

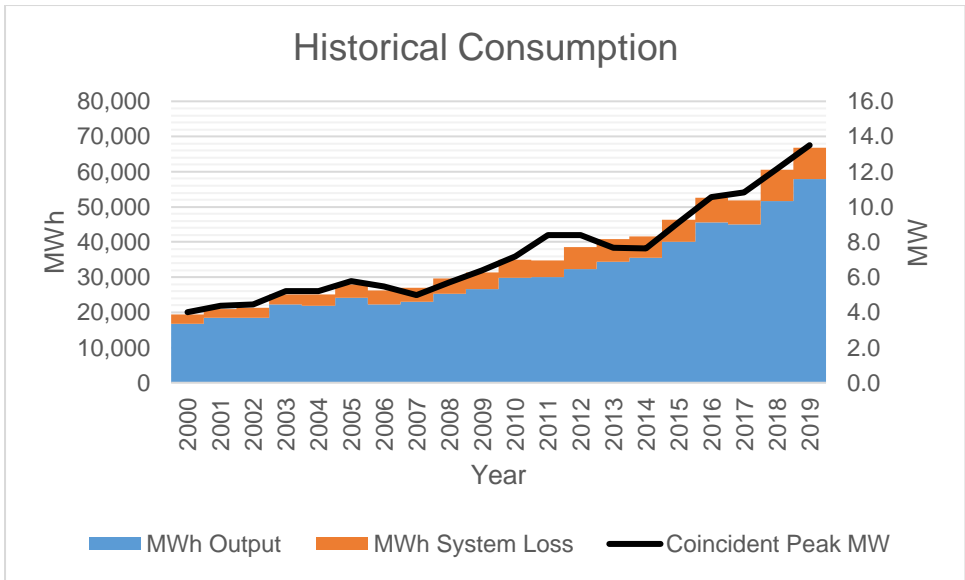
# **Power Supply Procurement Plan [2020 - 2029]**

**PROVINCE OF CATANDUANES  
EXCLUDING PALUMBANES ISLAND**

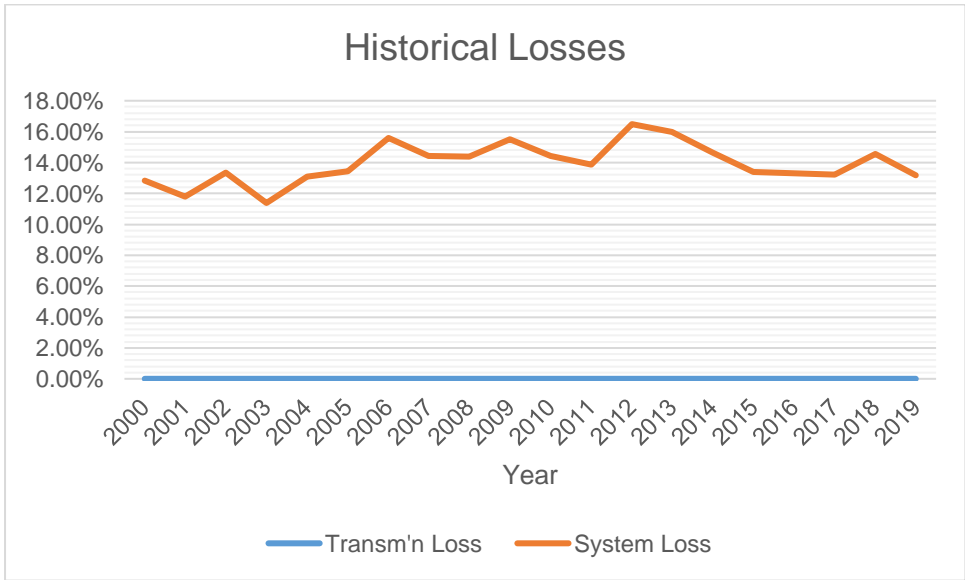
## Historical Consumption Data

	Coincident Peak MW	MWh Offtake	MWh Input	MWh Output	MWh System Loss	Load Factor	System Loss
2000	4.01	19,328	19,328	16,849	2,479	55%	12.82%
2001	4.36	21,012	21,012	18,537	2,476	55%	11.78%
2002	4.44	21,382	21,382	18,529	2,853	55%	13.34%
2003	5.20	25,057	25,057	22,206	2,851	55%	11.38%
2004	5.22	25,160	25,160	21,872	3,287	55%	13.07%
2005	5.79	27,892	27,892	24,146	3,746	55%	13.43%
2006	5.46	26,288	26,288	22,189	4,099	55%	15.59%
2007	5.00	26,921	26,921	23,035	3,886	61%	14.44%
2008	5.70	29,635	29,635	25,378	4,257	59%	14.37%
2009	6.40	31,428	31,428	26,553	4,875	56%	15.51%
2010	7.20	34,908	34,908	29,875	5,033	55%	14.42%
2011	8.40	34,786	34,786	29,968	4,818	47%	13.85%
2012	8.40	38,626	38,626	32,258	6,367	52%	16.48%
2013	7.69	40,909	40,909	34,380	6,529	61%	15.96%
2014	7.65	41,582	41,582	35,494	6,088	62%	14.64%
2015	9.13	46,336	46,336	40,139	6,197	58%	13.37%
2016	10.57	52,559	52,559	45,571	6,987	57%	13.29%
2017	10.81	51,810	51,810	44,963	6,847	55%	13.22%
2018	12.16	60,541	60,541	51,723	8,818	57%	14.57%
2019	13.51	66,789	66,789	57,988	8,801	56%	13.18%

The peak demand in the province of Catanduanes increased from 12.16 MW in 2018 to 13.51 MW in 2019 at a rate of 11.10% due to additional big load establishments and increasing number of residential consumers every year. The increase on mWh Offtake from 60,541 MWh in 2018 to 66,789 MWh in 2019 at a rate of 10.32% was attributed to power reliability and the increased energy demand in the coverage area of Catanduanes. Within the same period, the Load Factor ranged from 57% to 56%. There was an abrupt decrease in consumption on 2016 to 2017 due to Typhoon "Nina".

