

Power Supply Procurement Plan 2024



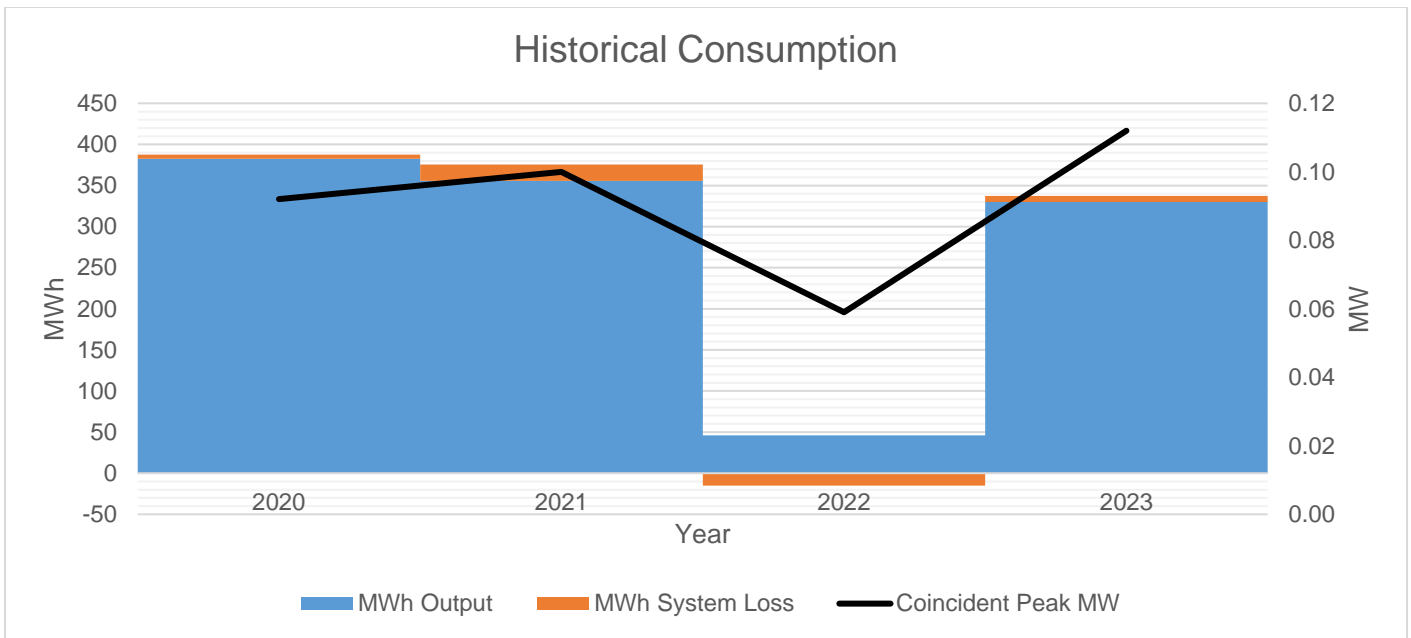
**BOHOL II ELECTRIC COOPERATIVE, INC.
[BOHECO II]**

CABUL-AN ISLAND

Historical Consumption Data

	Coincident Peak MW	MWh Offtake	WESM	MWh Input	MWh Output	MWh System Loss	Load Factor	Discrepancy	Transm'n Loss	System Loss
2020	0.09	388	0	388	383	5	48%	0.00%	0.00%	1.30%
2021	0.10	375	0	375	356	20	43%	0.00%	0.00%	5.30%
2022	0.06	31	0	31	46	-15	6%	0.00%	0.00%	-49.16%
2023	0.11	337	0	337	330	7	34%	0.00%	0.00%	2.18%

Peak Demand increased from 0.06 MW in 2022 to 0.11 MW in 2023 at a rate of 83% due to the full restoration of the damaged distribution facilities in the island brought by typhoon Odette. MWh Offtake also increased from 31 MWh in 2022 to 337 MWh in 2023 at a rate of 987%. Within the same period, Load Factor ranged from 6% to 34%.



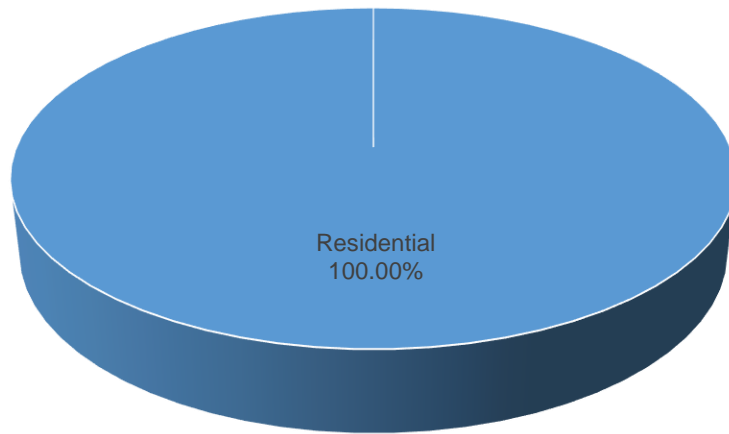
MWh Output increased from year 2022 to year 2023 at a rate of 617%, while MWh System Loss increased at a rate of 314% within the same period. The negative system loss is due to the abnormal condition of the distribution network brought by Typhoon Odette.



System Loss ranged from -49.16% to 5.30%. System Loss peaked at 5.30% on year 2021. The negative system loss is due to the abnormal condition of the distribution system brought by Typhoon Odette.

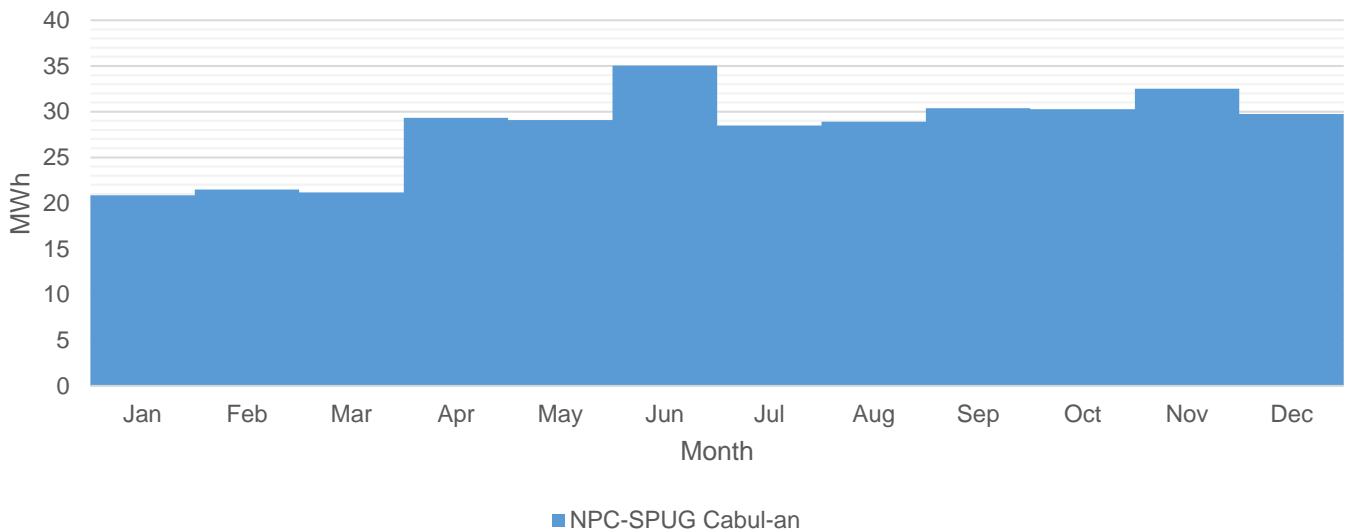
Also, one factor that contributes to the negative system loss in the Cabul-an Island is the mismatch in reading cycle. The reading cycles for purchased and sold energy occur at different times, which can create discrepancies that lead to the perception of negative system losses.

