

"Lighting the way to a better future"



Power Supply Procurement Plan 2024-2033

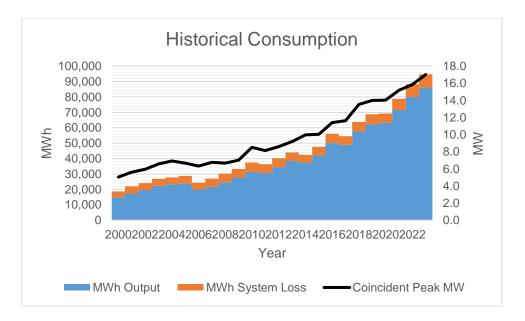
ON-GRID

Camarines Sur IV Electric Cooperative, Inc. (CASURECO IV)

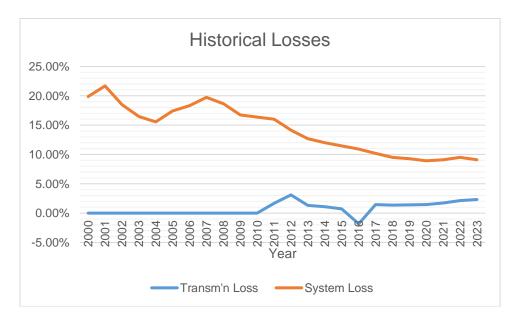
Historical Consumption Data

	Coincident Peak MW	MWh Offtake	WESM	MWh Input	MWh Output	MWh System Loss	Load Factor	Discrepancy	Transm'n Loss	System Loss
2000	5.04	19,474	0	19,474	14,804	3,873	44%	-4.09%	0.00%	19.89%
2001	5.61	22,088	0	22,088	17,236	4,791	45%	-0.28%	0.00%	21.69%
2002	5.96	24,113	0	24,113	19,578	4,469	46%	-0.27%	0.00%	18.53%
2003	6.58	26,850	0	26,850	22,349	4,420	47%	-0.30%	0.00%	16.46%
2004	6.91	27,812	0	27,812	23,410	4,332	46%	-0.25%	0.00%	15.58%
2005	6.67	28,752	0	28,752	23,649	5,009	49%	-0.32%	0.00%	17.42%
2006	6.33	24,482	0	24,482	19,944	4,494	44%	-0.18%	0.00%	18.36%
2007	6.76	27,110	0	27,110	21,707	5,354	46%	-0.18%	0.00%	19.75%
2008	6.67	30,338	0	30,338	24,626	5,660	52%	-0.17%	0.00%	18.66%
2009	7.02	33,330	0	33,330	27,672	5,581	54%	-0.23%	0.00%	16.75%
2010	8.51	37,345	0	37,345	31,295	6,117	50%	0.18%	0.00%	16.38%
2011	8.14	36,905	905	36,289	30,594	5,813	51%	0.33%	1.67%	16.02%
2012	8.60	41,566	4,686	40,274	34,495	5,694	53%	-0.21%	3.11%	14.14%
2013	9.21	44,288	7,146	43,701	38,356	5,543	54%	0.45%	1.33%	12.68%
2014	9.97	42,882	7,104	42,411	37,318	5,099	49%	0.01%	1.10%	12.02%
2015	10.04	47,891	5,455	47,549	42,093	5,442	54%	-0.03%	0.72%	11.45%
2016	11.41	55,121	11,239	56,126	49,987	6,139	56%	0.00%	-1.82%	10.94%
2017	11.63	55,264	8,048	54,465	48,918	5,547	53%	0.00%	1.45%	10.18%
2018	13.52	64,564	15,637	63,683	57,640	6,043	54%	0.00%	1.37%	9.49%
2019	14.01	69,651	16,666	68,652	62,277	6,375	56%	0.00%	1.43%	9.29%
2020	14.02	70,349	-4,069	69,330	63,143	6,187	56%	0.00%	1.45%	8.92%
2021	15.17	80,171	-2,290	78,766	71,581	7,185	59%	0.00%	1.75%	9.12%
2022	15.86	90,322	14,738	88,382	79,981	8,401	64%	0.00%	2.15%	9.51%
2023	17.02	96,988	34,374	94,745	86,112	8,633	64%	0.00%	2.31%	9.11%

The Coincident Peak Demand values above were based from the NGCP Billing Determinant Demand (BDD). Peak Demand increased from 5.04 MW in 2000 to 17.02 MW in 2023 at an annual average rate of 5.62%. Last 2020, due to COVID-19 Pandemic, only a slight increase in the demand was recorded. The demand has improved in 2021 when restrictions were lifted up then in 2023 current highest demand was recorded at 17.02 MW. MWh Offtake also has slowed down during the Pandemic in 2019 but now has recovered from 69,651 MWh to 96,988 MWh in 2023 at a rate of 39.25%. With low consumption of electricity during the Pandemic, the actual consumption fell short from the contracted energy levels in 2020 and 2021 but these were flowed back to the Wholesale Electricity Spot Market (WESM). These past few years, the Load Factor ranged from 53% to 64%.