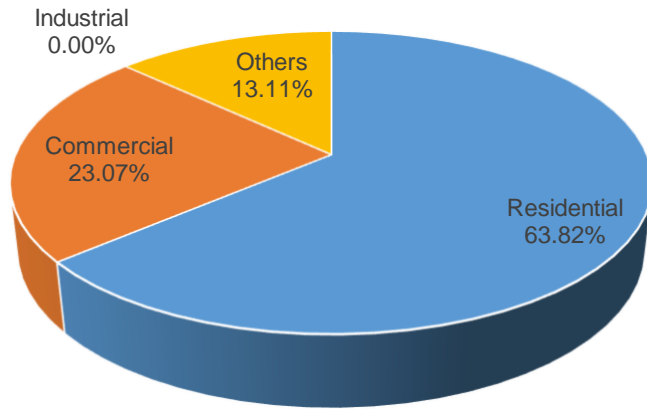


MWh Output increased from year 2018 to year 2019 at a rate of 12.11 %, while mWh System Loss decreased at a rate of 9.54% within the same period.



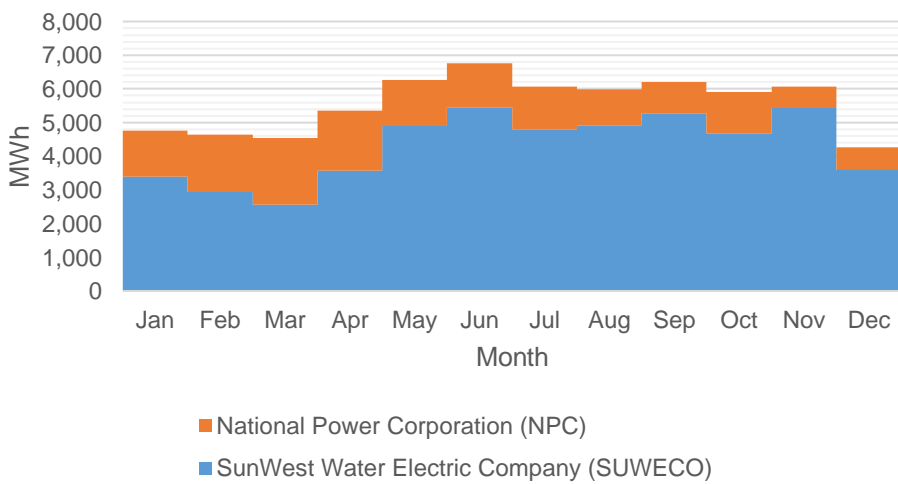
For the past five years, the average system loss is 13.53%. The overall system loss peaked at 16.48% on year 2012 due to ROW clearing problems/issues and embedded power plants at FICELCO's franchise area.

### Previous Year's Shares of Energy Sales



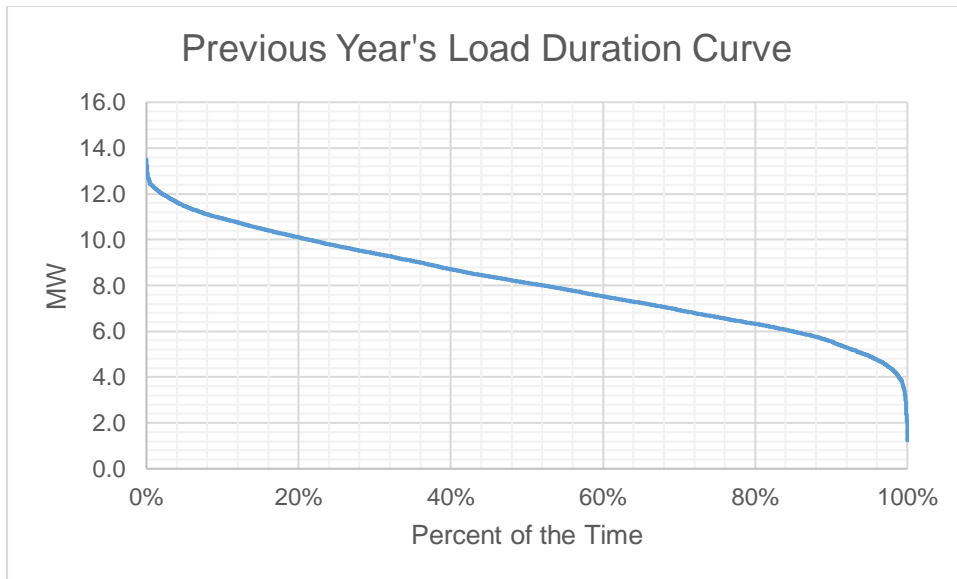
Residential customers account for the bulk of energy sales at 63.82% due to the high number of connections. In contrast, Others (Public Building and Street Light) customers accounted for only 13.11% of energy sales due to the low number of connections.