Previous Year's Shares of Energy Sales



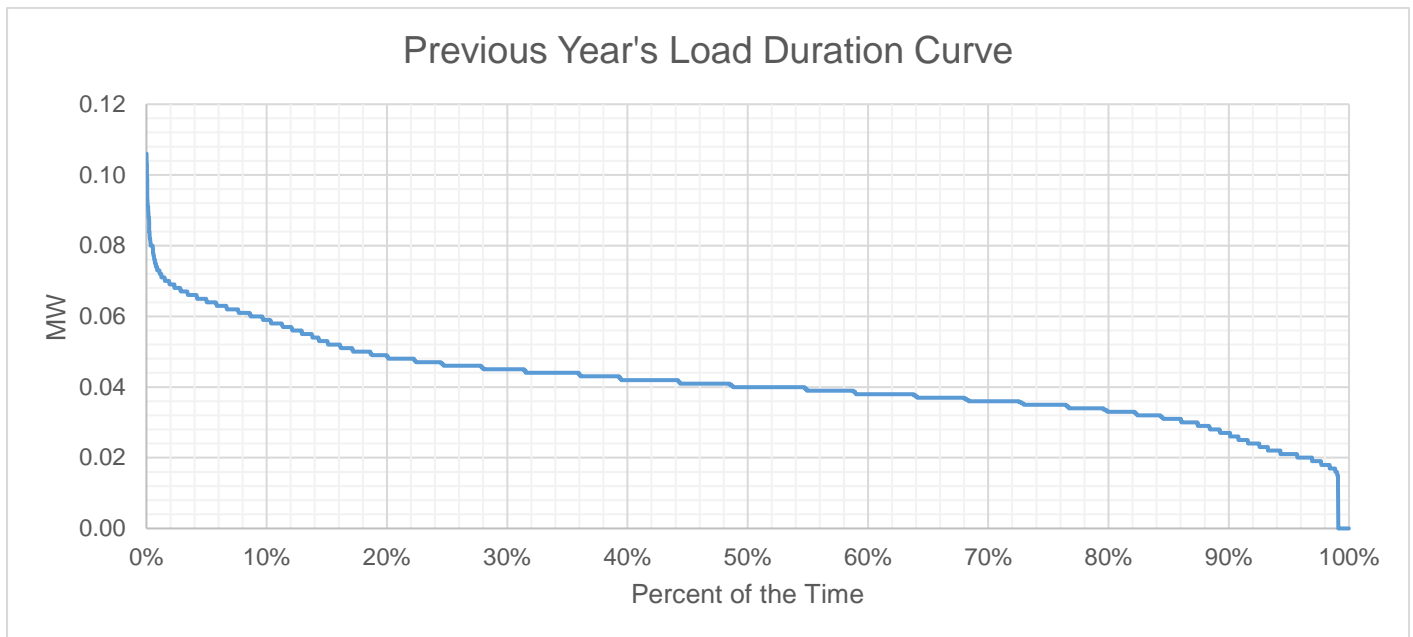
It is apparent that the Public Building data which was present on the PSPP 2023 submission was removed. Upon further review of the PSPP, the Cabul-an Island is under the Barangay Power Association or BAPA and all consumers enjoys similar rates, thus treating all consumers as Residential. As a result, the Public Building data from previous submissions has been removed and merged with the Residential data.

MWh Offtake for Last Historical Year

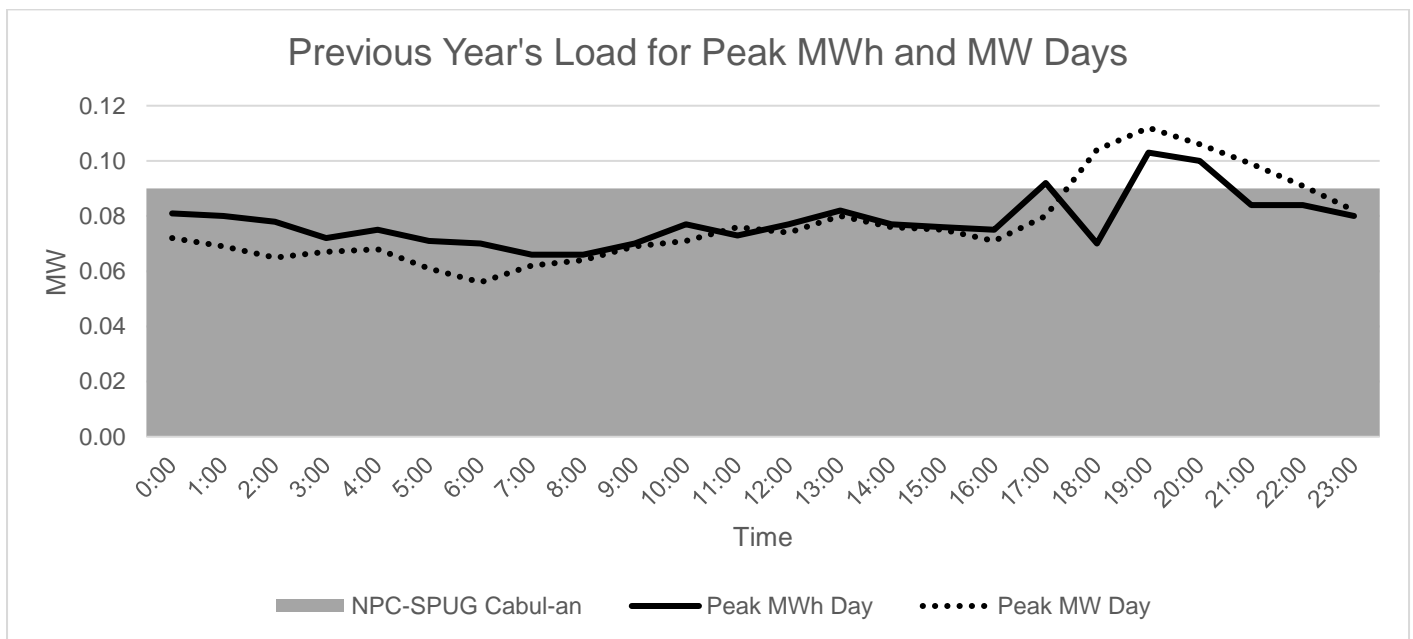


The total Offtake for the last historical year is lower than the quantity stipulated in the PSA. The PSA with NPC-SPUG accounts for the whole of MWh Offtake.