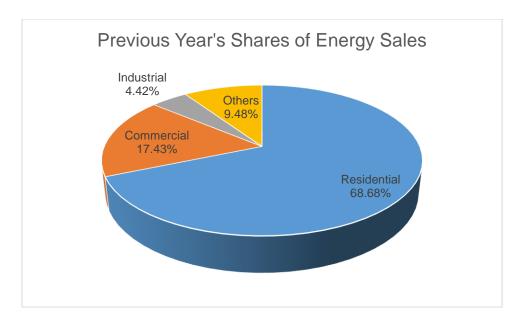


MWh Output for the last five years has increased from 8.05 % to a rate of 8.44%.

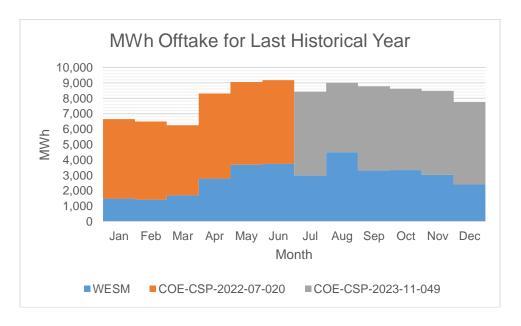


Historically, Transmission Loss ranged from -1.82% to 3.11% while System Loss ranged from as high as 21.69% to as low as 8.92%. Transmission Loss peaked at 3.11% on year 2012 while System Loss peaked at 21.69% on year 2001. Starting 2018, the System Loss has been reduced to a single digit up to date.

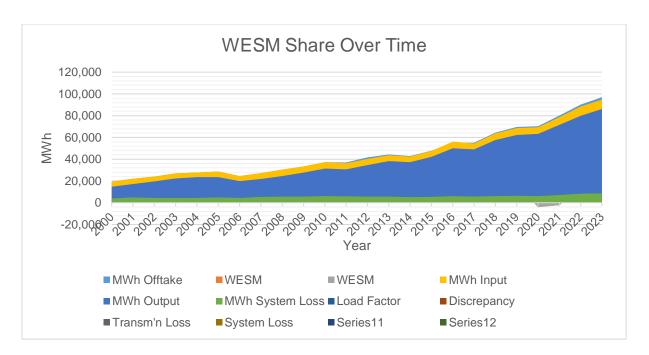
The negative system loss is due to the delay of reading during rainy season.



Residential customers account for the bulk of energy sales at 68.68% due to the high number of connections. In contrast, Industrial customers accounted for only 4.42% of energy sales due to the low number of connections.

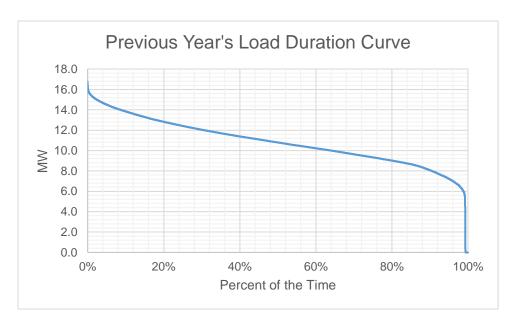


For 2023, the total Offtake for the last historical year is higher than the quantity stipulated in the PSA. The PSA's with PSALM accounts for the bulk of MWh Offtake.

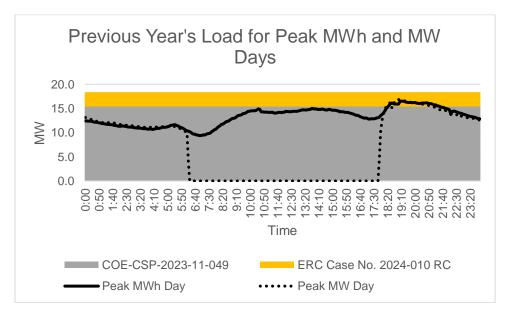


WESM Offtake increased from 11,239. MWh in 2016 to 34,374 MWh in 2023 due to non-firm contract with Power supplier. The share of WESM in the total Offtake ranged from 2% to 35.44%. The net WESM transaction is negative from 2020 and 2021 because of the surplus in contracted energy due to the effect of the Pandemic. Moreover, there will be a sell portion of our supply to the WESM it is because of RPS compliance but it is only minimal in terms of Total energy.

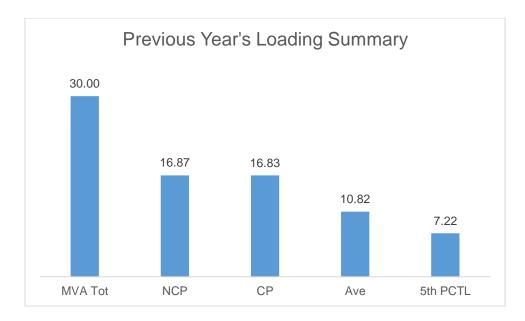
Previous Year's Load Profile



Based on the Load Duration Curve, the minimum load is 6 MW and the maximum load is 16.87 MW for the last historical year.



Peak MW occurred on a summer day June 17, 2023. On the other hand, peak daily MWh occurred on June 17, 2023 due to increased usage of customers at summertime. As shown in the Load Curves, the available supply is lower than the Peak Demand.