### MWh Offtake for Last Historical Year

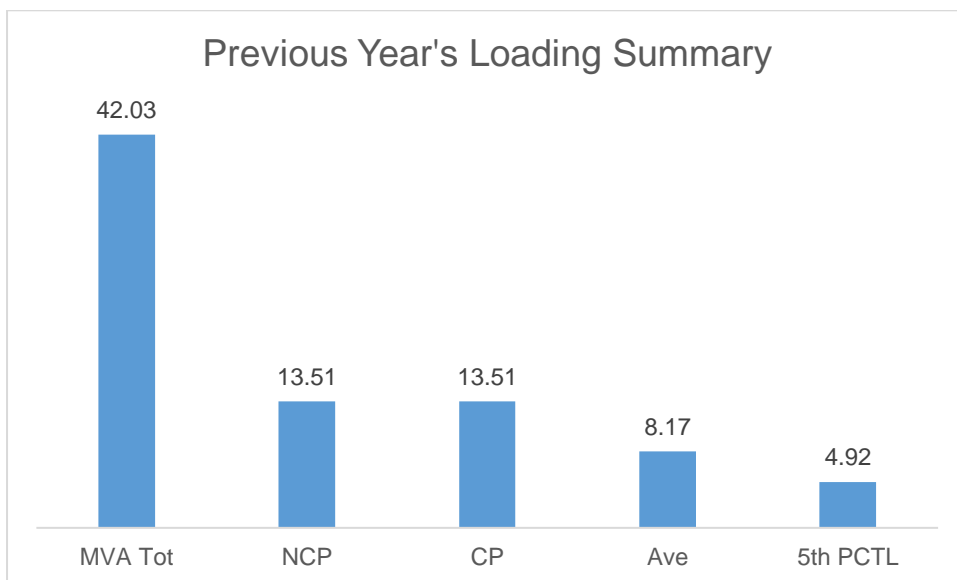


For 2019, the total Offtake for the last historical year is lower than the quantity stipulated in the PSA. The PSA with Sun West Water Electric Company (SUWECO) accounts for the bulk of MWh Offtake.

## Previous Year's Load Profile



Based on the Load Duration Curve, the maximum load is 13.505 MW for the last historical year



The Non-coincident Peak Demand is 13.51 MW, which is around 32.14% of the total capacity of 42.03 MVA at a power factor of 85%. The load factor or the ratio between the Average Load of 8.17 MW and the Non-coincident Peak Demand is 60.47%. A safe estimate of the true minimum load is the fifth percentile load of 4.92 MW which is 36.42% of the Non-coincident Peak Demand.

## Forecasted Consumption Data

		Coincident Peak MW	Contracted MW	Planned MW	Existing Contracting Level	Target Contracting Level
2020	Jan	10.85	10.85	0.000	100%	100%
	Feb	10.67	10.67	0.000	100%	100%
	Mar	11.45	11.45	0.000	100%	100%
	Apr	12.37	12.37	0.000	100%	100%
	May	14.55	10.95	3.600	75%	100%
	Jun	14.01	10.41	3.600	74%	100%
	Jul	13.73	10.13	3.600	74%	100%
	Aug	14.54	10.94	3.600	75%	100%
	Sep	13.18	9.58	3.600	73%	100%
	Oct	13.02	8.62	4.400	66%	100%
	Nov	13.70	9.30	4.400	68%	100%
	Dec	12.26	7.86	4.400	64%	100%
2021	Jan	12.09	7.69	4.400	64%	100%
	Feb	11.91	7.51	4.400	63%	100%
	Mar	12.69	8.29	4.400	65%	100%
	Apr	13.61	10.01	3.600	74%	100%
	May	15.79	12.19	3.600	77%	100%
	Jun	15.25	11.65	3.600	76%	100%
	Jul	14.97	11.37	3.600	76%	100%
	Aug	15.78	12.18	3.600	77%	100%
	Sep	14.42	10.82	3.600	75%	100%
	Oct	14.26	9.86	4.400	69%	100%
	Nov	14.94	10.54	4.400	71%	100%
	Dec	13.50	9.10	4.400	67%	100%
2022	Jan	13.36	8.96	4.400	67%	100%
	Feb	13.18	8.78	4.400	67%	100%
	Mar	13.96	9.56	4.400	68%	100%
	Apr	14.88	11.28	3.600	76%	100%