Previous Year's Load Profile

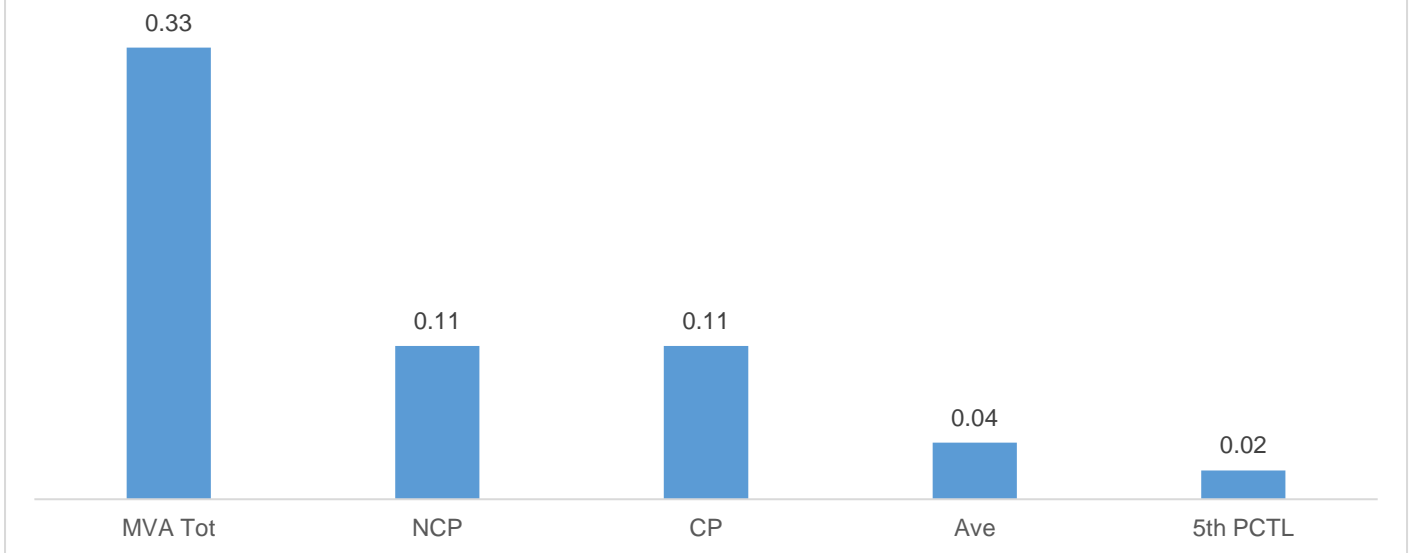


Based on the Load Duration Curve, the minimum load is 0 MW and the maximum load is 0.112 MW for the last historical year.



Cabul-an Island is a highly residential area whose Peak MW and Peak daily MWh occurs at night-time. As shown in the Load Curves, the available supply is 0.028 MW higher than the Peak Demand.

Previous Year's Loading Summary



The Non-coincident Peak Demand is 0.11 MW, which is around 34% of the total substation capacity of 0.330 MVA. The load factor or the ratio between the Average Load of 0.04 MW and the Non-coincident Peak Demand is 36% of. A safe estimate of the true minimum load is the fifth percentile load of 0.02 MW which is 18% of the Non-coincident Peak Demand.

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	0.080	0.090	0.000	0.000		113%	113%	0.01
	Feb	0.071	0.086	0.000	0.000		121%	121%	0.01
	Mar	0.073	0.092	0.000	0.000		126%	126%	0.02
	Apr	0.077	0.095	0.000	0.000		124%	124%	0.02
	May	0.081	0.097	0.000	0.000		120%	120%	0.02
	Jun	0.095	0.104	0.000	0.000		110%	110%	0.01
	Jul	0.078	0.093	0.000	0.000		119%	119%	0.02
	Aug	0.076	0.094	0.000	0.000		124%	124%	0.02
	Sep	0.075	0.095	0.000	0.000		127%	127%	0.02
	Oct	0.079	0.099	0.000	0.000		126%	126%	0.02
	Nov	0.090	0.104	0.000	0.000		115%	115%	0.01
	Dec	0.078	0.097	0.000	0.000		125%	125%	0.02
2025	Jan	0.085	0.093	0.000	0.000		110%	110%	0.01
	Feb	0.076	0.088	0.000	0.000		116%	116%	0.01
	Mar	0.078	0.095	0.000	0.000		122%	122%	0.02
	Apr	0.082	0.098	0.000	0.000		120%	120%	0.02
	May	0.086	0.101	0.000	0.000		118%	118%	0.02
	Jun	0.101	0.107	0.000	0.000		106%	106%	0.01
	Jul	0.083	0.096	0.000	0.000		116%	116%	0.01
	Aug	0.081	0.097	0.000	0.000		120%	120%	0.02
	Sep	0.080	0.098	0.000	0.000		123%	123%	0.02
	Oct	0.084	0.102	0.000	0.000		122%	122%	0.02
	Nov	0.096	0.107	0.000	0.000		112%	112%	0.01
	Dec	0.083	0.101	0.000	0.000		122%	122%	0.02
2026	Jan	0.090	0.096	0.000	0.000		107%	107%	0.01
	Feb	0.080	0.091	0.000	0.000		114%	114%	0.01
	Mar	0.082	0.098	0.000	0.000		119%	119%	0.02
	Apr	0.087	0.102	0.000	0.000		118%	118%	0.02
	May	0.091	0.104	0.000	0.000		115%	115%	0.01

