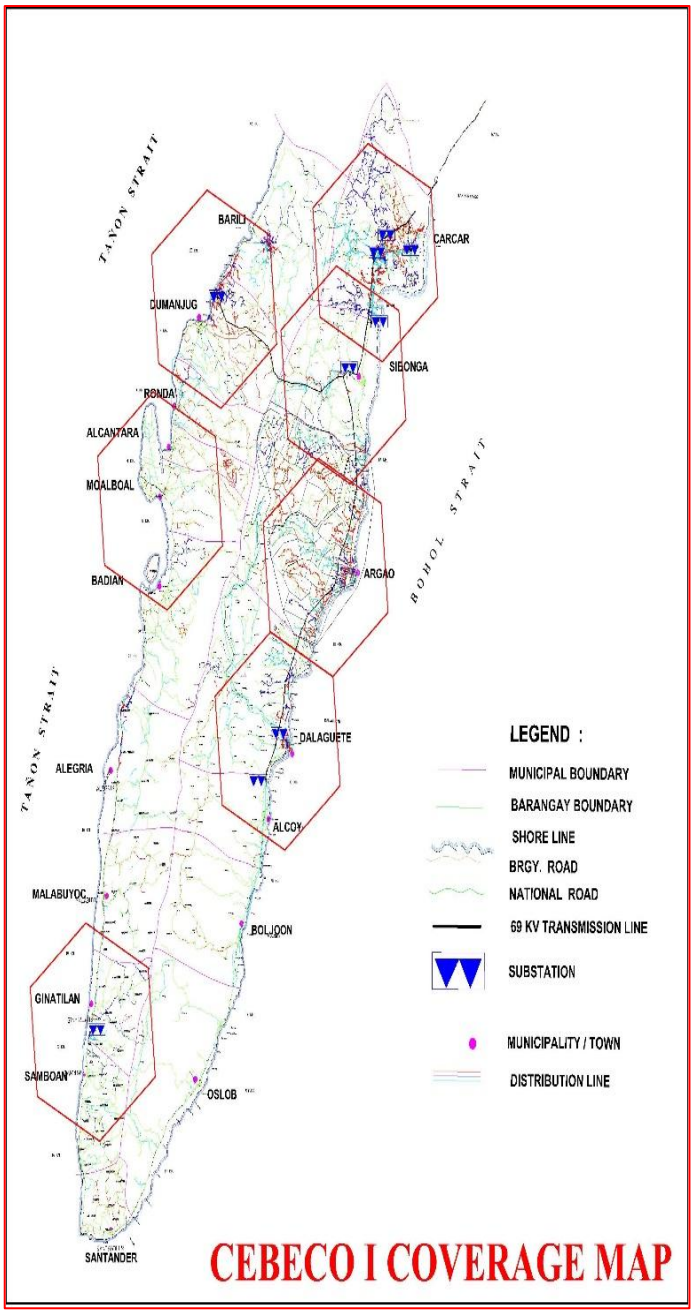
Distribution Development Plan
2025

CEBU I ELECTRIC COOPERATIVE, INC.

General Information

The CEBECO I's franchise was granted on February 7, 1980 by virtue of National Electrification Commission under Certificate of Franchise No. 056 and is set to expire in year 2030.



The CEBECO I's franchise area consists of 366 barangays in the City of Carcar and the Municipalities of Barili, Dumanjug, Ronda, Alcantara, Moalboal, Badian, Alegria, Malabuyoc, Ginatilan, Samboan, Santander, Sibonga, Argao, Dalaguete, Alcoy, Boljoon and Oslob in the Province of Cebu. The franchise area is 1,749 square kilometers in size with a population of 766,949 based on 2020 Census. On the other hand, CEBECO I have experienced huge damages of its distribution system and facilities brought about by Super Typhoon Odette in December 2021 that affected most of our residential consumers, commercial and industrial establishments as well as the public buildings.

CEBECO I serves Residential, Commercial, Industrial and Others (Public Buildings and Street Lights).

Historical and Forecasted Consumption Data

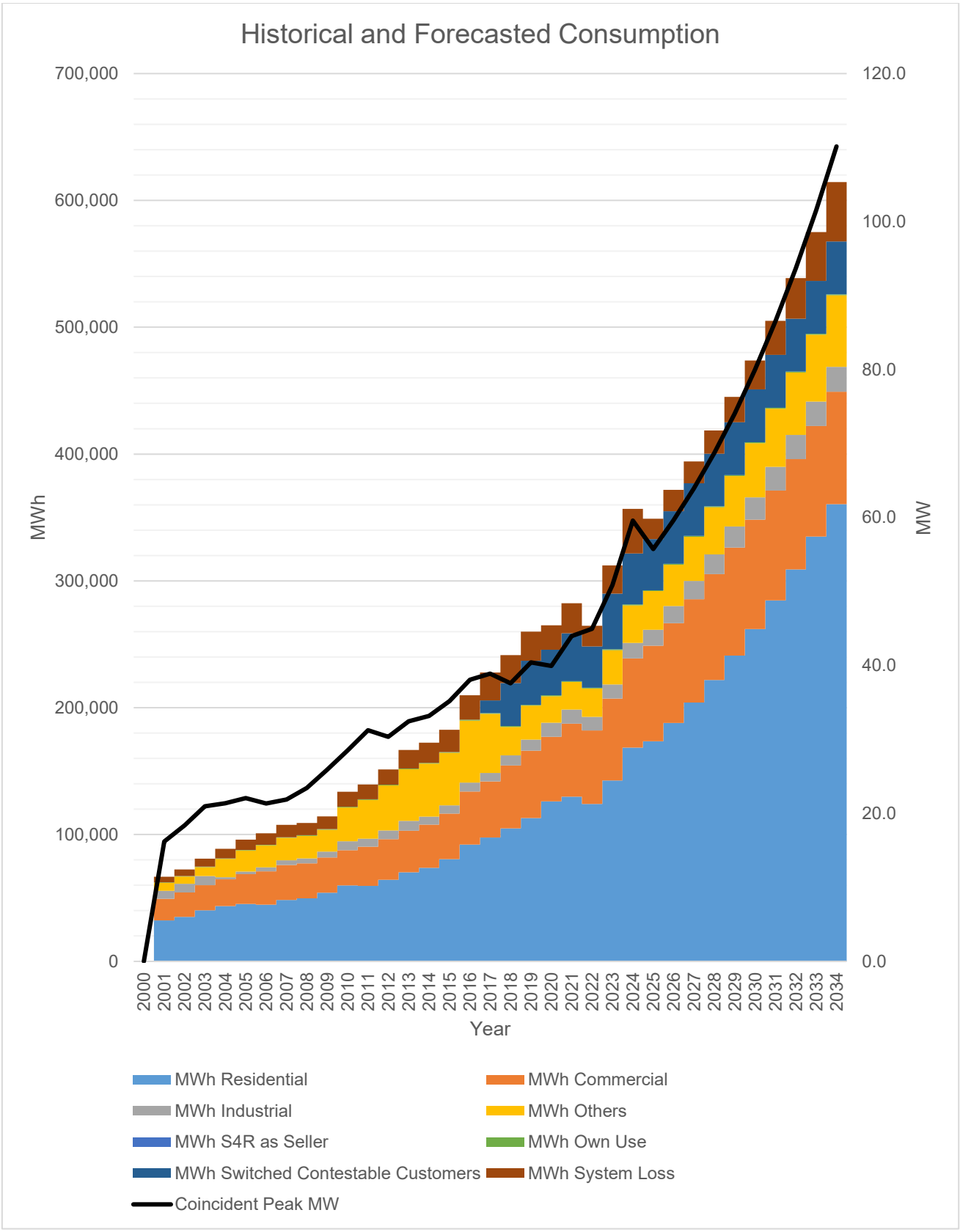
	Coincident Peak MW	MWh Offtake	MWh Transm'n Loss	MWh Residential	MWh Commercial	MWh Industrial	MWh Others	MWh S4R as Seller	MWh Own Use	MWh Switched Contestable Customers	MWh System Loss
2000	0.00	0	0	0	0	0	0	0	0	0	0
2001	16.21	66,772	0	32,214	17,064	6,378	6,297	0	408	0	4,412
2002	18.39	72,435	0	35,122	19,142	6,857	5,834	0	393	0	5,088
2003	20.97	80,931	0	40,182	19,841	7,262	7,003	0	405	0	6,238
2004	21.38	88,701	0	43,642	20,977	1,698	14,502	0	414	0	7,467
2005	22.07	95,968	0	45,253	23,468	2,174	16,608	0	342	0	8,123
2006	21.34	100,993	0	44,743	26,222	3,260	17,376	0	375	0	9,017
2007	21.88	107,615	0	48,421	27,602	3,630	17,784	0	378	0	9,800
2008	23.42	109,186	0	49,742	27,518	3,828	17,935	0	459	0	9,704
2009	25.92	114,353	0	54,091	27,908	4,467	17,291	0	469	0	10,127
2010	28.51	133,738	0	59,837	27,823	7,106	26,599	0	444	0	11,929
2011	31.23	139,493	0	59,553	30,789	6,384	30,481	0	568	0	11,718
2012	30.35	151,289	0	64,325	32,031	6,896	35,412	0	538	0	12,087
2013	32.45	166,765	0	70,324	32,757	7,699	40,723	0	516	0	14,746
2014	33.18	172,482	0	73,707	34,028	6,360	41,788	0	552	0	16,048
2015	35.16	182,531	0	80,693	35,776	6,602	41,335	0	634	0	17,492