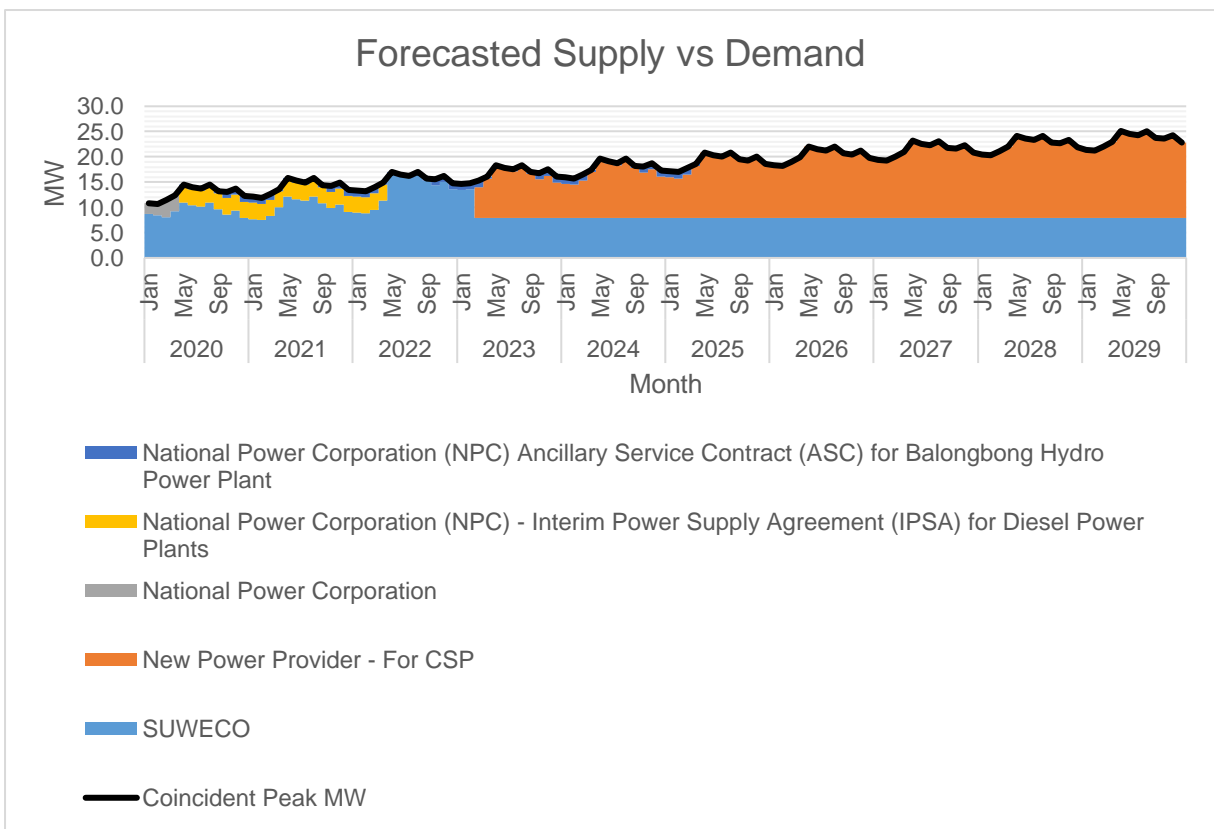
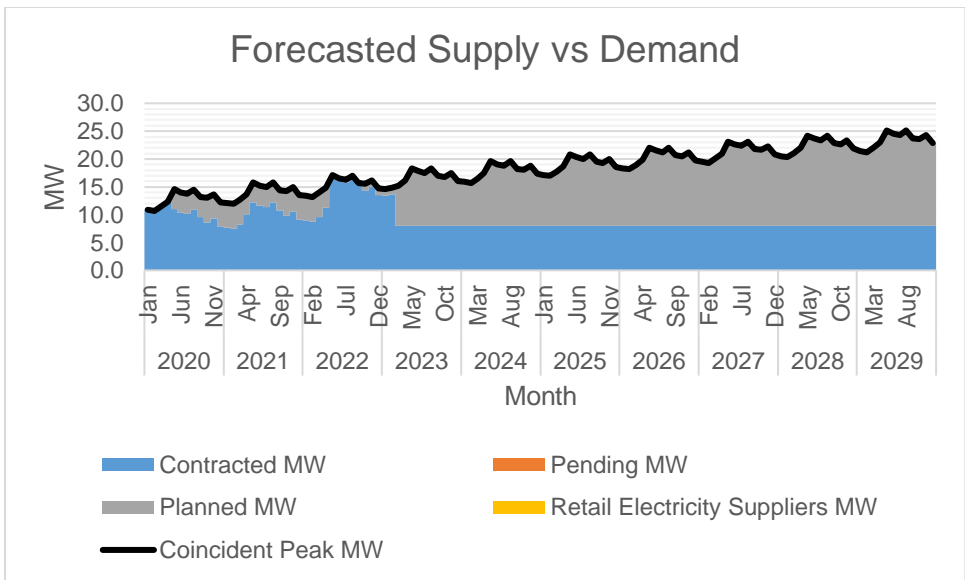
	May	17.06	16.66	0.400	98%	100%
	Jun	16.52	16.12	0.400	98%	100%
	Jul	16.24	15.84	0.400	98%	100%
	Aug	17.05	16.65	0.400	98%	100%
	Sep	15.69	15.29	0.400	97%	100%
	Oct	15.52	14.32	1.200	92%	100%
	Nov	16.21	15.01	1.200	93%	100%
	Dec	14.77	13.57	1.200	92%	100%
2023	Jan	14.63	13.43	1.200	92%	100%
	Feb	14.80	13.60	1.200	92%	100%
	Mar	15.24	7.98	7.263	52%	100%
	Apr	16.16	7.98	8.181	49%	100%
	May	18.34	7.98	10.361	43%	100%
	Jun	17.80	7.98	9.824	45%	100%
	Jul	17.52	7.98	9.541	46%	100%
	Aug	18.33	7.98	10.350	44%	100%
	Sep	16.97	7.98	8.990	47%	100%
	Oct	16.80	7.98	8.827	47%	100%
	Nov	17.49	7.98	9.511	46%	100%
	Dec	16.05	7.98	8.072	50%	100%
2024	Jan	15.90	7.98	7.926	50%	100%
	Feb	15.72	7.98	7.748	51%	100%
	Mar	16.51	7.98	8.531	48%	100%
	Apr	17.42	7.98	9.449	46%	100%
	May	19.60	7.98	11.629	41%	100%
	Jun	19.07	7.98	11.092	42%	100%
	Jul	18.78	7.98	10.809	42%	100%
	Aug	19.59	7.98	11.618	41%	100%
	Sep	18.23	7.98	10.258	44%	100%
	Oct	18.07	7.98	10.095	44%	100%
	Nov	18.75	7.98	10.779	43%	100%
	Dec	17.32	7.98	9.340	46%	100%
2025	Jan	17.14	7.98	9.165	47%	100%