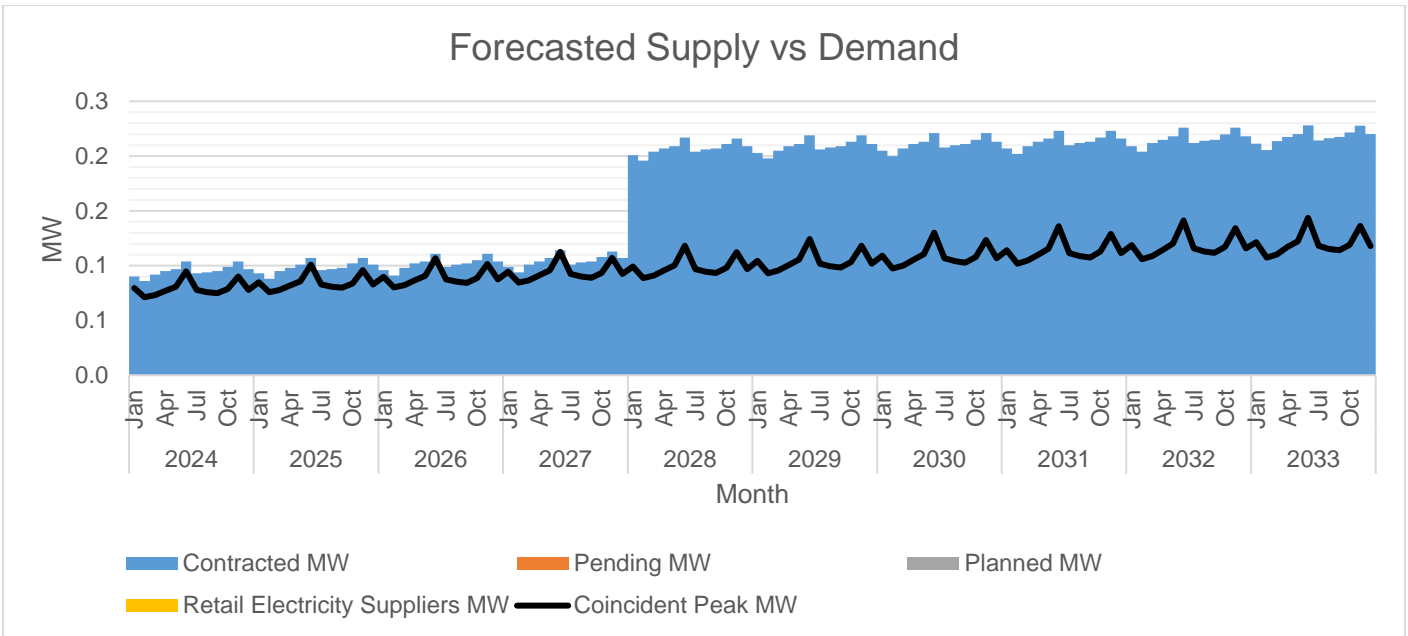
	Jun	0.107	0.111	0.000	0.000		104%	104%	0.00
	Jul	0.088	0.099	0.000	0.000		113%	113%	0.01
	Aug	0.085	0.101	0.000	0.000		118%	118%	0.02
	Sep	0.084	0.102	0.000	0.000		121%	121%	0.02
	Oct	0.089	0.105	0.000	0.000		118%	118%	0.02
	Nov	0.101	0.111	0.000	0.000		109%	109%	0.01
	Dec	0.088	0.104	0.000	0.000		119%	119%	0.02
2027	Jan	0.095	0.099	0.000	0.000		105%	105%	0.00
	Feb	0.084	0.094	0.000	0.000		111%	111%	0.01
	Mar	0.087	0.101	0.000	0.000		116%	116%	0.01
	Apr	0.091	0.104	0.000	0.000		114%	114%	0.01
	May	0.096	0.107	0.000	0.000		112%	112%	0.01
	Jun	0.113	0.114	0.000	0.000		101%	101%	0.00
	Jul	0.092	0.101	0.000	0.000		109%	109%	0.01
	Aug	0.090	0.103	0.000	0.000		114%	114%	0.01
	Sep	0.089	0.104	0.000	0.000		117%	117%	0.02
	Oct	0.093	0.108	0.000	0.000		116%	116%	0.01
	Nov	0.107	0.113	0.000	0.000		106%	106%	0.01
	Dec	0.092	0.107	0.000	0.000		116%	116%	0.01
2028	Jan	0.099	0.201	0.000	0.000		203%	203%	0.10
	Feb	0.089	0.196	0.000	0.000		221%	221%	0.11
	Mar	0.091	0.204	0.000	0.000		224%	224%	0.11
	Apr	0.096	0.207	0.000	0.000		216%	216%	0.11
	May	0.100	0.209	0.000	0.000		208%	208%	0.11
	Jun	0.118	0.217	0.000	0.000		184%	184%	0.10
	Jul	0.097	0.204	0.000	0.000		211%	211%	0.11
	Aug	0.095	0.206	0.000	0.000		218%	218%	0.11
	Sep	0.093	0.207	0.000	0.000		222%	222%	0.11
	Oct	0.098	0.211	0.000	0.000		215%	215%	0.11
	Nov	0.112	0.216	0.000	0.000		192%	192%	0.10
	Dec	0.097	0.209	0.000	0.000		216%	216%	0.11
2029	Jan	0.104	0.203	0.000	0.000		194%	194%	0.10
	Feb	0.093	0.198	0.000	0.000		212%	212%	0.10
	Mar	0.096	0.205	0.000	0.000		214%	214%	0.11
	Apr	0.101	0.209	0.000	0.000		208%	208%	0.11

	May	0.106	0.211	0.000	0.000		200%	200%	0.11
	Jun	0.124	0.219	0.000	0.000		176%	176%	0.09
	Jul	0.102	0.206	0.000	0.000		202%	202%	0.10
	Aug	0.099	0.208	0.000	0.000		209%	209%	0.11
	Sep	0.098	0.209	0.000	0.000		213%	213%	0.11
	Oct	0.103	0.213	0.000	0.000		207%	207%	0.11
	Nov	0.118	0.219	0.000	0.000		186%	186%	0.10
	Dec	0.102	0.211	0.000	0.000		207%	207%	0.11
2030	Jan	0.109	0.205	0.000	0.000		188%	188%	0.10
	Feb	0.098	0.200	0.000	0.000		205%	205%	0.10
	Mar	0.100	0.207	0.000	0.000		207%	207%	0.11
	Apr	0.105	0.211	0.000	0.000		200%	200%	0.11
	May	0.111	0.213	0.000	0.000		193%	193%	0.10
	Jun	0.130	0.221	0.000	0.000		170%	170%	0.09
	Jul	0.107	0.208	0.000	0.000		195%	195%	0.10
	Aug	0.104	0.210	0.000	0.000		202%	202%	0.11
	Sep	0.103	0.211	0.000	0.000		205%	205%	0.11
	Oct	0.108	0.215	0.000	0.000		199%	199%	0.11
	Nov	0.124	0.221	0.000	0.000		179%	179%	0.10
	Dec	0.107	0.213	0.000	0.000		200%	200%	0.11
2031	Jan	0.114	0.207	0.000	0.000		181%	181%	0.09
	Feb	0.102	0.202	0.000	0.000		198%	198%	0.10
	Mar	0.105	0.209	0.000	0.000		200%	200%	0.10
	Apr	0.110	0.213	0.000	0.000		193%	193%	0.10
	May	0.116	0.216	0.000	0.000		187%	187%	0.10
	Jun	0.136	0.223	0.000	0.000		164%	164%	0.09
	Jul	0.111	0.210	0.000	0.000		188%	188%	0.10
	Aug	0.109	0.212	0.000	0.000		195%	195%	0.10
	Sep	0.107	0.213	0.000	0.000		198%	198%	0.11
	Oct	0.113	0.217	0.000	0.000		192%	192%	0.10
	Nov	0.129	0.223	0.000	0.000		173%	173%	0.09
	Dec	0.111	0.216	0.000	0.000		194%	194%	0.10
2032	Jan	0.119	0.209	0.000	0.000		176%	176%	0.09
	Feb	0.106	0.204	0.000	0.000		192%	192%	0.10
	Mar	0.109	0.212	0.000	0.000		195%	195%	0.10