2016	38.06	209,850	0	92,037	41,863	7,014	48,943	0	620	0	19,372
2017	38.90	227,731	0	97,594	44,261	6,637	46,674	0	676	9,852	22,037
2018	37.60	241,532	0	104,840	49,594	8,071	22,294	0	717	33,877	22,138
2019	40.40	259,951	0	113,028	53,134	8,600	26,866	0	670	34,679	22,973
2020	39.95	264,997	0	126,125	50,909	11,208	20,871	0	677	35,868	19,339
2021	43.98	282,401	0	129,871	57,562	11,166	21,743	0	672	37,670	23,718
2022	44.94	264,550	0	124,095	57,960	10,743	22,365	0	650	32,597	16,140
2023	50.84	312,130	0	142,696	64,548	11,022	27,129	0	614	44,029	22,091
2024	59.56	356,742	0	168,575	70,355	12,133	29,672	0	660	40,224	35,125
2025	55.74	347,821	2,646	162,662	72,140	18,784	34,531	0	660	40,224	16,174
2026	59.62	369,595	2,812	171,114	76,988	22,126	37,576	0	660	41,595	16,723
2027	63.93	391,143	2,976	179,682	82,435	25,776	40,828	0	660	41,595	17,190
2028	68.73	414,545	3,154	188,379	88,541	29,670	44,280	0	660	41,595	18,267
2029	74.06	439,969	3,347	197,215	95,364	33,743	47,924	0	660	41,595	20,120
2030	79.96	467,584	3,557	206,204	102,966	37,932	51,753	0	660	41,595	22,917
2031	86.47	497,558	3,785	215,355	111,406	42,173	55,758	0	660	41,595	26,825
2032	93.65	530,060	4,033	224,681	120,744	46,402	59,933	0	660	41,595	32,013
2033	101.52	565,259	4,301	234,193	131,040	50,554	64,270	0	660	41,595	38,646
2034	110.15	603,323	4,590	243,904	142,354	54,567	68,761	0	660	41,595	46,892

The above table is a consolidation of consumption data for all Sectors, namely Residential, Commercial, Industrial, Contestable Customers and Others (Public Buildings and Street Lights). The largest Sector is Residential consumers which accounts for around 47.25% of the MWh Offtake.

	Transm'n Loss	System Loss	Load Factor	Switched Contestable Customers
2000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
2001	0.00%	6.61%	47%	0.00%
2002	0.00%	7.02%	45%	0.00%
2003	0.00%	7.71%	44%	0.00%
2004	0.00%	8.42%	47%	0.00%
2005	0.00%	8.46%	50%	0.00%
2006	0.00%	8.93%	54%	0.00%
2007	0.00%	9.11%	56%	0.00%
2008	0.00%	8.89%	53%	0.00%
2009	0.00%	8.86%	50%	0.00%
2010	0.00%	8.92%	54%	0.00%
2011	0.00%	8.40%	51%	0.00%
2012	0.00%	7.99%	57%	0.00%
2013	0.00%	8.84%	59%	0.00%
2014	0.00%	9.30%	59%	0.00%
2015	0.00%	9.58%	59%	0.00%
2016	0.00%	9.23%	63%	0.00%
2017	0.00%	9.68%	67%	4.33%
2018	0.00%	9.17%	73%	14.03%
2019	0.00%	8.84%	73%	13.34%
2020	0.00%	7.30%	76%	13.54%
2021	0.00%	8.40%	73%	13.34%
2022	0.00%	6.10%	67%	12.32%
2023	0.00%	7.08%	70%	14.11%
2024	0.00%	9.85%	68%	11.28%
2025	0.76%	4.63%	71%	11.52%
2026	0.76%	4.50%	71%	11.19%
2027	0.76%	4.36%	70%	10.55%
2028	0.76%	4.36%	70%	9.94%
2029	0.76%	4.52%	69%	9.34%
2030	0.76%	4.84%	68%	8.78%
2031	0.76%	5.31%	67%	8.24%
2032	0.76%	5.94%	66%	7.72%
2033	0.76%	6.72%	65%	7.23%
2034	0.76%	7.63%	64%	6.77%

Historically, the overall Transmission Loss remains at 0% since the basis of our power billing is the reading at NGCP metering points located at our respective substations not until second half of 2024 wherein part of the existing sub-transmission line has been transferred to a new tapping pole located in the new NGCP Converter Station in Cogon, Dumanjug where the metering point is transferred as well inside the NGCP Converter Station. Despite this, the TWG opted to include those losses under the “SubTx and SS Losses” since the 69kV line is still under the sub-transmission level while the overall System Loss ranged from 6.10% to 9.85%. Overall System Loss peaked at 9.85% on year 2024 because of various factors that have contributed much in the rise of CEBECO I’s system’s loss.