	Feb	16.96	7.98	8.987	47%	100%
	Mar	17.75	7.98	9.770	45%	100%
	Apr	18.66	7.98	10.688	43%	100%
	May	20.84	7.98	12.868	38%	100%
	Jun	20.31	7.98	12.331	39%	100%
	Jul	20.02	7.98	12.048	40%	100%
	Aug	20.83	7.98	12.857	38%	100%
	Sep	19.47	7.98	11.497	41%	100%
	Oct	19.31	7.98	11.334	41%	100%
	Nov	19.99	7.98	12.018	40%	100%
	Dec	18.55	7.98	10.579	43%	100%
2026	Jan	18.33	7.98	10.356	44%	100%
	Feb	18.15	7.98	10.178	44%	100%
	Mar	18.94	7.98	10.961	42%	100%
	Apr	19.85	7.98	11.879	40%	100%
	May	22.03	7.98	14.059	36%	100%
	Jun	21.50	7.98	13.522	37%	100%
	Jul	21.21	7.98	13.239	38%	100%
	Aug	22.02	7.98	14.048	36%	100%
	Sep	20.66	7.98	12.688	39%	100%
	Oct	20.50	7.98	12.525	39%	100%
	Nov	21.18	7.98	13.209	38%	100%
	Dec	19.74	7.98	11.770	40%	100%
2027	Jan	19.45	7.98	11.479	41%	100%
	Feb	19.28	7.98	11.301	41%	100%
	Mar	20.06	7.98	12.084	40%	100%
	Apr	20.98	7.98	13.002	38%	100%
	May	23.16	7.98	15.182	34%	100%
	Jun	22.62	7.98	14.645	35%	100%
	Jul	22.34	7.98	14.362	36%	100%
	Aug	23.15	7.98	15.171	34%	100%
	Sep	21.79	7.98	13.811	37%	100%
	Oct	21.62	7.98	13.648	37%	100%



	Nov	22.31	7.98	14.332	36%	100%
	Dec	20.87	7.98	12.893	38%	100%
2028	Jan	20.49	7.98	12.515	39%	100%
	Feb	20.31	7.98	12.337	39%	100%
	Mar	21.10	7.98	13.120	38%	100%
	Apr	22.01	7.98	14.038	36%	100%
	May	24.19	7.98	16.218	33%	100%
	Jun	23.66	7.98	15.681	34%	100%
	Jul	23.37	7.98	15.398	34%	100%
	Aug	24.18	7.98	16.207	33%	100%
	Sep	22.82	7.98	14.847	35%	100%
	Oct	22.66	7.98	14.684	35%	100%
	Nov	23.34	7.98	15.368	34%	100%
	Dec	21.90	7.98	13.929	36%	100%
2029	Jan	21.42	7.98	13.445	37%	100%
	Feb	21.24	7.98	13.267	38%	100%
	Mar	22.02	7.98	14.050	36%	100%
	Apr	22.94	7.98	14.968	35%	100%
	May	25.12	7.98	17.148	32%	100%
	Jun	24.59	7.98	16.611	32%	100%
	Jul	24.30	7.98	16.328	33%	100%
	Aug	25.11	7.98	17.137	32%	100%
	Sep	23.75	7.98	15.777	34%	100%
	Oct	23.59	7.98	15.614	34%	100%
	Nov	24.27	7.98	16.298	33%	100%
	Dec	22.83	7.98	14.859	35%	100%

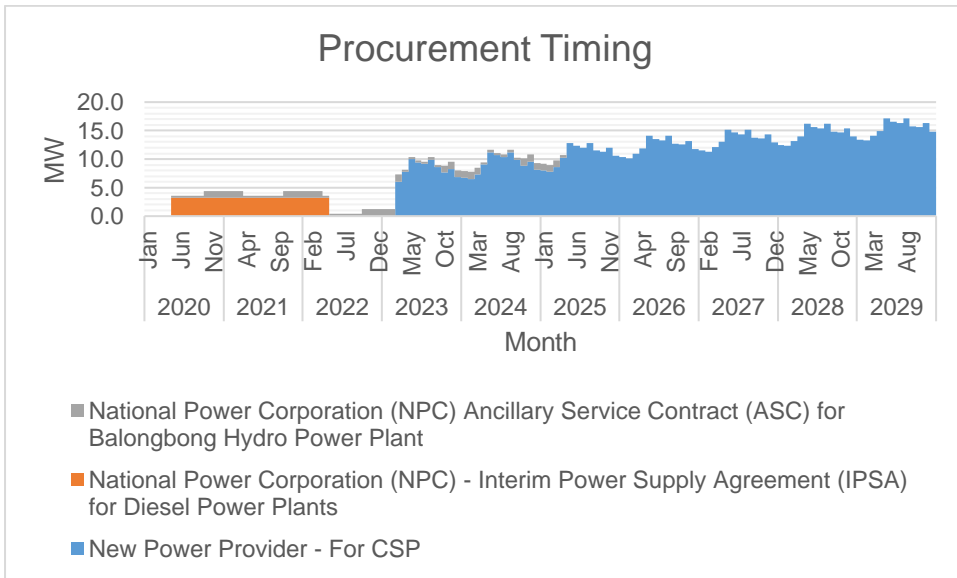
The Peak Demand was forecasted using NEA- Template Forecasting Methodology and was assumed to occur on the month of May due to peak of dry season. Monthly Peak Demand is at its lowest on the month of February. In general, Peak Demand is expected to grow at a rate of 8.51 % in year 2020 to 2021.



At present, there is no deficit in power supply in Catanduanes because of Amendment 1 (5 MW) and 2 (6.6 MW) of the Electricity Supply Agreement (ESA) between FICELCO and Sunwest Water Electricity Corporation, Inc (SUWECO) as backed-up to the undelivered/not completed Hitoma 2 and Capiian Hydro Power Plant under the original ESA. As stipulated in these amendments, the backed-up diesel-fueled generators will also augment the power deficiency in Catanduanes.

Also, National Power Corporation’s (NPC) commitment to operate their gensets when the need arises. NPC’s drafted already Interim Power Supply Agreement (IPSA) for diesel power plants and Ancillary Service Contract (ASC) for Balongbong Hydro Power Plant.