The Non-coincident Peak Demand is 16.87 MW, which is around 56.23% of the total substation capacity of 30 MVA. The load factor or the ratio between the Average Load of 10.82 MW and the Non-coincident Peak Demand is 64.14%. A safe estimate of the true minimum load is the fifth percentile load of 7.22 MW which is 42.80% of the Non-coincident Peak Demand.

Metering Point	Substation MVA	Substation Peak MW
Tigaon	11.25	7.043
Lagonoy	18.75	9.828

To date, no substations loaded at above 70% of the maximum capacity.

Forecasted Consumption Data

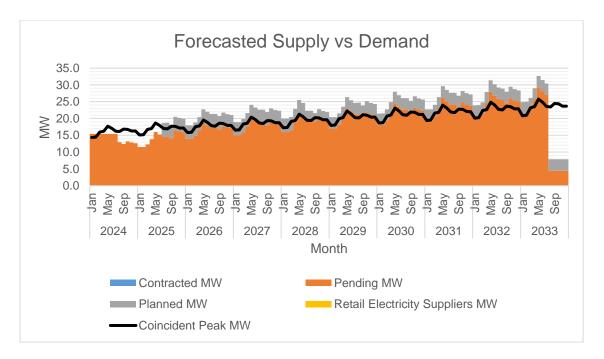
		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	Retail Electricity Suppliers MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
2024	Jan	14.36	0.00	18.40	0.000		0%	128%	4.04
	Feb	14.44	0.00	18.40	0.000		0%	127%	3.96
	Mar	15.97	0.00	18.50	0.000		0%	116%	2.53
	Apr	16.18	0.00	19.03	0.000		0%	118%	2.85
	May	17.76	0.00	19.62	0.000		0%	110%	1.86
	Jun	17.11	0.00	19.43	0.000		0%	114%	2.32
	Jul	16.23	0.00	19.27	0.000		0%	119%	3.04
	Aug	16.12	0.00	12.94	4.000		0%	105%	0.82
	Sep	16.88	0.00	12.40	4.000		0%	97%	-0.48
	Oct	16.80	0.00	16.23	4.000		0%	120%	3.43
	Nov	16.32	0.00	15.89	4.000		0%	122%	3.57
	Dec	16.32	0.00	15.68	4.000		0%	121%	3.36
2025	Jan	15.08	0.00	11.53	4.000		0%	103%	0.46
	Feb	15.16	0.00	11.53	4.000		0%	102%	0.37
	Mar	16.77	0.00	12.34	4.000		0%	97%	-0.43
	Apr	17.00	0.00	13.83	4.000		0%	105%	0.83
	May	18.65	0.00	15.96	4.000		0%	107%	1.31
	Jun	17.97	0.00	15.27	4.000		0%	107%	1.30
	Jul	17.04	0.00	14.68	4.000		0%	110%	1.64
	Aug	16.93	0.00	14.72	4.000		0%	111%	1.79
	Sep	17.73	0.00	14.13	4.000		0%	102%	0.41
	Oct	17.64	0.00	16.54	4.000		0%	116%	2.90
	Nov	17.14	0.00	16.16	4.000		0%	118%	3.02
	Dec	17.14	0.00	15.93	4.000		0%	116%	2.80
2026	Jan	15.80	0.00	13.96	4.000		0%	114%	2.16
	Feb	15.89	0.00	13.97	4.000		0%	113%	2.08
	Mar	17.57	0.00	14.85	4.000		0%	107%	1.27