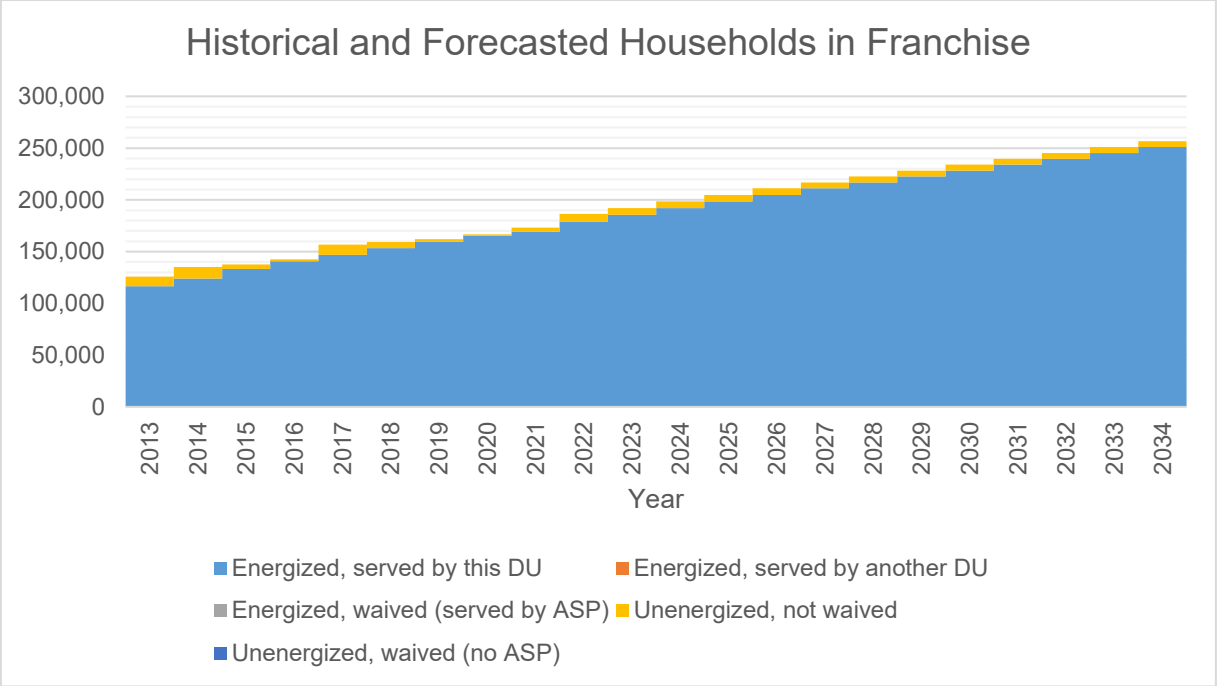
Residential customers account for the bulk of energy sales at 60.04%. In contrast, Industrial customers accounted for only 4.32% of energy sales. These figures are expected to drastically change in the following years due to various commercial and industrial developments within the coverage area.

Historical and Forecasted Customer Data

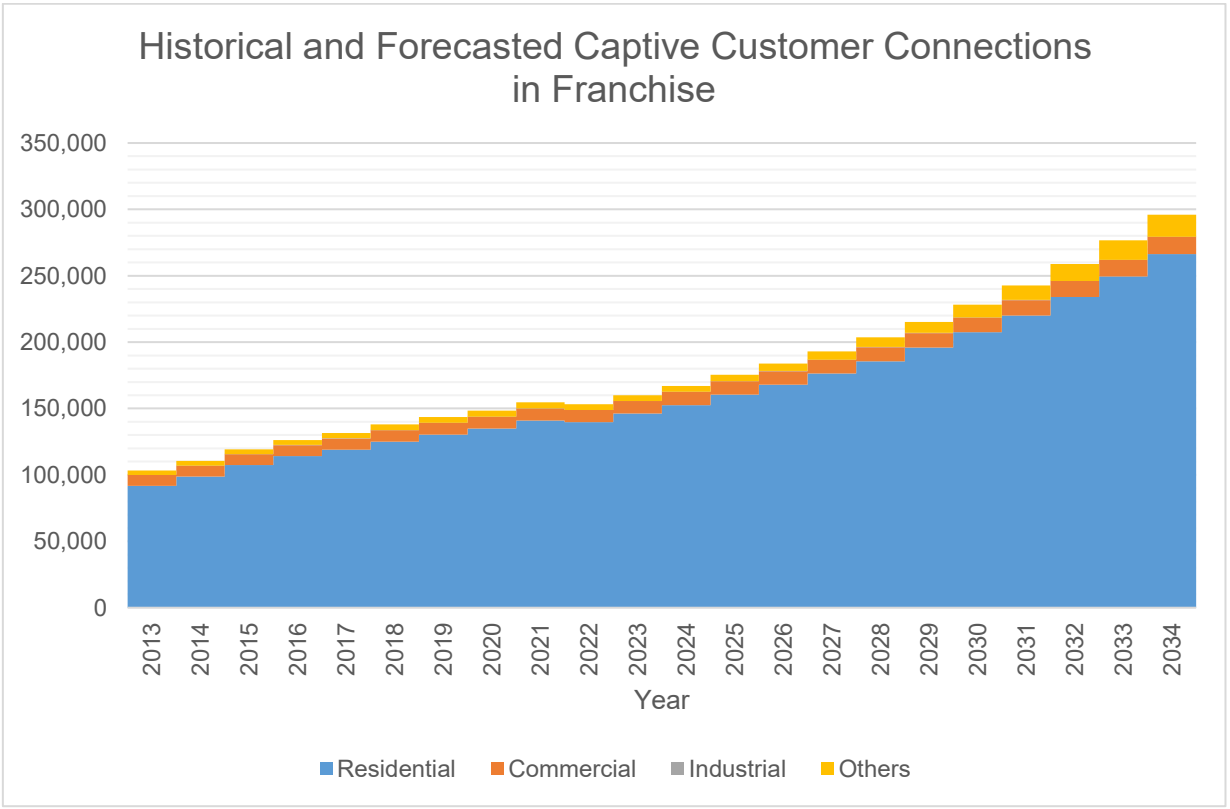
	Number of barangays in franchise	Number of households in franchise	Number of barangays outside franchise being served	Number of customer connections outside franchise	Number of captive customer connections	Number of contestable customers	NCP MW of switched contestable customers	Total MWh of switched contestable customers
2013	366	125,700	3	479	103,238	4	0.00	0
2014	366	135,100	3	508	110,463	4	0.00	0
2015	366	137,500	3	533	119,232	4	0.00	0
2016	366	142,600	3	581	126,364	4	0.00	0
2017	366	156,700	3	611	131,598	4	6.81	33,234
2018	366	159,300	3	639	138,068	4	7.20	33,877
2019	366	161,958	3	703	143,692	4	7.42	34,679
2020	366	166,689	3	770	148,460	4	8.22	31,203
2021	366	173,111	3	754	154,816	4	7.96	38,522
2022	366	186,326	3	783	153,194	4	7.80	32,433
2023	366	192,102	3	813	159,936	4	7.97	35,732
2024	366	198,388	3	767	167,011	4	7.73	28,341
2025	366	204,779	3	767	175,477	4	7.73	28,341
2026	366	211,092	3	767	183,765	4	7.73	29,713
2027	366	216,799	3	767	193,088	4	7.73	29,713
2028	366	222,506	3	767	203,553	4	7.73	29,713
2029	366	228,213	3	767	215,259	4	7.73	29,713
2030	366	233,920	3	767	228,311	4	7.73	29,713
2031	366	239,627	3	767	242,816	4	7.73	29,713
2032	366	245,334	3	767	258,874	4	7.73	29,713
2033	366	251,041	3	767	276,590	4	7.73	29,713
2034	366	256,748	3	767	296,068	4	7.73	29,713

The number of barangays in the franchise is expected to remain the same due to unchanged franchise area and there are no developments that could lead to the creation of new barangays. The number of barangays outside the franchise area being served by CEBECO I is expected to remain the same due to slow increase of new consumers closer to the tapping pole.

The number of Contestable Customers is expected to be the same within the forecasted period. Meanwhile, one contestable customer is on temporary shutdown of their plant due to management issues which contributes to the decline in the consumption of those customers. Within the same timeframe, the total MW accounted for switched Contestable Customers may remain at 7.73 MW but the offtake is seen to increase slowly upon the resumption of operation of that particular contestable customer from 28,341 MWh to 29,713 MWh. There are no significant increase seen in the forecast in the offtake of the switched Contestable Customers since there were no available data or communication from those customers regarding major development in their company.