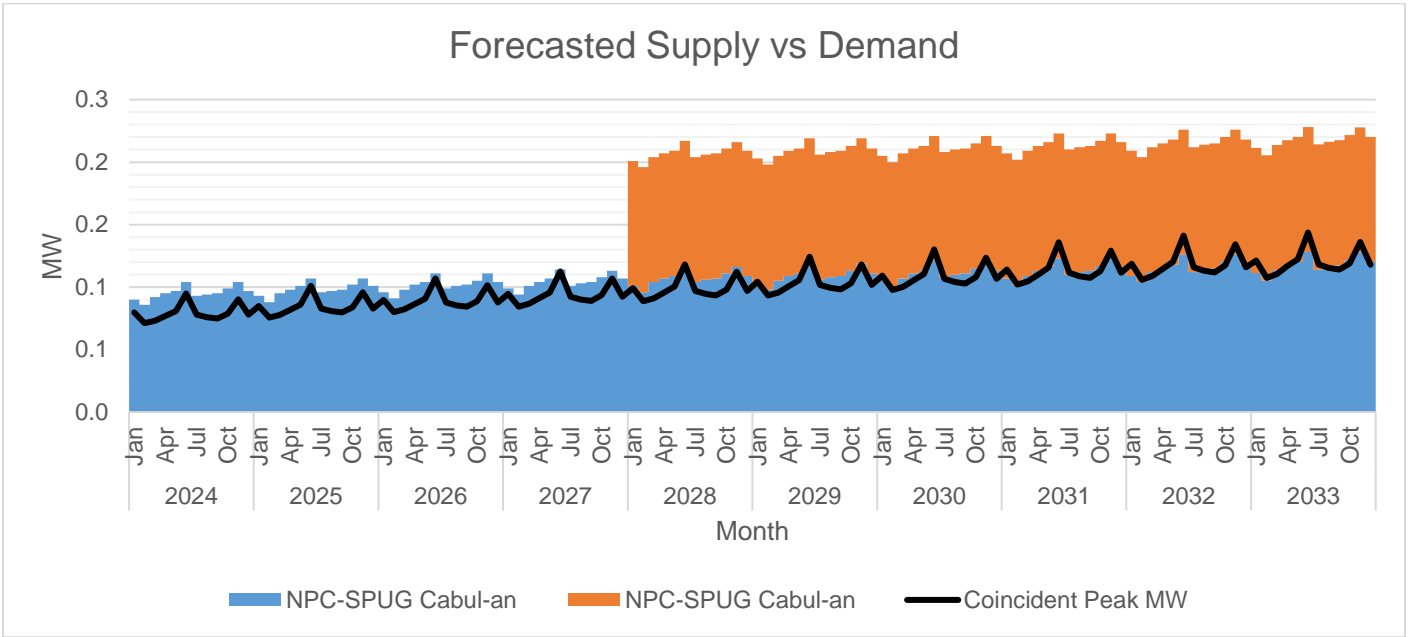
	Apr	0.114	0.215	0.000	0.000		188%	188%	0.10
	May	0.120	0.218	0.000	0.000		181%	181%	0.10
	Jun	0.141	0.226	0.000	0.000		160%	160%	0.08
	Jul	0.116	0.212	0.000	0.000		183%	183%	0.10
	Aug	0.113	0.214	0.000	0.000		189%	189%	0.10
	Sep	0.112	0.215	0.000	0.000		193%	193%	0.10
	Oct	0.117	0.220	0.000	0.000		188%	188%	0.10
	Nov	0.134	0.226	0.000	0.000		168%	168%	0.09
	Dec	0.116	0.218	0.000	0.000		188%	188%	0.10
2033	Jan	0.121	0.211	0.000	0.000		174%	174%	0.09
	Feb	0.107	0.205	0.000	0.000		191%	191%	0.10
	Mar	0.110	0.214	0.000	0.000		193%	193%	0.10
	Apr	0.117	0.217	0.000	0.000		186%	186%	0.10
	May	0.122	0.220	0.000	0.000		180%	180%	0.10
	Jun	0.144	0.228	0.000	0.000		159%	159%	0.08
	Jul	0.118	0.214	0.000	0.000		181%	181%	0.10
	Aug	0.115	0.216	0.000	0.000		188%	188%	0.10
	Sep	0.114	0.217	0.000	0.000		191%	191%	0.10
	Oct	0.119	0.222	0.000	0.000		186%	186%	0.10
	Nov	0.136	0.228	0.000	0.000		167%	167%	0.09
	Dec	0.118	0.220	0.000	0.000		187%	187%	0.10

Forecasting of Peak Demand is determined by the quotient of forecasted energy and by the product of time (t) in year [8760 hours] and the system load factor. Furthermore, for the purpose of calculation, the system load factor was assumed to vary from 53% to 73% in the next succeeding period of forecasting based on its historical trend in the previous year.

The Peak Demand was assumed to occur in the month of June. Monthly Peak Demand is at its lowest on the month of February. In general, Peak Demand is expected to grow at an average rate of 5% annually.

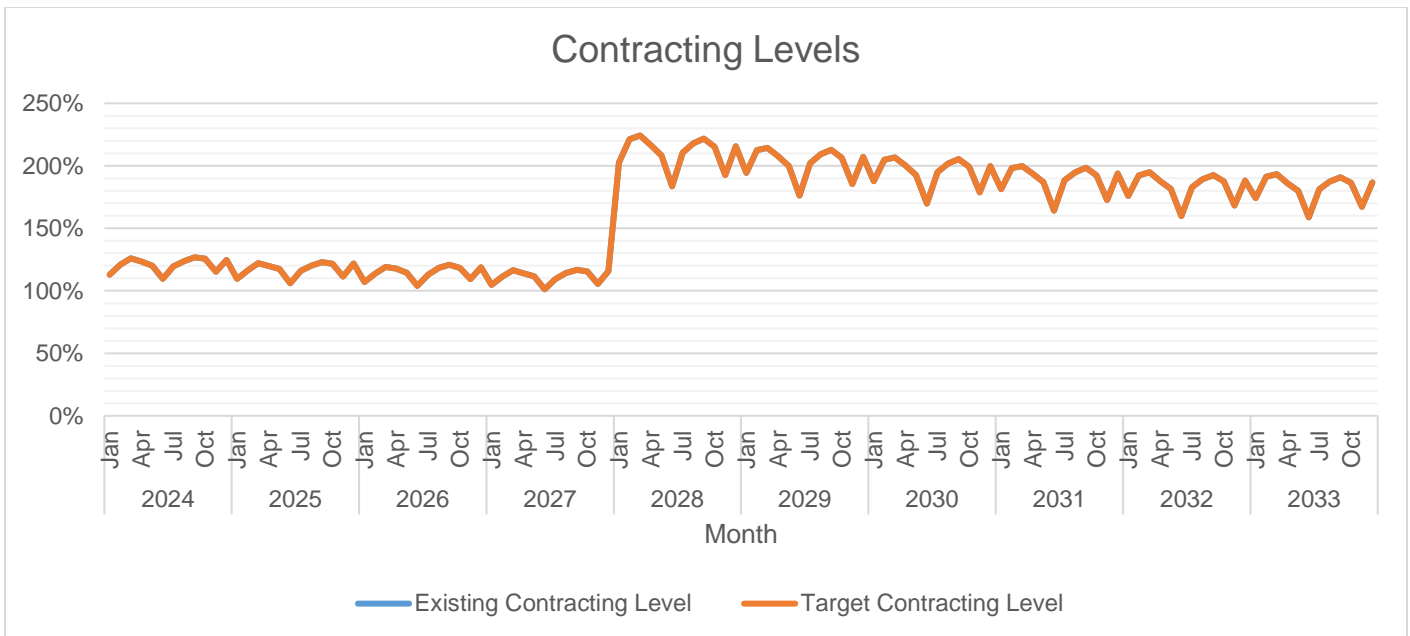


The available supply is generally above the Peak Demand. This is because of the number of diesel generators installed on the island. There are currently six (6) diesel generators on the island with a total plant capacity of 0.474 MW.

