov	126	116	10	0.00%	7.64%
	Dec	103	95	8	0.00%	7.65%
2028	Jan	95	88	7	0.00%	7.58%
	Feb	97	90	7	0.00%	7.58%
	Mar	100	93	8	0.00%	7.58%
	Apr	147	136	11	0.00%	7.58%
	May	181	167	14	0.00%	7.58%
	Jun	176	162	13	0.00%	7.58%
	Jul	148	136	11	0.00%	7.58%
	Aug	146	135	11	0.00%	7.58%
	Sep	132	122	10	0.00%	7.58%
	Oct	133	123	10	0.00%	7.58%
	Nov	133	123	10	0.00%	7.58%
	Dec	109	101	8	0.00%	7.58%
2029	Jan	100	93	8	0.00%	7.52%
	Feb	103	95	8	0.00%	7.52%
	Mar	106	98	8	0.00%	7.52%
	Apr	155	144	12	0.00%	7.52%
	May	191	176	14	0.00%	7.52%
	Jun	186	172	14	0.00%	7.52%
	Jul	156	144	12	0.00%	7.52%
	Aug	154	142	12	0.00%	7.52%
	Sep	139	129	10	0.00%	7.52%
	Oct	141	130	11	0.00%	7.52%
	Nov	141	130	11	0.00%	7.52%
	Dec	115	106	9	0.00%	7.52%

MWh Offtake was forecasted using Linear Trend Method of Forecasting based on Historical Data. The assumed load factor is 52.23% 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 7.71% annually.



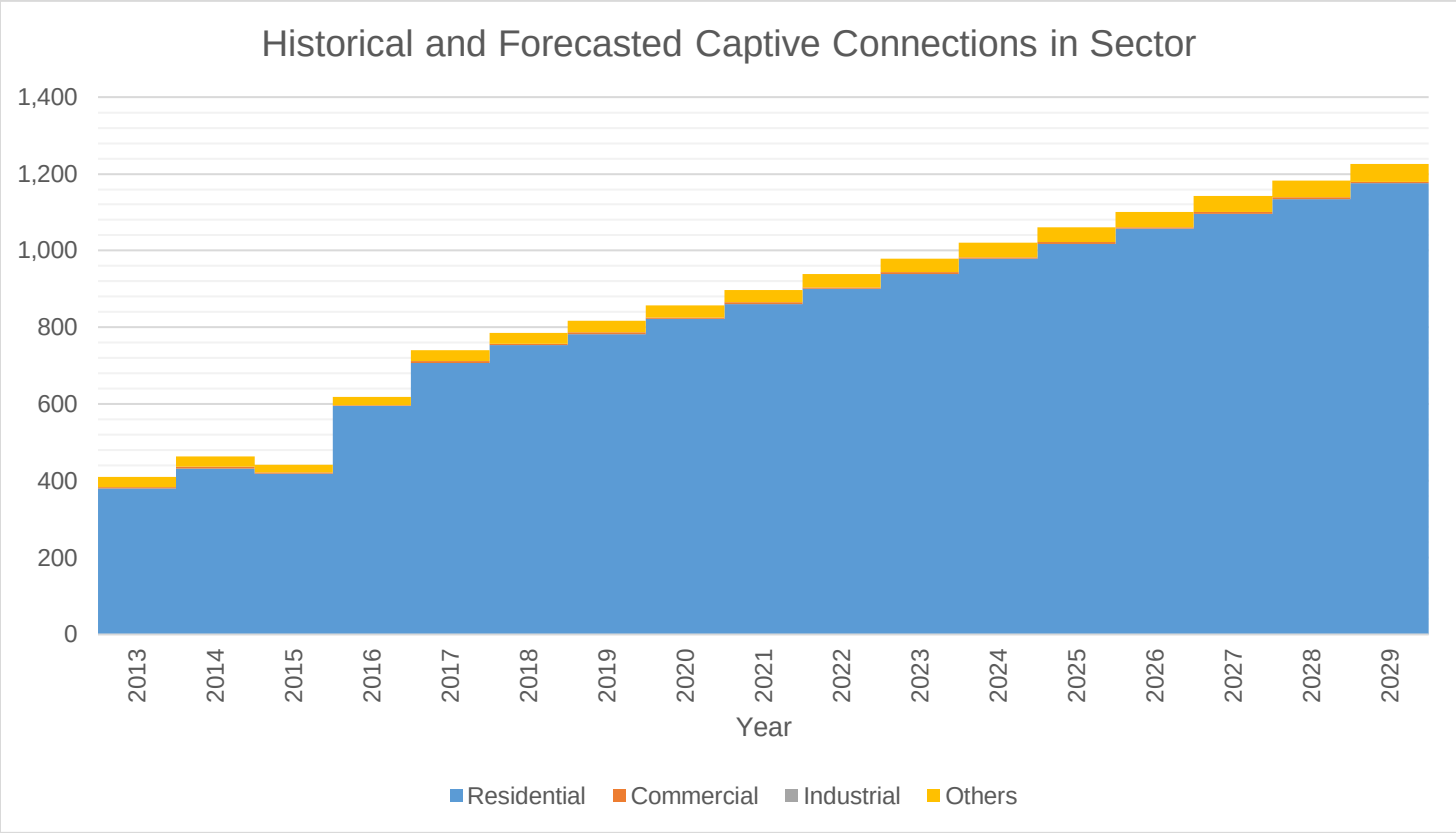
System Loss is expected to range from 8.51% down to 7.52%.

Power Supply

Case No.	Type	GenCo	Minimum MW	Minimum MWh/yr	PSA Start	PSA End
NPC SPUG Jomalig	Base	National Power Corporation	0.15	1,296	8/15/2011	12/25/2029

Note: 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 Jomalig, Quezon.

Captive Customer Connections



For Jomalig, Quezon, the number of Residential connections is expected to grow at an average rate of 4.15% annually. Said customer class is expected to account for 85.3% 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.

Prepared by:

Engr. Vincent E. Villaruel
OIC – TSD Manager

Yvette S. Astrera
AD Chief

Approved by:

Engr. Von Erwin G. Azagra
OIC – General Manager