May		Apr	17.81	0.00	16.45	4.000	1	0%	115%	2.65
Jul 17.86 0.00 17.37 4.000 0% 120% 3.51 Aug 17.74 0.00 17.41 4.000 0% 121% 3.66 Sep 18.57 0.00 16.77 4.000 0% 112% 2.20 Oct 18.48 0.00 17.76 4.000 0% 118% 3.28 Nov 17.96 0.00 17.34 4.000 0% 119% 3.38 Dec 17.95 0.00 17.09 4.000 0% 117% 3.14 2027 Jan 16.62 0.00 14.93 4.000 0% 115% 2.41 Feb 16.61 0.00 14.94 4.000 0% 116% 2.33 Mar 18.37 0.00 15.90 4.000 0% 108% 1.53 Apr 18.62 0.00 17.63 4.000 0% 118% 3.61 Jun 19.69 0.00 <th></th> <th>May</th> <th>19.54</th> <th>0.00</th> <th>18.76</th> <th>4.000</th> <th></th> <th>0%</th> <th>116%</th> <th>3.21</th>		May	19.54	0.00	18.76	4.000		0%	116%	3.21
Aug 17.74 0.00 17.41 4.000 0% 121% 3.66 Sep 18.57 0.00 16.77 4.000 0% 112% 2.20 Oct 18.48 0.00 17.76 4.000 0% 118% 3.28 Nov 17.96 0.00 17.34 4.000 0% 119% 3.38 Dec 17.95 0.00 17.09 4.000 0% 117% 3.14 2027 Jan 16.52 0.00 14.93 4.000 0% 115% 2.41 Feb 16.61 0.00 14.94 4.000 0% 116% 2.33 Mar 18.37 0.00 15.90 4.000 0% 116% 3.01 May 18.62 0.00 17.63 4.000 0% 118% 3.67 Jun 19.69 0.00 19.30 4.000 0% 118% 3.61 Jul 18.67 0.00 <th></th> <th>Jun</th> <th>18.83</th> <th>0.00</th> <th>18.00</th> <th>4.000</th> <th></th> <th>0%</th> <th>117%</th> <th>3.18</th>		Jun	18.83	0.00	18.00	4.000		0%	117%	3.18
Sep 18.57 0.00 16.77 4.000 0% 112% 2.20 Oct 18.48 0.00 17.76 4.000 0% 118% 3.28 Nov 17.96 0.00 17.34 4.000 0% 119% 3.38 Dec 17.95 0.00 17.99 4.000 0% 117% 3.14 2027 Jan 16.52 0.00 14.93 4.000 0% 115% 2.41 Feb 16.61 0.00 14.94 4.000 0% 114% 2.33 Mar 18.37 0.00 15.90 4.000 0% 118% 3.61 Apr 18.62 0.00 17.63 4.000 0% 118% 3.67 Jun 19.69 0.00 19.30 4.000 0% 118% 3.67 Jun 19.69 0.00 19.30 4.000 0% 122% 4.10 Sep 19.42 0.00 <th></th> <th>Jul</th> <th>17.86</th> <th>0.00</th> <th>17.37</th> <th>4.000</th> <th></th> <th>0%</th> <th>120%</th> <th>3.51</th>		Jul	17.86	0.00	17.37	4.000		0%	120%	3.51
Oct 18.48 0.00 17.76 4.000 0% 118% 3.28 Nov 17.96 0.00 17.34 4.000 0% 119% 3.38 Dec 17.95 0.00 17.09 4.000 0% 117% 3.14 2027 Jan 16.52 0.00 14.93 4.000 0% 115% 2.41 Feb 16.61 0.00 14.94 4.000 0% 114% 2.33 Mar 18.37 0.00 15.90 4.000 0% 108% 1.53 Apr 18.62 0.00 17.63 4.000 0% 116% 3.01 May 20.44 0.00 20.11 4.000 0% 118% 3.67 Jun 19.69 0.00 19.30 4.000 0% 118% 3.61 Jul 18.67 0.00 18.61 4.000 0% 121% 3.94 Aug 18.55 0.00 <th></th> <th>Aug</th> <th>17.74</th> <th>0.00</th> <th>17.41</th> <th>4.000</th> <th></th> <th>0%</th> <th>121%</th> <th>3.66</th>		Aug	17.74	0.00	17.41	4.000		0%	121%	3.66
Nov 17.96 0.00 17.34 4.000 0% 119% 3.38		Sep	18.57	0.00	16.77	4.000		0%	112%	2.20
Dec 17.95 0.00 17.09 4.000 0% 117% 3.14		Oct	18.48	0.00	17.76	4.000		0%	118%	3.28
2027 Jan 16.52 0.00 14.93 4.000 0% 115% 2.41 Feb 16.61 0.00 14.94 4.000 0% 114% 2.33 Mar 18.37 0.00 15.90 4.000 0% 108% 1.53 Apr 18.62 0.00 17.63 4.000 0% 116% 3.01 May 20.44 0.00 20.11 4.000 0% 118% 3.67 Jun 19.69 0.00 19.30 4.000 0% 118% 3.61 Jul 18.67 0.00 18.61 4.000 0% 121% 3.94 Aug 18.55 0.00 18.65 4.000 0% 122% 4.10 Sep 19.42 0.00 17.97 4.000 0% 113% 2.55 Oct 19.33 0.00 18.67 4.000 0% 119% 3.71 Nov 18.78 0.00 <th></th> <th>Nov</th> <th>17.96</th> <th>0.00</th> <th>17.34</th> <th>4.000</th> <th></th> <th>0%</th> <th>119%</th> <th>3.38</th>		Nov	17.96	0.00	17.34	4.000		0%	119%	3.38