Upon completion of Competitive Selection Process (CSP) and once the New Power Provider (NPP) is in commercial operation targeted by year 2023, SUWECO’s dispatchable capacity will be limited to 7.975 MW based on the original ESA.



The first wave of supply procurement (New Power Provider) will be for 15 MW planned to be available by the month of March 2023. This will be followed by 5 MW by the month of March 2028.



The highest target contracting level is 71.34% which is expected to occur on year 2037. The lowest target contracting level is 54.33% which is expected to occur on year 2023.

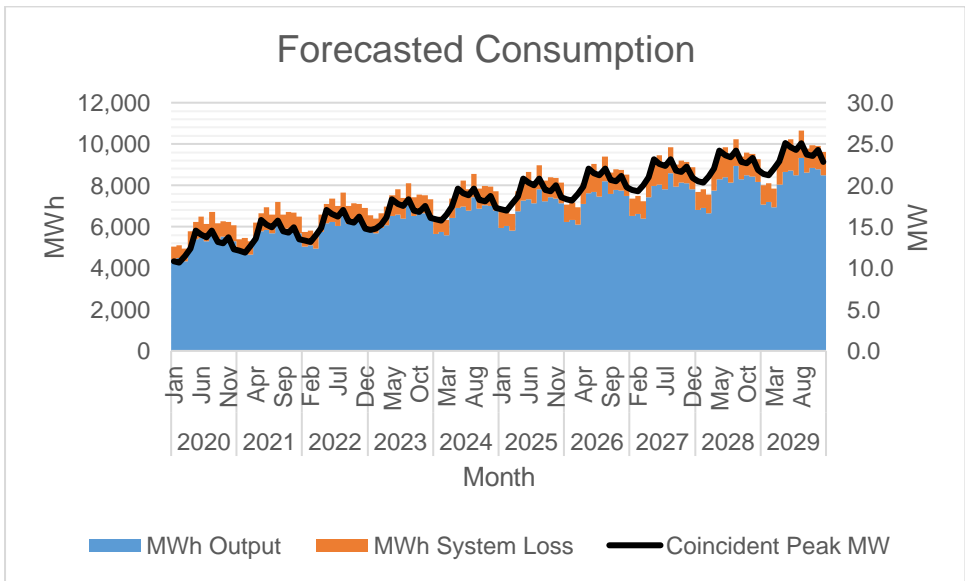
		MWh Offtake	MWh Output	MWh System Loss	System Loss
2020	Jan	5,044	4,423	621	12.32%
	Feb	5,117	4,488	630	12.31%
	Mar	4,956	4,333	623	12.57%
	Apr	5,787	5,029	757	13.09%
	May	6,238	5,397	841	13.48%
	Jun	6,484	5,451	1,033	15.93%
	Jul	6,152	5,295	856	13.92%
	Aug	6,728	5,820	908	13.49%
	Sep	6,172	5,384	788	12.77%
	Oct	6,281	5,519	762	12.13%

	Nov	6,250	5,484	766	12.25%
	Dec	6,082	5,302	780	12.83%
2021	Jan	5,393	4,737	655	12.15%
	Feb	5,471	4,807	664	12.14%
	Mar	5,298	4,641	657	12.41%
	Apr	6,186	5,387	799	12.92%
	May	6,668	5,781	887	13.30%
	Jun	6,928	5,838	1,090	15.73%
	Jul	6,575	5,672	903	13.74%
	Aug	7,192	6,234	958	13.32%
	Sep	6,598	5,767	832	12.60%
	Oct	6,715	5,912	804	11.97%
	Nov	6,682	5,874	808	12.09%
	Dec	6,502	5,679	823	12.66%
2022	Jan	5,737	5,048	689	12.01%
	Feb	5,820	5,122	698	12.00%
	Mar	5,636	4,945	691	12.26%
	Apr	6,580	5,740	840	12.77%
	May	7,092	6,160	932	13.15%
	Jun	7,366	6,221	1,146	15.55%
	Jul	6,993	6,044	950	13.58%
	Aug	7,649	6,642	1,007	13.16%
	Sep	7,019	6,145	874	12.46%
	Oct	7,144	6,299	845	11.83%
	Nov	7,108	6,259	849	11.94%
	Dec	6,916	6,051	865	12.51%
2023	Jan	6,560	5,838	722	11.01%
	Feb	6,408	5,676	732	11.43%
	Mar	6,667	5,943	724	10.86%
	Apr	6,968	6,088	880	12.64%
	May	7,510	6,533	977	13.01%
	Jun	7,798	6,598	1,201	15.40%
	Jul	7,405	6,410	995	13.44%
	Aug	8,100	7,045	1,055	13.03%
	Sep	7,433	6,517	916	12.33%
	Oct	7,566	6,680	885	11.70%
	Nov	7,528	6,638	890	11.82%
	Dec	7,325	6,417	907	12.38%
2024	Jan	6,409	5,654	755	11.78%
	Feb	6,502	5,737	765	11.77%
	Mar	6,340	5,583	757	11.94%
	Apr	7,350	6,430	920	12.52%
	May	7,921	6,900	1,021	12.89%
	Jun	8,223	6,968	1,255	15.26%
	Jul	7,810	6,770	1,040	13.32%
	Aug	8,544	7,441	1,103	12.91%
	Sep	7,841	6,883	958	12.22%
	Oct	7,981	7,056	925	11.59%
	Nov	7,941	7,011	930	11.71%