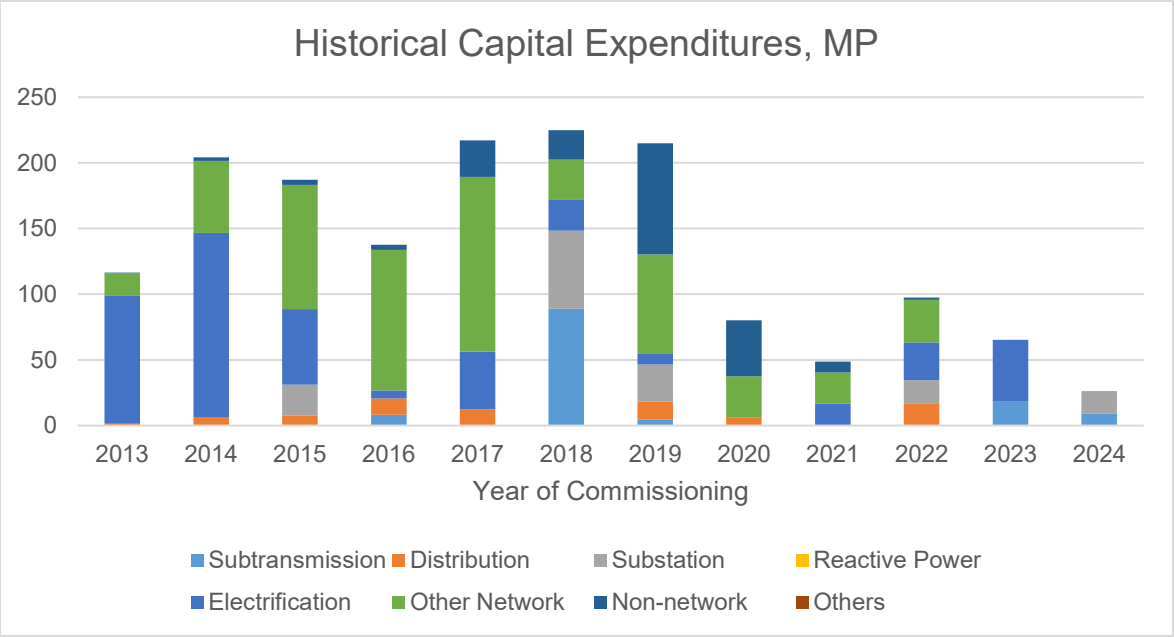


The number of households is expected to increase by 5.72% annually.

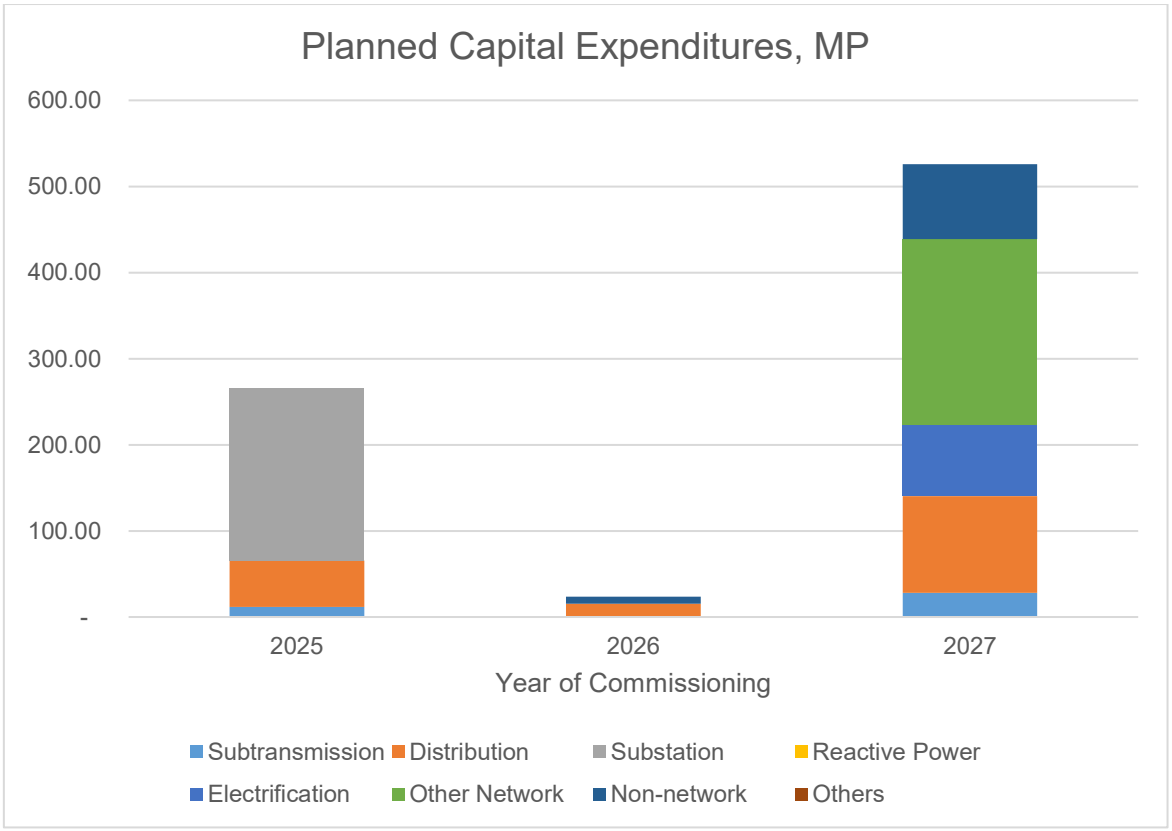


The number of captive customers is expected to increase by 5.89.% annually.

Capital Projects



The past CAPEX projects resulted in a rate increase of around 0.0677 P/kWh since September 2018. The total amount is expected to be recovered from the customers by the year 2028. The majority of the projects is financed through bank loans, with Electrification projects accounting for the bulk.



The planned CAPEX projects are expected to result in a rate adjustment of around 1.5408 P/kWh subject to the approval of ERC. The total amount is expected to be recovered from the customers by the year 2034. The majority of the projects will be financed through bank loans, with Other Network projects accounting for the bulk. There were no Smart Grid projects included in our latest CAPEX 2025-2027 application but CEBECO I has included SCADA project in the 2019-2021 CAPEX Application which started its pilot implementation last year.