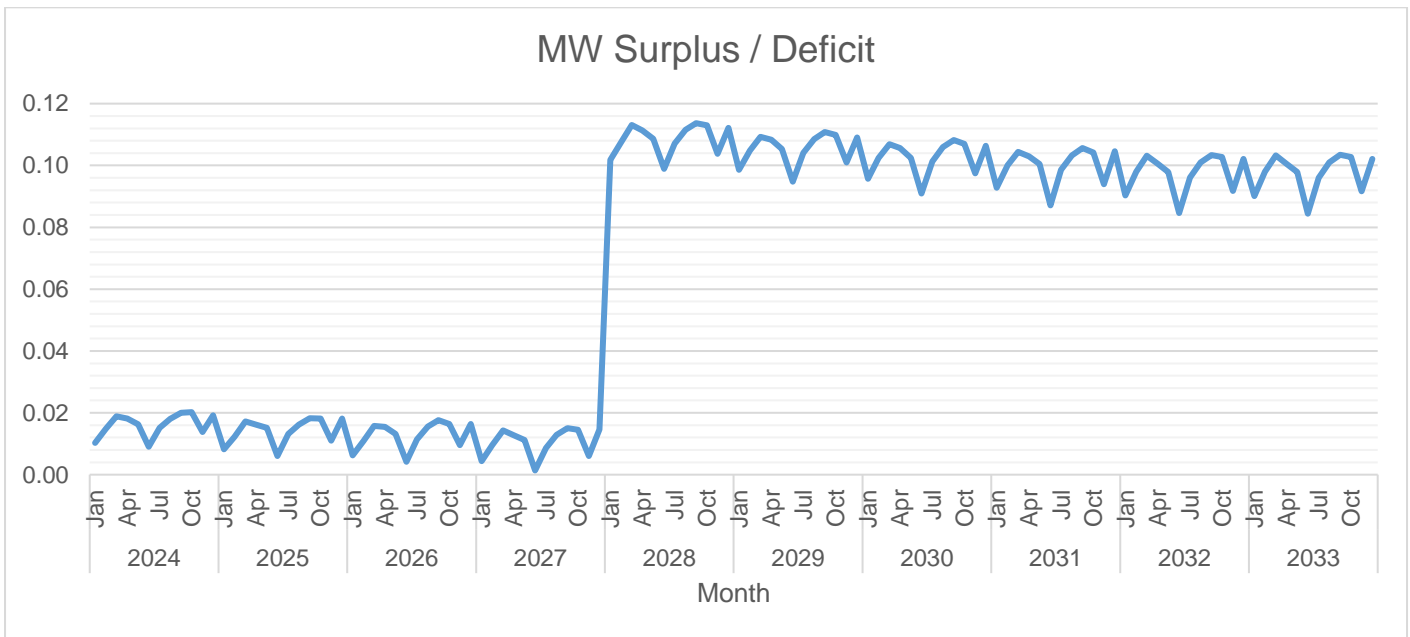


The available supply that ranges from 0.09 MW to 0.13 MW will solely come from NPC's Cabul-an Diesel Power Plant.

As shown in the above graphs, an additional capacity of 0.100 MW will be constructed in year 2028 in compliance with the Renewable Portfolio Standards requirements of the mandated participant.



Currently, there is over-contracting by 113%. The highest target contracting level is 224% which is expected to occur in March of the year 2028. The lowest target contracting level is 101%, which is expected to occur in June of the year 2027.



Currently, there is over-contracting by 0.01 MW. The highest surplus is 0.11 MW which is expected to occur in the month of September 2028. The lowest deficit is 0.001 MW which is expected to occur on the month of June 2027.

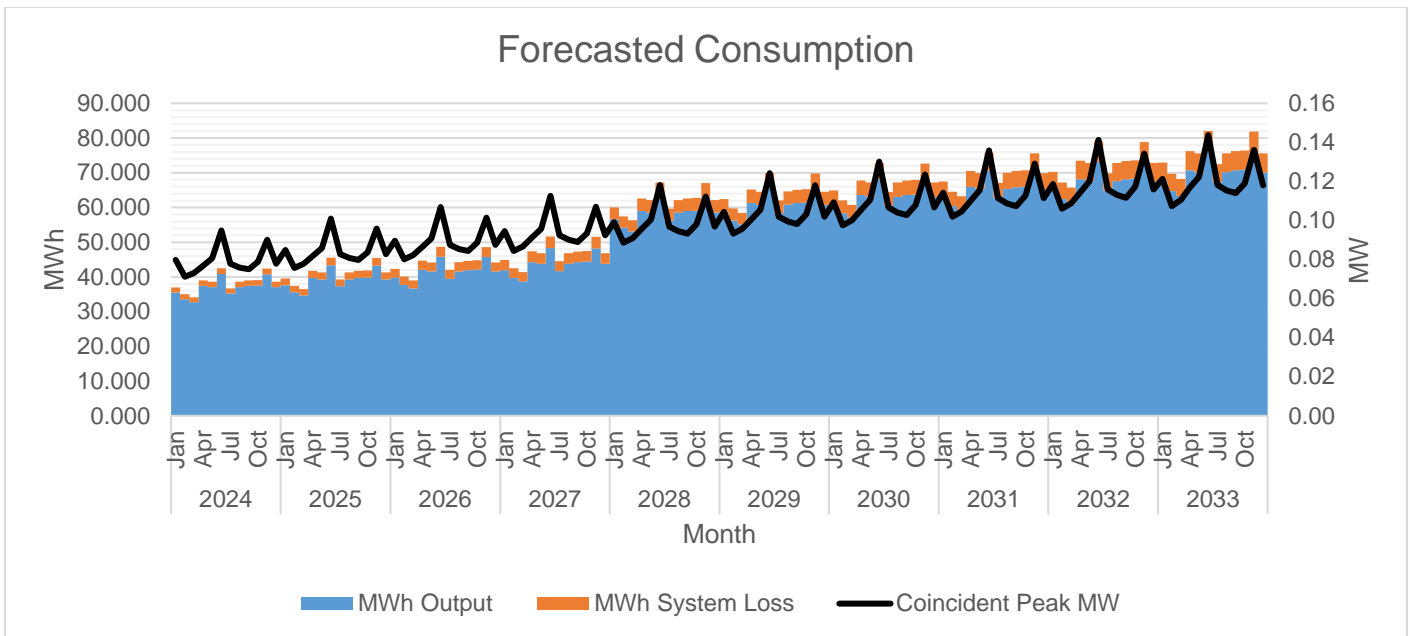
The high contracting level and surplus is due to the addition of 0.100 MW capacity in the island utilizing renewable energy.