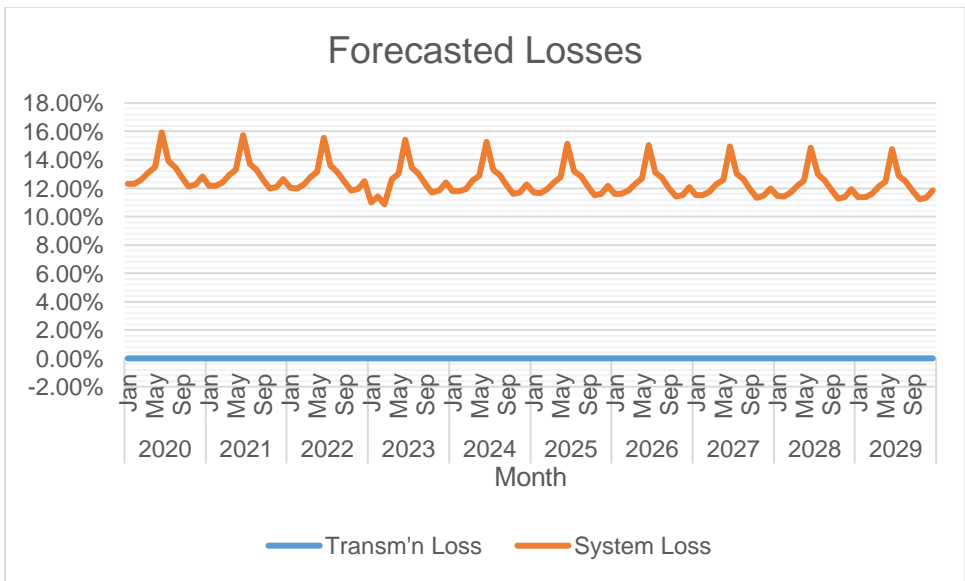
	Dec	7,726	6,778	948	12.27%
2025	Jan	6,737	5,950	787	11.68%
	Feb	6,835	6,037	798	11.67%
	Mar	6,618	5,829	789	11.92%
	Apr	7,725	6,766	959	12.42%
	May	8,326	7,261	1,065	12.79%
	Jun	8,641	7,333	1,308	15.14%
	Jul	8,208	7,124	1,084	13.21%
	Aug	8,980	7,830	1,150	12.80%
	Sep	8,242	7,243	998	12.11%
	Oct	8,390	7,425	965	11.50%
	Nov	8,348	7,378	969	11.61%
	Dec	8,121	7,133	988	12.17%
2026	Jan	7,059	6,241	818	11.59%
	Feb	7,162	6,332	830	11.58%
	Mar	6,934	6,113	821	11.84%
	Apr	8,094	7,097	998	12.33%
	May	8,723	7,616	1,107	12.69%
	Jun	9,052	7,691	1,361	15.03%
	Jul	8,600	7,472	1,128	13.11%
	Aug	9,408	8,213	1,196	12.71%
	Sep	8,636	7,597	1,038	12.03%
	Oct	8,791	7,788	1,003	11.41%
	Nov	8,747	7,739	1,008	11.53%
	Dec	8,509	7,481	1,028	12.08%
2027	Jan	7,376	6,527	849	11.52%
	Feb	7,483	6,622	861	11.51%
	Mar	7,245	6,393	852	11.76%
	Apr	8,457	7,422	1,035	12.24%
	May	9,114	7,964	1,149	12.61%
	Jun	9,455	8,043	1,412	14.93%
	Jul	8,985	7,814	1,170	13.03%
	Aug	9,830	8,589	1,241	12.63%
	Sep	9,023	7,945	1,078	11.94%
	Oct	9,186	8,144	1,041	11.34%
	Nov	9,140	8,093	1,046	11.45%
	Dec	8,890	7,824	1,067	12.00%
2028	Jan	7,687	6,807	880	11.45%
	Feb	7,799	6,907	892	11.44%
	Mar	7,551	6,668	882	11.68%
	Apr	8,813	7,741	1,073	12.17%
	May	9,497	8,307	1,190	12.53%
	Jun	9,852	8,389	1,463	14.85%
	Jul	9,363	8,150	1,212	12.95%
	Aug	10,244	8,958	1,286	12.55%
	Sep	9,403	8,287	1,116	11.87%
	Oct	9,573	8,495	1,079	11.27%
	Nov	9,525	8,441	1,084	11.38%
	Dec	9,265	8,160	1,105	11.93%

2029	Jan	7,993	7,083	910	11.38%
	Feb	8,109	7,187	922	11.37%
	Mar	7,851	6,939	912	11.62%
	Apr	9,164	8,055	1,109	12.10%
	May	9,875	8,644	1,231	12.47%
	Jun	10,242	8,730	1,512	14.77%
	Jul	9,734	8,481	1,254	12.88%
	Aug	10,650	9,321	1,329	12.48%
	Sep	9,777	8,623	1,154	11.81%
	Oct	9,954	8,839	1,115	11.20%
	Nov	9,904	8,783	1,121	11.32%
	Dec	9,634	8,491	1,143	11.86%

MWh Offtake was forecasted using NEA Template Forecasting Methodology.



MWh Output was expected to grow at a rate of 4.58 % annually.



System Loss is expected to range from 13.14% on year 2020 to 12.15% on year 2029.

## Power Supply

Case No.	Type	GenCo	Minimum MW	Minimum MWh/yr	PSA Start	PSA End
ERC Case No. 2018-021 RC	Base	Sunwest Water and Electric Company, Inc.	7.98	69,861	10/1/2010	10/1/2040
National Power Corporation	Peaking	National Power Corporation	2.20	6,338	4/26/2017	4/25/2020

The Original Electricity Supply Agreement (ESA) between SUWECO and FICELCO under ERC Case No. 2008-021 RC is for the four (4) hydro power plants namely Solong, Hitoma 1, Hitoma 2 and Capiian Mini Hydro Power Plants with thirty (30) years cooperation period. It was selected to provide for base requirements due to the growing demand in the Province of Catanduanes.