Feb 16.61 0.00 14.94 4.000 0% 114% 2.33 Mar 18.37 0.00 15.90 4.000 0% 108% 1.53 Apr 18.62 0.00 17.63 4.000 0% 116% 3.01 May 20.44 0.00 20.11 4.000 0% 118% 3.67 Jun 19.69 0.00 19.30 4.000 0% 118% 3.61 Jul 18.67 0.00 18.61 4.000 0% 121% 3.94 Aug 18.55 0.00 18.65 4.000 0% 122% 4.10 Sep 19.42 0.00 17.97 4.000 0% 113% 2.55 Oct 19.33 0.00 18.57 4.000 0% 119% 3.71 Nov 18.78 0.00 18.57 4.000 0% 119% 3.53 2028 Jan 17.24 0.00 <th></th> <th>Dec</th> <th>17.95</th> <th>0.00</th> <th>17.09</th> <th>4.000</th> <th></th> <th>0%</th> <th>117%</th> <th>3.14</th>		Dec	17.95	0.00	17.09	4.000		0%	117%	3.14
Mar 18.37 0.00 15.90 4.000 0% 108% 1.53 Apr 18.62 0.00 17.63 4.000 0% 116% 3.01 May 20.44 0.00 20.11 4.000 0% 118% 3.67 Jun 19.69 0.00 19.30 4.000 0% 118% 3.61 Jul 18.67 0.00 18.61 4.000 0% 121% 3.94 Aug 18.55 0.00 18.65 4.000 0% 122% 4.10 Sep 19.42 0.00 17.97 4.000 0% 113% 2.55 Oct 19.33 0.00 19.04 4.000 0% 119% 3.71 Nov 18.78 0.00 18.57 4.000 0% 120% 3.80 Dec 18.77 0.00 15.94 4.000 0% 116% 2.70 Feb 17.34 0.00 15.94 </th <th>2027</th> <th>Jan</th> <th>16.52</th> <th>0.00</th> <th>14.93</th> <th>4.000</th> <th></th> <th>0%</th> <th>115%</th> <th>2.41</th>	2027	Jan	16.52	0.00	14.93	4.000		0%	115%	2.41
Apr 18.62 0.00 17.63 4.000 0% 116% 3.01 May 20.44 0.00 20.11 4.000 0% 118% 3.67 Jun 19.69 0.00 19.30 4.000 0% 118% 3.61 Jul 18.67 0.00 18.61 4.000 0% 121% 3.94 Aug 18.55 0.00 18.65 4.000 0% 122% 4.10 Sep 19.42 0.00 17.97 4.000 0% 113% 2.55 Oct 19.33 0.00 18.57 4.000 0% 119% 3.71 Nov 18.78 0.00 18.57 4.000 0% 120% 3.80 Dec 18.77 0.00 18.30 4.000 0% 119% 3.53 2028 Jan 17.24 0.00 15.94 4.000 0% 116% 2.70 Feb 17.34 0.00 <th></th> <th>Feb</th> <th>16.61</th> <th>0.00</th> <th>14.94</th> <th>4.000</th> <th></th> <th>0%</th> <th>114%</th> <th>2.33</th>		Feb	16.61	0.00	14.94	4.000		0%	114%	2.33
May 20.44 0.00 20.11 4.000 0% 118% 3.67 Jun 19.69 0.00 19.30 4.000 0% 118% 3.61 Jul 18.67 0.00 18.61 4.000 0% 121% 3.94 Aug 18.55 0.00 18.65 4.000 0% 122% 4.10 Sep 19.42 0.00 17.97 4.000 0% 113% 2.55 Oct 19.33 0.00 19.04 4.000 0% 119% 3.71 Nov 18.78 0.00 18.57 4.000 0% 120% 3.80 Dec 18.77 0.00 18.30 4.000 0% 119% 3.53 2028 Jan 17.24 0.00 15.94 4.000 0% 116% 2.70 Feb 17.34 0.00 15.96 4.000 0% 115% 2.62 Mar 19.18 0.00 <th></th> <th>Mar</th> <th>18.37</th> <th>0.00</th> <th>15.90</th> <th>4.000</th> <th></th> <th>0%</th> <th>108%</th> <th>1.53</th>		Mar	18.37	0.00	15.90	4.000		0%	108%	1.53
Jun 19.69 0.00 19.30 4.000 0% 118% 3.61 Jul 18.67 0.00 18.61 4.000 0% 121% 3.94 Aug 18.55 0.00 18.65 4.000 0% 122% 4.10 Sep 19.42 0.00 17.97 4.000 0% 113% 2.55 Oct 19.33 0.00 19.04 4.000 0% 119% 3.71 Nov 18.78 0.00 18.57 4.000 0% 120% 3.80 Dec 18.77 0.00 18.30 4.000 0% 119% 3.53 2028 Jan 17.24 0.00 15.94 4.000 0% 116% 2.70 Feb 17.34 0.00 15.96 4.000 0% 115% 2.62 Mar 19.18 0.00 16.47 4.000 0% 107% 1.29 Apr 19.43 0.00 <th></th> <th>Apr</th> <th>18.62</th> <th>0.00</th> <th>17.63</th> <th>4.000</th> <th></th> <th>0%</th> <th>116%</th> <th>3.01</th>		Apr	18.62	0.00	17.63	4.000		0%	116%	3.01