		MWh Offtake	MWh Output	MWh System Loss	Transm'n Loss	System Loss
2024	Jan	36.977	35.470	1.506	0.00%	4.07%
	Feb	35.000	33.574	1.426	0.00%	4.07%
	Mar	34.087	32.699	1.389	0.00%	4.07%
	Apr	39.016	37.427	1.589	0.00%	4.07%
	May	38.602	37.030	1.573	0.00%	4.07%
	Jun	42.542	40.809	1.733	0.00%	4.07%
	Jul	36.693	35.198	1.495	0.00%	4.07%
	Aug	38.617	37.044	1.573	0.00%	4.07%
	Sep	39.003	37.414	1.589	0.00%	4.07%
	Oct	39.107	37.513	1.593	0.00%	4.07%
	Nov	42.441	40.712	1.729	0.00%	4.07%
	Dec	38.602	37.030	1.573	0.00%	4.07%
2025	Jan	39.565	37.638	1.927	0.00%	4.87%
	Feb	37.450	35.626	1.824	0.00%	4.87%
	Mar	36.473	34.697	1.776	0.00%	4.87%
	Apr	41.748	39.714	2.033	0.00%	4.87%
	May	41.305	39.293	2.012	0.00%	4.87%
	Jun	45.520	43.303	2.217	0.00%	4.87%
	Jul	39.262	37.349	1.912	0.00%	4.87%
	Aug	41.320	39.307	2.012	0.00%	4.87%
	Sep	41.733	39.700	2.033	0.00%	4.87%
	Oct	41.844	39.806	2.038	0.00%	4.87%
	Nov	45.412	43.200	2.212	0.00%	4.87%
	Dec	41.305	39.293	2.012	0.00%	4.87%
2026	Jan	42.334	39.806	2.529	0.00%	5.97%
	Feb	40.071	37.677	2.394	0.00%	5.97%
	Mar	39.026	36.695	2.331	0.00%	5.97%
	Apr	44.670	42.002	2.668	0.00%	5.97%
	May	44.196	41.556	2.640	0.00%	5.97%
	Jun	48.707	45.797	2.909	0.00%	5.97%
	Jul	42.010	39.501	2.509	0.00%	5.97%
	Aug	44.212	41.571	2.641	0.00%	5.97%
	Sep	44.654	41.987	2.667	0.00%	5.97%
	Oct	44.773	42.099	2.674	0.00%	5.97%
	Nov	48.591	45.688	2.902	0.00%	5.97%
	Dec	44.196	41.556	2.640	0.00%	5.97%
2027	Jan	44.874	41.973	2.901	0.00%	6.46%
	Feb	42.475	39.729	2.746	0.00%	6.46%
	Mar	41.368	38.694	2.674	0.00%	6.46%
	Apr	47.350	44.289	3.061	0.00%	6.46%
	May	46.848	43.819	3.029	0.00%	6.46%
	Jun	51.629	48.291	3.338	0.00%	6.46%
	Jul	44.530	41.652	2.879	0.00%	6.46%
	Aug	46.865	43.835	3.030	0.00%	6.46%
	Sep	47.333	44.273	3.060	0.00%	6.46%
	Oct	47.460	44.391	3.068	0.00%	6.46%
	Nov	51.506	48.176	3.330	0.00%	6.46%
	Dec	46.848	43.819	3.029	0.00%	6.46%

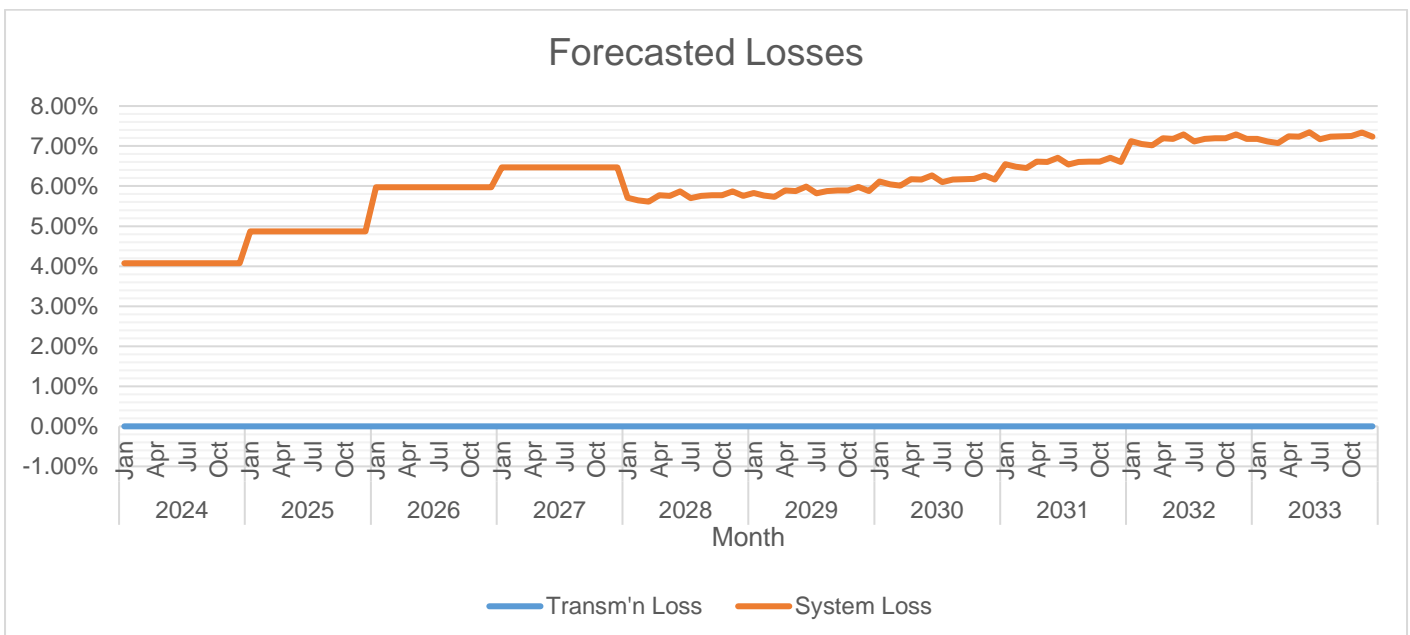
2028	Jan	60.007	56.582	3.426	0.00%	5.71%
	Feb	57.464	54.222	3.243	0.00%	5.64%
	Mar	56.290	53.132	3.158	0.00%	5.61%
	Apr	62.632	59.017	3.615	0.00%	5.77%
	May	62.099	58.522	3.576	0.00%	5.76%
	Jun	67.167	63.226	3.941	0.00%	5.87%
	Jul	59.643	56.243	3.400	0.00%	5.70%
	Aug	62.117	58.539	3.578	0.00%	5.76%
	Sep	62.614	59.000	3.614	0.00%	5.77%
	Oct	62.748	59.124	3.623	0.00%	5.77%
	Nov	67.037	63.105	3.932	0.00%	5.87%
	Dec	62.099	58.522	3.576	0.00%	5.76%
2029	Jan	62.386	58.749	3.636	0.00%	5.83%
	Feb	59.715	56.273	3.442	0.00%	5.76%
	Mar	58.483	55.131	3.352	0.00%	5.73%
	Apr	65.141	61.304	3.837	0.00%	5.89%
	May	64.582	60.786	3.796	0.00%	5.88%
	Jun	69.904	65.720	4.184	0.00%	5.99%
	Jul	62.003	58.394	3.609	0.00%	5.82%
	Aug	64.601	60.803	3.798	0.00%	5.88%
	Sep	65.122	61.287	3.836	0.00%	5.89%
	Oct	65.263	61.417	3.846	0.00%	5.89%
	Nov	69.767	65.593	4.174	0.00%	5.98%
	Dec	64.582	60.786	3.796	0.00%	5.88%
2030	Jan	64.883	60.917	3.966	0.00%	6.11%
	Feb	62.079	58.325	3.754	0.00%	6.05%
	Mar	60.785	57.129	3.656	0.00%	6.01%
	Apr	67.776	63.591	4.185	0.00%	6.17%
	May	67.189	63.049	4.140	0.00%	6.16%
	Jun	72.777	68.214	4.563	0.00%	6.27%
	Jul	64.481	60.545	3.936	0.00%	6.10%
	Aug	67.209	63.067	4.142	0.00%	6.16%
	Sep	67.756	63.573	4.183	0.00%	6.17%
	Oct	67.904	63.710	4.194	0.00%	6.18%
	Nov	72.633	68.081	4.552	0.00%	6.27%
	Dec	67.189	63.049	4.140	0.00%	6.16%
2031	Jan	67.505	63.085	4.420	0.00%	6.55%
	Feb	64.561	60.377	4.184	0.00%	6.48%
	Mar	63.202	59.127	4.075	0.00%	6.45%
	Apr	70.543	65.879	4.664	0.00%	6.61%
	May	69.926	65.312	4.615	0.00%	6.60%
	Jun	75.794	70.708	5.086	0.00%	6.71%
	Jul	67.083	62.696	4.386	0.00%	6.54%
	Aug	69.948	65.331	4.616	0.00%	6.60%
	Sep	70.522	65.860	4.663	0.00%	6.61%
	Oct	70.677	66.002	4.675	0.00%	6.61%
	Nov	75.642	70.569	5.074	0.00%	6.71%
	Dec	69.926	65.312	4.615	0.00%	6.60%
2032	Jan	70.258	65.252	5.006	0.00%	7.12%
	Feb	67.167	62.429	4.738	0.00%	7.05%
	Mar	65.740	61.126	4.615	0.00%	7.02%
	Apr	73.448	68.166	5.282	0.00%	7.19%