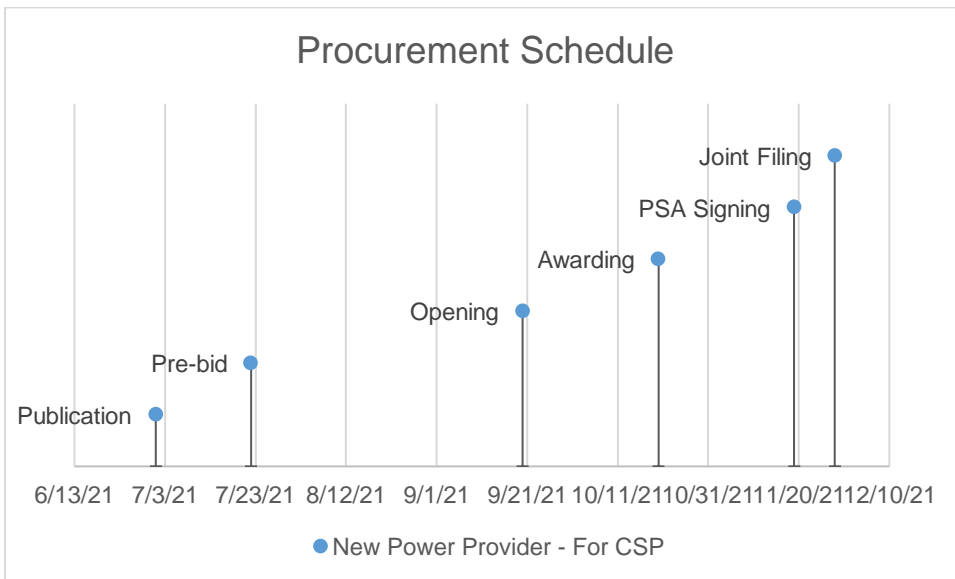
## Undelivered Hydro Power Plants

Case No.	Type	GenCo	Minimum MW	Minimum MWh/yr	PSA Start	PSA End
ERC Case No. 2008-021 RC	Hitoma 2 Hydro	Sunwest Water and Electric Company, Inc.	1.575	13,797	10/1/2010	10/1/2040
ERC Case No. 2008-021 RC	Capiian Hydro	Sunwest Water and Electric Company, Inc.	2.6	22,776	10/1/2010	10/1/2040

Minimum MWh/yr for the undelivered hydro power plants were included in SUWECO's total contracted MWh/yr which is 69,861.

**New Power Provider - For CSP**

Type	Base
Minimum MW	6.06
Minimum MWh/yr	13,823
PSA Start	3/1/2023
PSA End	2/28/2028
Publication	7/1/2021
Pre-bid	7/22/2021
Opening	9/20/2021
Awarding	10/20/2021
PSA Signing	11/19/2021
Joint Filing	11/28/2021

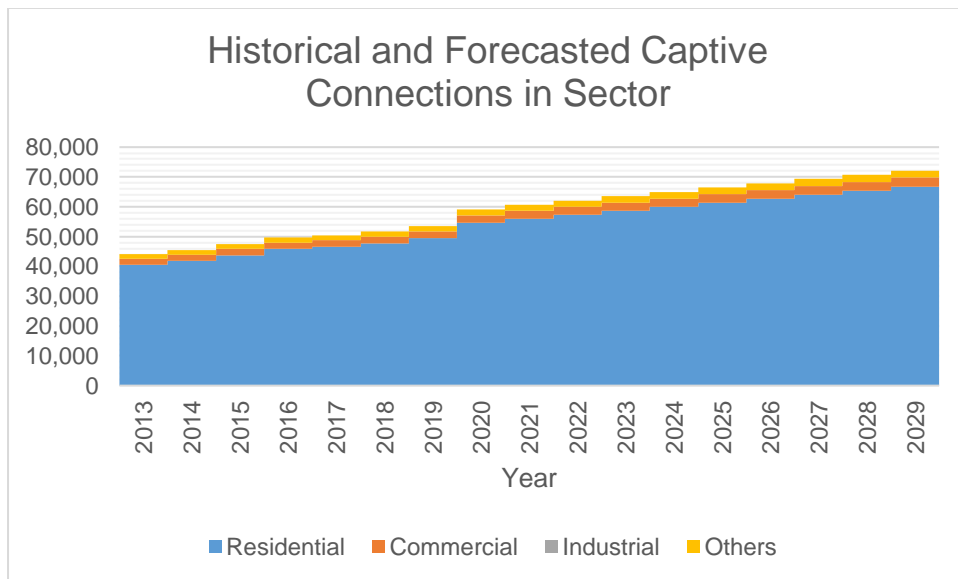


For the procurement of 20 MW of supply, the first publication or launch of CSP will be on July 1, 2021. Joint filing is planned on November 28, 2021, or 150 days later, in accordance with DOE’s 2018 CSP Policy.

*\*Procurement Schedule is subject for adjustment depending on the approval of FICELCO’s 2020 PSPP and Terms of Reference (TOR).*



## Captive Customer Connections



The number of residential connections is expected to grow at a rate of 3.05 % annually. Said customer class is expected to account for 63.54% of the total consumption.

\*FICELCO highly recommended the study of National Transmission Corporation (NTC) on the interconnection of Catanduanes Island to the Luzon Grid. Once Catanduanes is interconnected to the Luzon Grid, this will guarantee a reliable, secured, efficient and affordable electricity to our Member-Consumers-Owners (MCOs) and it will boost the economic development in the Province of Catanduanes.

We are amenable for the removal of Universal Charges for Missionary Electrification (UCME) once this project is realized and implemented.