Distribution System Assets

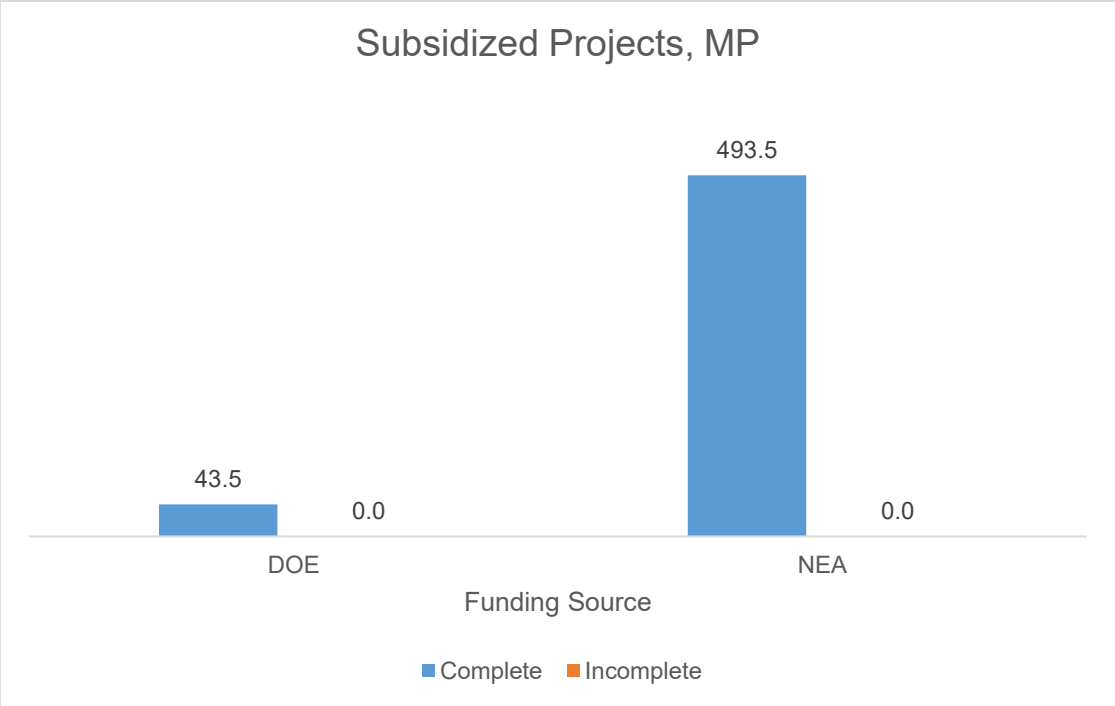
Subtransmission Line ckm	26
Distribution Line ckm	1,895
Pole Count	44,570
Substation Transformer MVA	91.75
Distribution Transformer MVA	93.96
Capacitor MVAr	5.28

The quantities of distribution system assets are adequate.

Transformer	Max MVA	Months to Reach 70%
DUMANJUG SUBSTATION	12.50	5
MOALBOAL SUBSTATION	12.50	16
GINATILAN SUBSTATION	12.50	64
DALAGUETE SUBSTATION	12.50	18
ARGAO SUBSTATION	12.50	66
SIBONGA SUBSTATION	6.25	67
CARCAR LIBURON SUBSTATION	12.50	19
CARCAR COGON SUBSTATION	12.50	89
NCM PLANT	12.50	N/A
MARCEL FOOD SCIENCES	4.69	N/A
PMSC	3.75	N/A

Dumanjug and Moalboal Substation is expected to be loaded at 70% in 5 and 16 months, respectively. This will be addressed by an additional substation of 10 MVA in a strategic location in the municipality of Dumanjug. On the other hand, Liburon, Carcar Substation is expected to reach 70% in 19 months. This will now be addressed after the energization of the newly uprated Cogon Carcar Substation to 10 MVA Substation. For Dalaguete Substation, it is expected to reach 70% within 18 months and it will be addressed accordingly by the implementation of the 10 MVA Oslob Substation which is expected to be finished at year-end or early next year.

Subsidized Projects



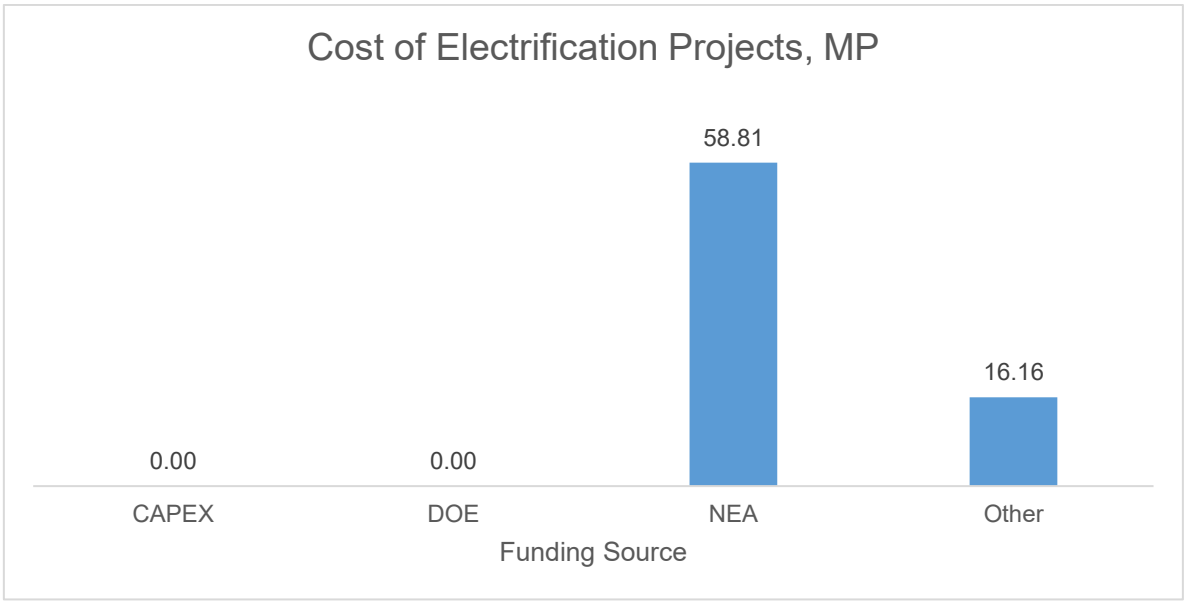
The source of subsidy mostly came from NEA which accounts for P 493.5 million disbursed since 2011. There are no subsidy project implemented last year since there were no released or approved subsidy despite having submission of the proposed project for that year.

Household Electrification

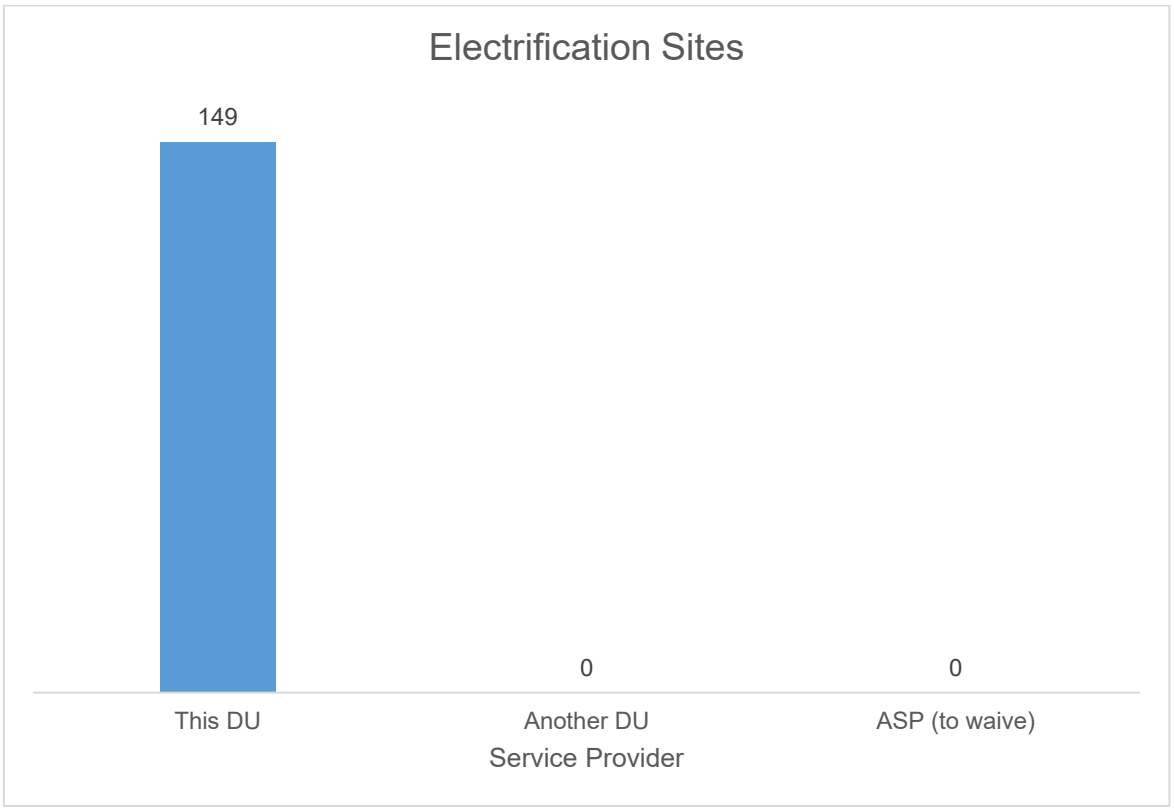
Province	Municipality / City	Energized, Grid-connected	Energized, Not Grid-connected	Total Energized
Cebu	Alcantara	4166	0	4166
Cebu	Alcoy	4823	0	4823
Cebu	Alegria	5592	0	5592
Cebu	Argao	21293	0	21293
Cebu	Badian	9983	0	9983
Cebu	Barili	19206	0	19206
Cebu	Boljoon	4200	0	4200
Cebu	City of Carcar	32582	0	32582
Cebu	Dalaguete	17811	0	17811
Cebu	Dumanjug	14708	0	14708
Cebu	Ginatilan	4307	0	4307
Cebu	Malabuyoc	4824	0	4824
Cebu	Moalboal	10818	0	10818
Cebu	Oslob	7943	0	7943
Cebu	Ronda	5427	0	5427
Cebu	Samboan	5899	0	5899
Cebu	Santander	5615	0	5615
Cebu	Sibonga	12823	0	12823
Total		192020	0	192020