	May	72.801	67.575	5.226	0.00%	7.18%
	Jun	78.961	73.202	5.759	0.00%	7.29%
	Jul	69.815	64.848	4.967	0.00%	7.12%
	Aug	72.823	67.595	5.228	0.00%	7.18%
	Sep	73.426	68.146	5.280	0.00%	7.19%
	Oct	73.589	68.295	5.294	0.00%	7.19%
	Nov	78.803	73.057	5.746	0.00%	7.29%
	Dec	72.801	67.575	5.226	0.00%	7.18%
2033	Jan	72.918	67.682	5.236	0.00%	7.18%
	Feb	69.685	64.728	4.956	0.00%	7.11%
	Mar	68.192	63.365	4.827	0.00%	7.08%
	Apr	76.254	70.729	5.525	0.00%	7.25%
	May	75.577	70.111	5.466	0.00%	7.23%
	Jun	82.021	75.997	6.024	0.00%	7.34%
	Jul	72.454	67.258	5.196	0.00%	7.17%
	Aug	75.601	70.132	5.468	0.00%	7.23%
	Sep	76.232	70.709	5.523	0.00%	7.25%
	Oct	76.402	70.864	5.538	0.00%	7.25%
	Nov	81.855	75.845	6.010	0.00%	7.34%
	Dec	75.577	70.111	5.466	0.00%	7.23%

MWh Offtake was forecasted using available data of the recent historical years and adopted various mathematical forecasting models. The outputs of these different forecasting models were summarized indicating the Validity and Accuracy Test. All models that had “Failed” the Validity and Accuracy Tests were discarded while those that had “Passed” using the following criteria were considered in the selection of the Forecasted Data.



MWh Output was expected to grow at an average rate of 5% annually.



System Loss is expected to range from 4.07% to 7.34%.

System loss is anticipated to increase due to the rising demand on the island, which puts additional strain on the existing infrastructure. As more residents and businesses require electricity, the system may become less efficient, leading to higher overall losses. Furthermore, it is important to note that there are currently no non-technical losses reflected in the submission. This is primarily because BOHECO II has yet to implement a system for segregating its off-grid system losses. Without this segregation, it becomes challenging to accurately identify and address areas of non-technical loss, such as theft, billing inaccuracies, and administrative inefficiencies.

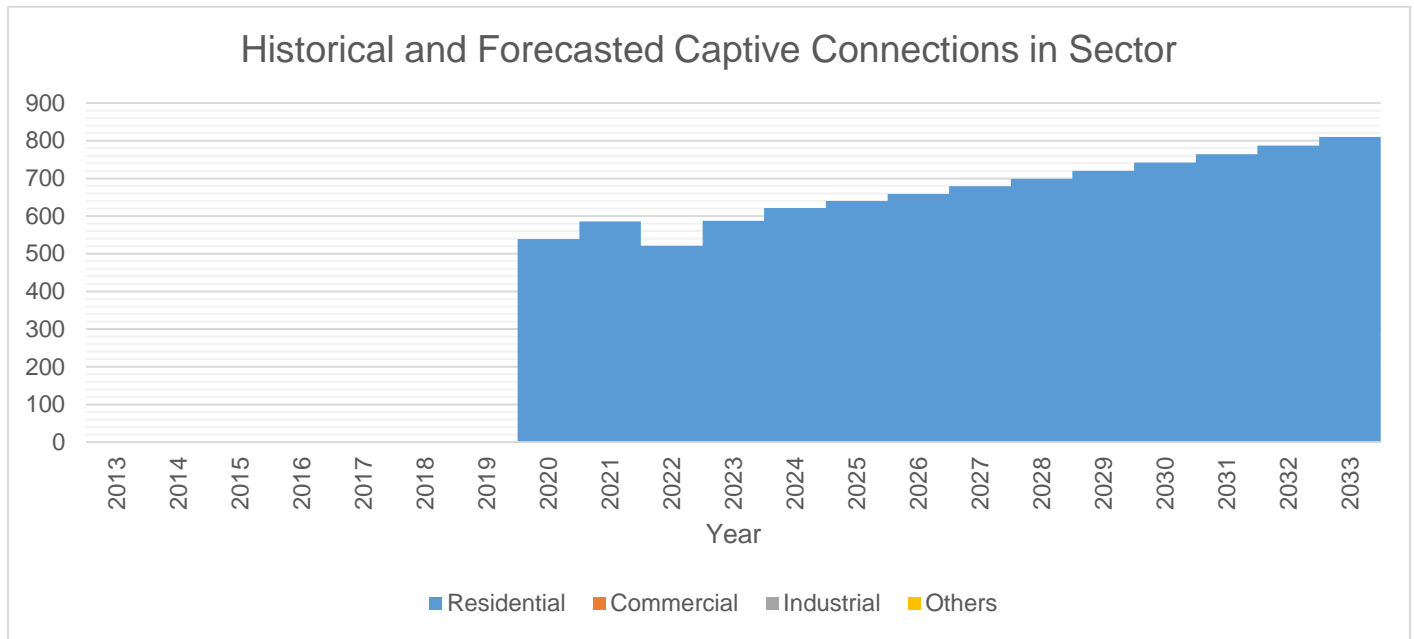
Power Supply

Case No.	Type	GenCo	Minimum MW	Minimum MWh/yr	PSA Start	PSA End
NPC-SPUG Cabul-an	Base	National Power Corporation	0.09	460.686	12/26/2023	12/25/2033
NPC-SPUG Cabul-an (Solar)	Base	National Power Corporation	0.10	149.285	12/26/2023	12/25/2033

The Power Supply Agreement on the Sale of Electricity with the National Power Corporation (NPC) is pursuant to Section 70 of Republic Act No. 9136 and Section 1.a and Section 3.a of Rule 13 of the Implementing Rules and Regulations (IRR) of Republic Act No. 9136, which provides that the Small Power Utilities Group (SPUG) of NPC is responsible for providing power generation and its associated power delivery systems in areas that are not connected to the transmission system. Historically, the utilization of the PSA is 100%. The actual billed overall monthly charge under the PSA equal to 7.1426 Php/kWh in the year 2023.

In compliance with the Renewable Portfolio Standards, the National Power Corporation's Missionary Electrification Plan for 2025-2029 includes the construction of a Solar Power Plant with a capacity of 0.100 MW, aiming for commercial operation in 2028.

Captive Customer Connections



The number of Residential connections is expected to grow at a rate of 3% annually. Said customer class accounts for 100% of the total consumption.