Jul 18.67 0.00 18.61 4.000 0% 121% 3.94 Aug 18.55 0.00 18.65 4.000 0% 122% 4.10 Sep 19.42 0.00 17.97 4.000 0% 113% 2.55 Oct 19.33 0.00 19.04 4.000 0% 119% 3.71 Nov 18.78 0.00 18.57 4.000 0% 120% 3.80 Dec 18.77 0.00 18.30 4.000 0% 119% 3.53 2028 Jan 17.24 0.00 15.94 4.000 0% 116% 2.70 Feb 17.34 0.00 15.96 4.000 0% 115% 2.62 Mar 19.18 0.00 16.47 4.000 0% 107% 1.29 Apr 19.43 0.00 18.87 4.000 0% 118% 3.43 May 21.33 0.00 <th></th> <th>May</th> <th>20.44</th> <th>0.00</th> <th>20.11</th> <th>4.000</th> <th></th> <th>0%</th> <th>118%</th> <th>3.67</th>		May	20.44	0.00	20.11	4.000		0%	118%	3.67
Aug 18.55 0.00 18.65 4.000 0% 122% 4.10 Sep 19.42 0.00 17.97 4.000 0% 113% 2.55 Oct 19.33 0.00 19.04 4.000 0% 119% 3.71 Nov 18.78 0.00 18.57 4.000 0% 120% 3.80 Dec 18.77 0.00 18.30 4.000 0% 119% 3.53 2028 Jan 17.24 0.00 15.94 4.000 0% 116% 2.70 Feb 17.34 0.00 15.96 4.000 0% 115% 2.62 Mar 19.18 0.00 16.47 4.000 0% 107% 1.29 Apr 19.43 0.00 18.87 4.000 0% 118% 3.43 May 21.33 0.00 21.53 4.000 0% 120% 4.20 Jul 19.49 0.00 <th></th> <th>Jun</th> <th>19.69</th> <th>0.00</th> <th>19.30</th> <th>4.000</th> <th></th> <th>0%</th> <th>118%</th> <th>3.61</th>		Jun	19.69	0.00	19.30	4.000		0%	118%	3.61
Sep 19.42 0.00 17.97 4.000 0% 113% 2.55 Oct 19.33 0.00 19.04 4.000 0% 119% 3.71 Nov 18.78 0.00 18.57 4.000 0% 120% 3.80 Dec 18.77 0.00 18.30 4.000 0% 119% 3.53 2028 Jan 17.24 0.00 15.94 4.000 0% 116% 2.70 Feb 17.34 0.00 15.96 4.000 0% 115% 2.62 Mar 19.18 0.00 16.47 4.000 0% 107% 1.29 Apr 19.43 0.00 18.87 4.000 0% 118% 3.43 May 21.33 0.00 21.53 4.000 0% 120% 4.20 Jun 20.55 0.00 20.65 4.000 0% 120% 4.10 Jul 19.49 0.00 <th></th> <th>Jul</th> <th>18.67</th> <th>0.00</th> <th>18.61</th> <th>4.000</th> <th></th> <th>0%</th> <th>121%</th> <th>3.94</th>		Jul	18.67	0.00	18.61	4.000		0%	121%	3.94
Oct 19.33 0.00 19.04 4.000 0% 119% 3.71 Nov 18.78 0.00 18.57 4.000 0% 120% 3.80 Dec 18.77 0.00 18.30 4.000 0% 119% 3.53 2028 Jan 17.24 0.00 15.94 4.000 0% 116% 2.70 Feb 17.34 0.00 15.96 4.000 0% 115% 2.62 Mar 19.18 0.00 16.47 4.000 0% 107% 1.29 Apr 19.43 0.00 18.87 4.000 0% 118% 3.43 May 21.33 0.00 21.53 4.000 0% 120% 4.20 Jun 20.55 0.00 20.65 4.000 0% 120% 4.10 Jul 19.49 0.00 19.94 2.400 0% 115% 2.98 Sep 20.27 0.00 <th></th> <th>Aug</th> <th>18.55</th> <th>0.00</th> <th>18.65</th> <th>4.000</th> <th></th> <th>0%</th> <th>122%</th> <th>4.10</th>		Aug	18.55	0.00	18.65	4.000		0%	122%	4.10
Nov 18.78 0.00 18.57 4.000 0% 120% 3.80 Dec 18.77 0.00 18.30 4.000 0% 119% 3.53 2028 Jan 17.24 0.00 15.94 4.000 0% 116% 2.70 Feb 17.34 0.00 15.96 4.000 0% 115% 2.62 Mar 19.18 0.00 16.47 4.000 0% 107% 1.29 Apr 19.43 0.00 18.87 4.000 0% 118% 3.43 May 21.33 0.00 21.53 4.000 0% 120% 4.20 Jun 20.55 0.00 20.65 4.000 0% 120% 4.10 Jul 19.49 0.00 19.92 2.400 0% 115% 2.83 Aug 19.36 0.00 19.94 2.400 0% 115% 2.98 Sep 20.27 0.00 <th></th> <th>Sep</th> <th>19.42</th> <th>0.00</th> <th>17.97</th> <th>4.000</th> <th></th> <th>0%</th> <th>113%</th> <th>2.55</th>		Sep	19.42	0.00	17.97	4.000		0%	113%	2.55