The total number of household connections is 192,020. The bulk of these are in the City of Carcar. On the other hand, there are still continuous program for electrifying the unenergized sitios under the area of CEBECO I mostly funded by NEA subsidies every year. These sitios were mostly extensions only brought about by the growing population within the area.

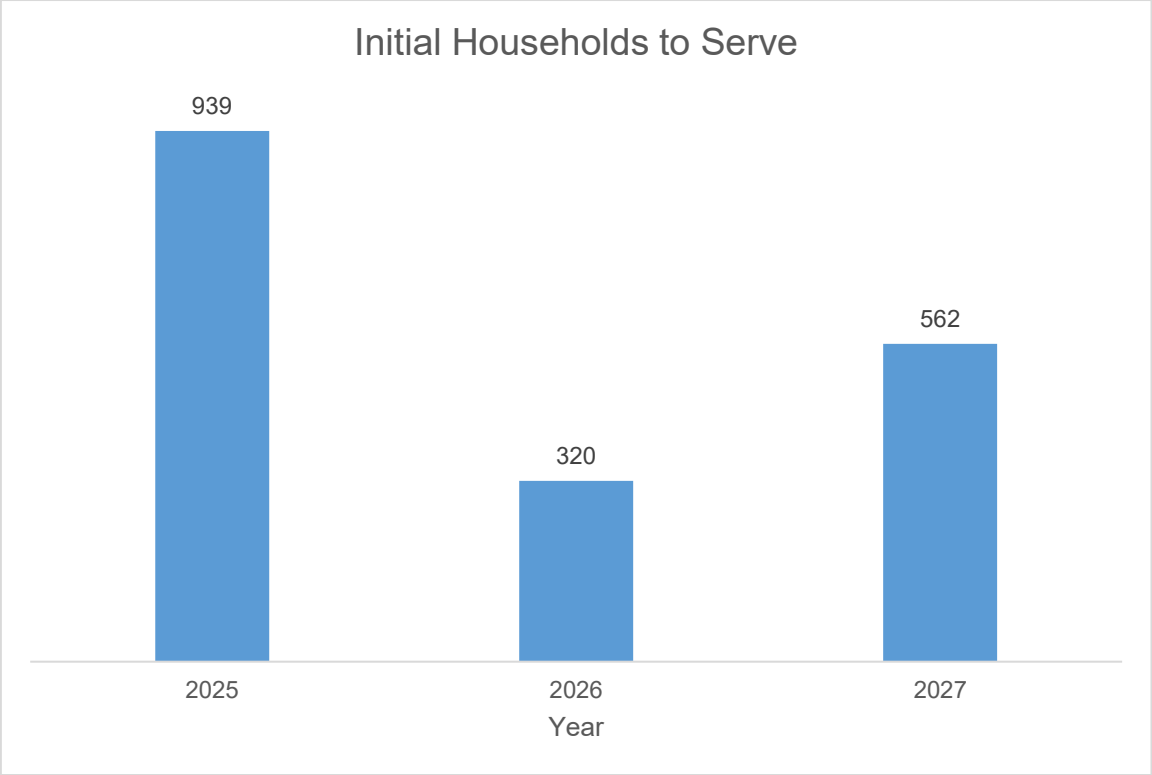
General Electrification



Planned electrification projects amounting to P 58.81 Million will be funded mostly from NEA which accounts for 78.44% of the total.

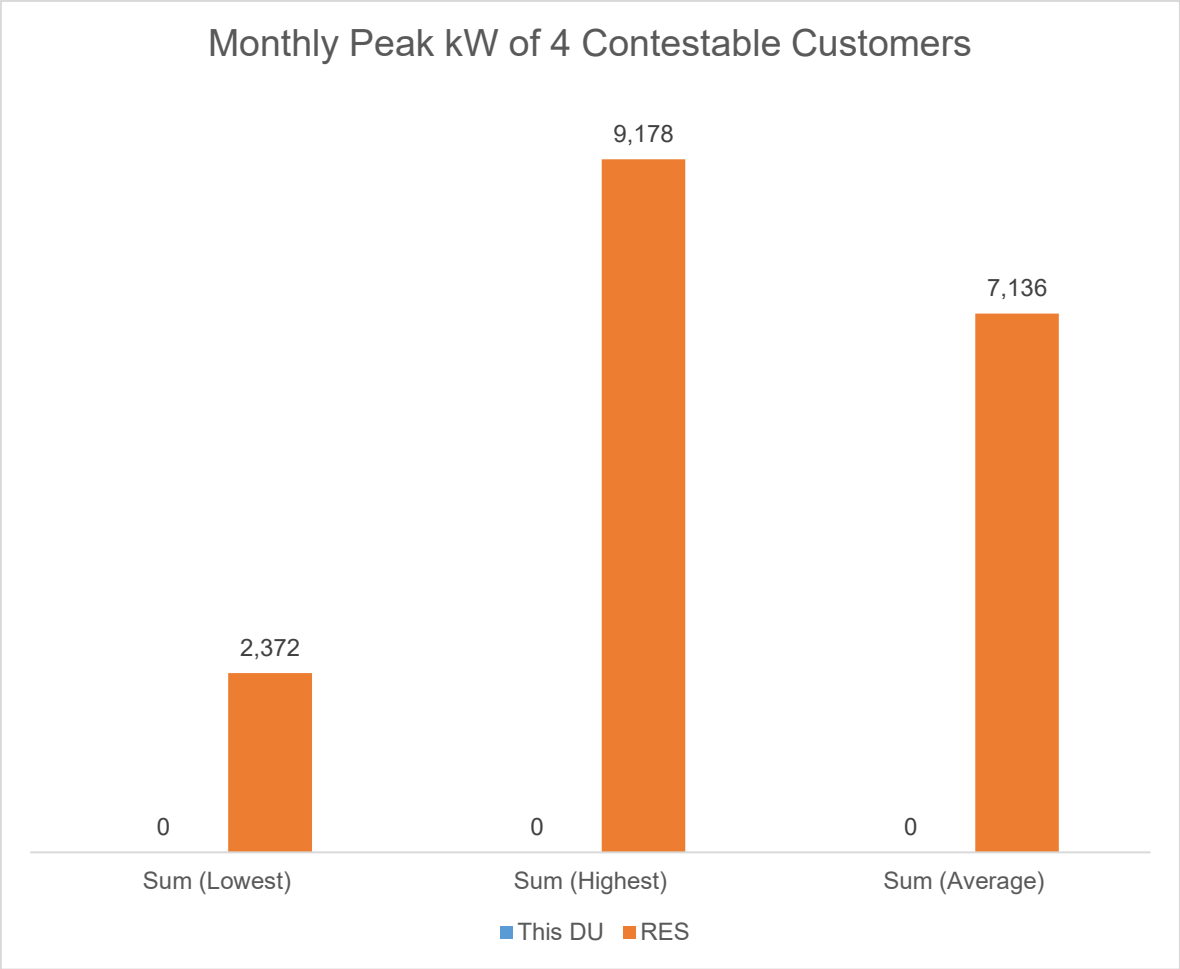


The areas of Southern Cebu which are within the franchise area of CEBECO I is served by this DU only.



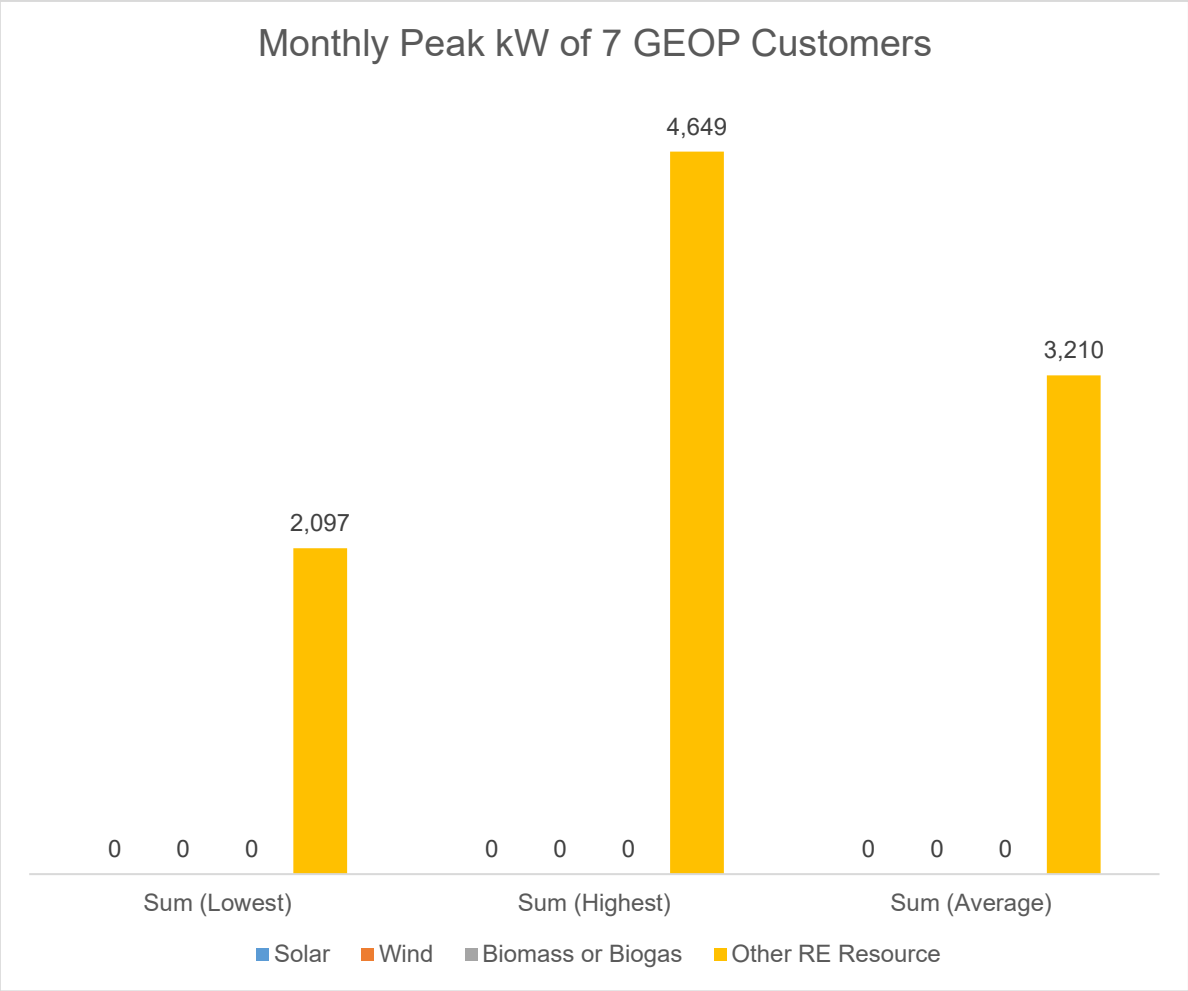
The majority of households to be served by electrification projects will be catered to on the year 2025.

Contestable Customers



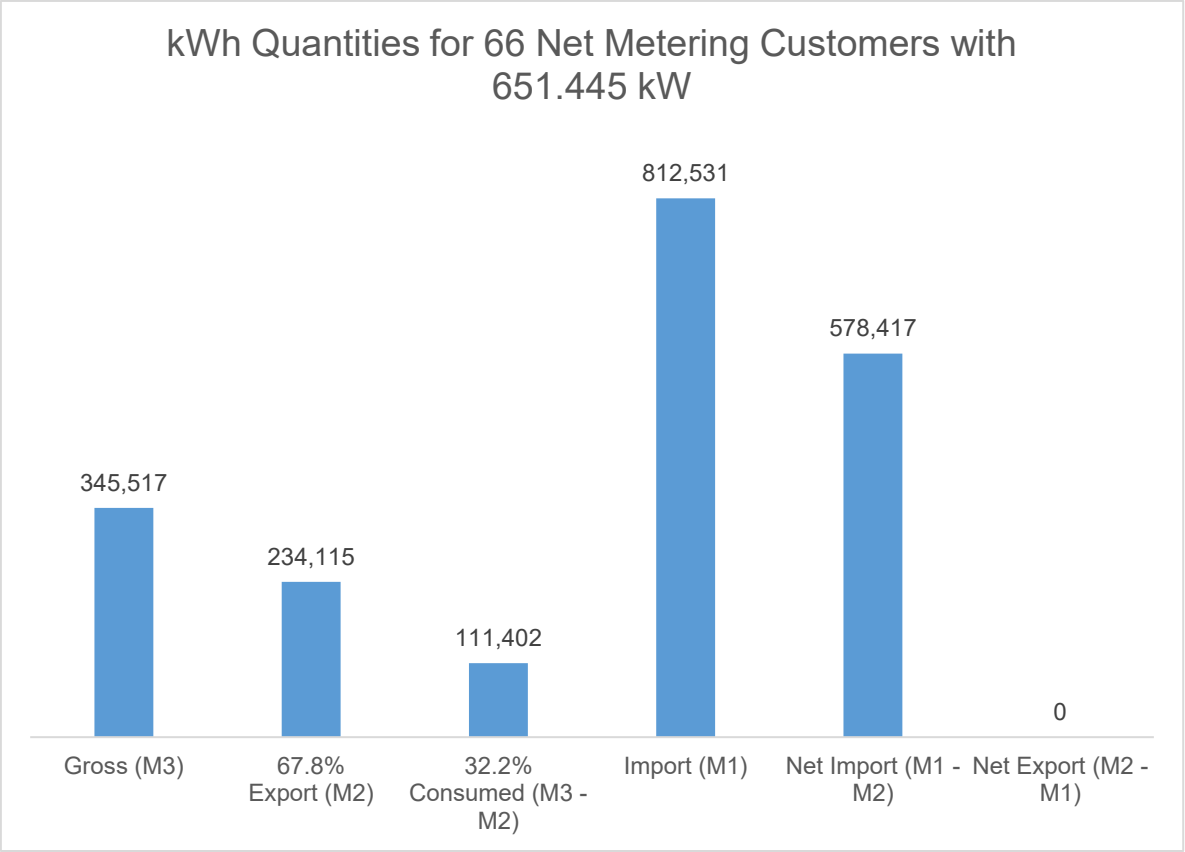
The highest non-coincident demand is 9,178 kW for switched Contestable Customers. The combined demand is around 15.41% of the previous year's system peak.