Dec 18.77 0.00 18.30 4.000 0% 119% 3.53 2028 Jan 17.24 0.00 15.94 4.000 0% 116% 2.70 Feb 17.34 0.00 15.96 4.000 0% 115% 2.62 Mar 19.18 0.00 16.47 4.000 0% 107% 1.29 Apr 19.43 0.00 18.87 4.000 0% 118% 3.43 May 21.33 0.00 21.53 4.000 0% 120% 4.20 Jun 20.55 0.00 20.65 4.000 0% 120% 4.10 Jul 19.49 0.00 19.92 2.400 0% 115% 2.83 Aug 19.36 0.00 19.94 2.400 0% 115% 2.98 Sep 20.27 0.00 19.21 2.400 0% 107% 1.35 Oct 20.17 0.00 <th></th> <th>Oct</th> <th>19.33</th> <th>0.00</th> <th>19.04</th> <th>4.000</th> <th></th> <th>0%</th> <th>119%</th> <th>3.71</th>		Oct	19.33	0.00	19.04	4.000		0%	119%	3.71
2028 Jan 17.24 0.00 15.94 4.000 0% 116% 2.70 Feb 17.34 0.00 15.96 4.000 0% 115% 2.62 Mar 19.18 0.00 16.47 4.000 0% 107% 1.29 Apr 19.43 0.00 18.87 4.000 0% 118% 3.43 May 21.33 0.00 21.53 4.000 0% 120% 4.20 Jun 20.55 0.00 20.65 4.000 0% 120% 4.10 Jul 19.49 0.00 19.92 2.400 0% 115% 2.83 Aug 19.36 0.00 19.94 2.400 0% 115% 2.98 Sep 20.27 0.00 19.21 2.400 0% 107% 1.35 Oct 20.17 0.00 20.37 2.400 0% 113% 2.60		Nov	18.78	0.00	18.57	4.000		0%	120%	3.80
Feb 17.34 0.00 15.96 4.000 0% 115% 2.62 Mar 19.18 0.00 16.47 4.000 0% 107% 1.29 Apr 19.43 0.00 18.87 4.000 0% 118% 3.43 May 21.33 0.00 21.53 4.000 0% 120% 4.20 Jun 20.55 0.00 20.65 4.000 0% 120% 4.10 Jul 19.49 0.00 19.92 2.400 0% 115% 2.83 Aug 19.36 0.00 19.94 2.400 0% 115% 2.98 Sep 20.27 0.00 19.21 2.400 0% 107% 1.35 Oct 20.17 0.00 20.37 2.400 0% 113% 2.60		Dec	18.77	0.00	18.30	4.000		0%	119%	3.53
Mar 19.18 0.00 16.47 4.000 0% 107% 1.29 Apr 19.43 0.00 18.87 4.000 0% 118% 3.43 May 21.33 0.00 21.53 4.000 0% 120% 4.20 Jun 20.55 0.00 20.65 4.000 0% 120% 4.10 Jul 19.49 0.00 19.92 2.400 0% 115% 2.83 Aug 19.36 0.00 19.94 2.400 0% 115% 2.98 Sep 20.27 0.00 19.21 2.400 0% 107% 1.35 Oct 20.17 0.00 20.37 2.400 0% 113% 2.60	2028	Jan	17.24	0.00	15.94	4.000		0%	116%	2.70
Apr 19.43 0.00 18.87 4.000 0% 118% 3.43 May 21.33 0.00 21.53 4.000 0% 120% 4.20 Jun 20.55 0.00 20.65 4.000 0% 120% 4.10 Jul 19.49 0.00 19.92 2.400 0% 115% 2.83 Aug 19.36 0.00 19.94 2.400 0% 115% 2.98 Sep 20.27 0.00 19.21 2.400 0% 107% 1.35 Oct 20.17 0.00 20.37 2.400 0% 113% 2.60		Feb	17.34	0.00	15.96	4.000		0%	115%	2.62
May 21.33 0.00 21.53 4.000 0% 120% 4.20 Jun 20.55 0.00 20.65 4.000 0% 120% 4.10 Jul 19.49 0.00 19.92 2.400 0% 115% 2.83 Aug 19.36 0.00 19.94 2.400 0% 115% 2.98 Sep 20.27 0.00 19.21 2.400 0% 107% 1.35 Oct 20.17 0.00 20.37 2.400 0% 113% 2.60		Mar	19.18	0.00	16.47	4.000		0%	107%	1.29
Jun 20.55 0.00 20.65 4.000 0% 120% 4.10 Jul 19.49 0.00 19.92 2.400 0% 115% 2.83 Aug 19.36 0.00 19.94 2.400 0% 115% 2.98 Sep 20.27 0.00 19.21 2.400 0% 107% 1.35 Oct 20.17 0.00 20.37 2.400 0% 113% 2.60		Apr	19.43	0.00	18.87	4.000		0%	118%	3.43
Jul 19.49 0.00 19.92 2.400 0% 115% 2.83 Aug 19.36 0.00 19.94 2.400 0% 115% 2.98 Sep 20.27 0.00 19.21 2.400 0% 107% 1.35 Oct 20.17 0.00 20.37 2.400 0% 113% 2.60		May	21.33	0.00	21.53	4.000		0%	120%	4.20
Aug 19.36 0.00 19.94 2.400 0% 115% 2.98 Sep 20.27 0.00 19.21 2.400 0% 107% 1.35 Oct 20.17 0.00 20.37 2.400 0% 113% 2.60		Jun	20.55	0.00	20.65	4.000		0%	120%	4.10
Sep 20.27 0.00 19.21 2.400 0% 107% 1.35 Oct 20.17 0.00 20.37 2.400 0% 113% 2.60		Jul	19.49	0.00	19.92	2.400		0%	115%	2.83
Oct 20.17 0.00 20.37 2.400 0% 113% 2.60		Aug	19.36	0.00	19.94	2.400		0%	115%	2.98
		Sep	20.27	0.00	19.21	2.400		0%	107%	1.35
Nov 19.60 0.00 19.86 2.400 0% 114% 2.67		Oct	20.17	0.00	20.37	2.400		0%	113%	2.60
		Nov	19.60	0.00	19.86	2.400		0%	114%	2.67