GEOP Customers



The highest non-coincident demand is 4,649 kW, which is around 7.81% of the previous year's system peak. CEBECO I is using the existing DOE and ERC guidelines for GEOP Customers.

Net Metering Customers



The variability of the output of net metering customers adversely affects the stability and reliability of the Distribution System.

The total gross generation measured from REC meters is 345,517 kWh. Of this, 234,115 kWh or 67.8% is exported. The total consumption as measured from import meters is 812,531 kWh. As the total import is larger than the total export, the net metering customers are net an importer as a whole. CEBECO I is using the existing DOE and ERC guidelines for Net Metering Customers.

Historical Reliability Indices

Year	SAIFI	MAIFI	SAIDI (h)	CAIDI (h)
2017	0.21	0.00	0.13	0.60
2018	0.00	0.00	0.00	0.00
2019	0.00	0.00	0.00	0.00
2020	5.02	0.00	8.35	1.66
2021	10.34	0.00	19.85	1.92
2022	10.60	0.00	743.70	70.18
2023	3.51	0.00	4.43	1.26
2024	1.46	0.00	0.95	0.65

For “Power Supplier” outages, indices are within standards. These outages were brought about by various factors within the system but necessary measures were already taken to lessen or even eradicate the possibility of another outage within this system.

Year	SAIFI	MAIFI	SAIDI (h)	CAIDI (h)
2015	0.17	0.00	0.18	1.05
2016	0.12	0.00	0.20	1.71
2017	0.81	0.00	0.67	0.82
2018	0.74	0.00	1.07	1.44
2019	1.10	0.00	1.15	1.05
2020	0.51	0.00	1.11	2.17
2021	0.73	0.00	0.77	1.06
2022	0.87	0.00	0.72	0.83
2023	0.22	0.00	0.24	1.08
2024	0.73	0.00	3.18	4.33

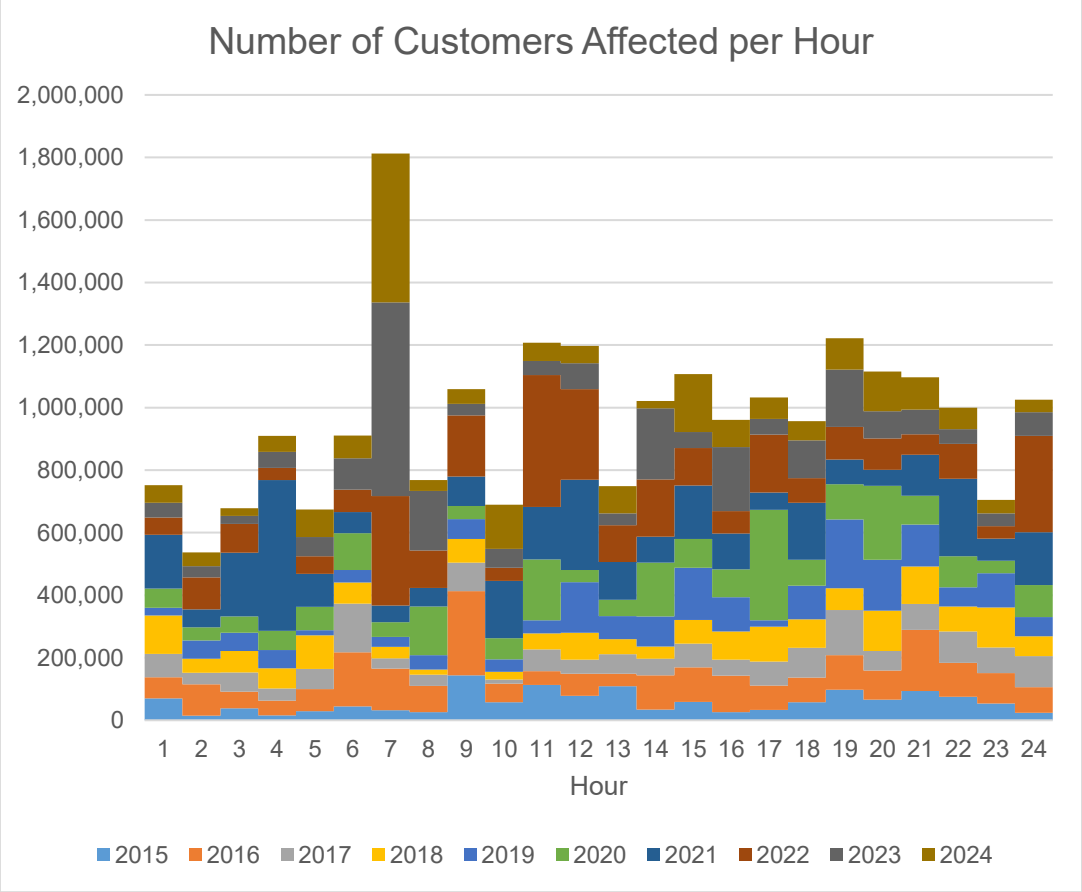
For “Major Storm Disaster” outages, indices are within standards. Outages from this category is mostly brought about by the harsh weather which resulted in poles and trees being toppled down going to the distribution line. Preventive measures are still ongoing to minimize the occurrence of this outages during this kind of weather.

Year	SAIFI	MAIFI	SAIDI (h)	CAIDI (h)
2015	1.53	0.27	6.36	3.53
2016	1.84	0.00	12.07	6.57
2017	0.42	0.00	1.72	4.07
2018	0.32	0.00	1.52	4.67
2019	0.15	0.00	0.04	0.28
2020	0.00	0.00	0.01	1.29
2021	0.22	0.00	1.03	4.66
2022	2.40	0.11	22.58	8.98
2023	3.95	0.00	31.97	8.10
2024	3.07	0.00	26.40	8.60

For “Scheduled” outages, indices are within standards. These outages are necessary to maintain the reliability and quality of the distribution system under the areas of CEBECO I. This is also to further minimize the unscheduled outages within the system.

Year	SAIFI	MAIFI	SAIDI (h)	CAIDI (h)
2015	9.34	0.34	7.83	0.81
2016	16.07	0.94	15.89	0.93
2017	10.99	0.52	12.27	1.07
2018	11.90	0.14	10.59	0.88
2019	12.13	0.31	13.21	1.06
2020	10.60	0.56	9.77	0.88
2021	10.46	0.28	12.38	1.15
2022	7.66	0.03	8.77	1.14
2023	8.28	0.08	9.82	1.17
2024	7.48	0.10	10.30	1.36

For all other outages, the indices are within ERC's benchmarks. These outages were brought about by various factors but are mostly due to increased vegetation within the distribution system and are still being addressed so as to minimize the instances of outages.



The largest number of customer interruptions occurred at hour 7 which did not coincide with the peak period. The second largest number of customer interruptions occurred at hour 19 which coincide with the peak period. Peak period occurred at hour 19 on May 26, 2024.