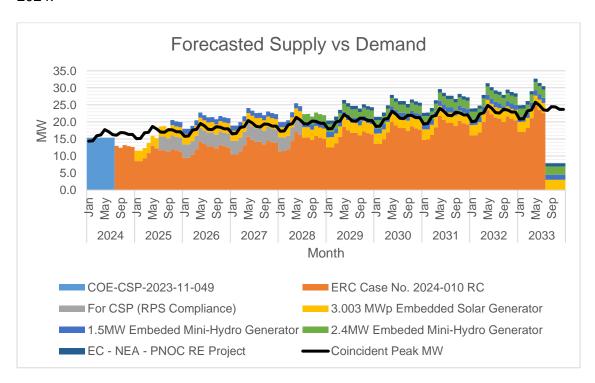
2029 Jan 17,96 0.00 17,00 3,400 0% 114% 2,44 Feb 18,06 0.00 17,03 3,400 0% 113% 2,36 Mar 19,98 0.00 18,16 3,400 0% 108% 1,58 Apr 20,25 0.00 20,15 3,400 0% 116% 3,30 May 22,22 0.00 23,00 3,400 0% 119% 4,18 Jun 21,40 0.00 22,06 3,400 0% 119% 4,05 Jul 20,30 0.00 21,27 3,400 0% 122% 4,37 Aug 20,17 0.00 21,30 3,400 0% 122% 4,37 Aug 20,17 0.00 21,30 3,400 0% 113% 2,80 Sep 21,12 0.00 20,52 3,400 0% 113% 2,80 Oct 21,01 0.00 21,77 3,400 0% 120% 4,15 Nov 20,42 0.00 21,21 3,400 0% 121% 4,19 Dec 20,41 0.00 20,95 3,400 0% 119% 3,88 2030 Jan 18,68 0.00 18,10 3,400 0% 115% 2,81 Feb 18,79 0.00 18,13 3,400 0% 115% 2,81 Mar 20,78 0.00 19,36 3,400 0% 110% 1,98 Apr 21,06 0.00 21,49 3,400 0% 110% 1,98 Apr 21,06 0.00 22,69 3,400 0% 121% 4,82 Jun 22,26 0.00 22,26 3,400 0% 121% 4,82 Jun 22,26 0.00 23,53 3,400 0% 121% 4,86 Jul 21,12 0.00 22,69 3,400 0% 121% 4,66 Jul 21,12 0.00 22,69 3,400 0% 122% 4,76 Nov 21,24 0.00 22,61 3,400 0% 122% 4,76 Nov 21,24 0.00 22,61 3,400 0% 122% 4,76 Nov 21,24 0.00 22,61 3,400 0% 121% 4,44 2031 Jan 19,40 0.00 19,35 3,400 0% 112% 4,44 2031 Jan 19,40 0.00 22,61 3,400 0% 112% 4,44 2031 Jan 19,40 0.00 22,61 3,400 0% 112% 4,44 2031 Jan 19,40 0.00 22,61 3,400 0% 112% 4,44 2031 Jan 19,40 0.00 22,61 3,400 0% 112% 4,44 2031 Jan 19,40 0.00 22,61 3,400 0% 112% 4,44 2031 Jan 19,40 0.00 22,61 3,400 0% 112% 4,44 2031 Jan 19,40 0.00 22,61 3,400 0% 112% 4,44 May 24,01 0.00 25,15 3,400 0% 123% 5,62 Jun 23,13		Dec	19.59	0.00	19.57	2.400	0%	112%	2.38
Mar 19.98 0.00 18.16 3.400 0% 108% 1.58 Apr 20.25 0.00 20.15 3.400 0% 116% 3.30 May 22.22 0.00 23.00 3.400 0% 119% 4.18 Jun 21.40 0.00 22.06 3.400 0% 119% 4.05 Jul 20.30 0.00 21.27 3.400 0% 122% 4.37 Aug 20.17 0.00 21.30 3.400 0% 122% 4.53 Sep 21.12 0.00 20.52 3.400 0% 113% 2.80 Oct 21.01 0.00 21.77 3.400 0% 120% 4.15 Nov 20.42 0.00 21.21 3.400 0% 119% 3.88 2030 Jan 18.68 0.00 18.13 3.400 0% 119% 3.88 2030 Jan 18.68 <th>2029</th> <th>Jan</th> <th>17.96</th> <th>0.00</th> <th>17.00</th> <th>3.400</th> <th>0%</th> <th>114%</th> <th>2.44</th>	2029	Jan	17.96	0.00	17.00	3.400	0%	114%	2.44
Apr 20.25 0.00 20.15 3.400 0% 116% 3.30 May 22.22 0.00 23.00 3.400 0% 119% 4.18 Jun 21.40 0.00 22.06 3.400 0% 119% 4.05 Jul 20.30 0.00 21.27 3.400 0% 112% 4.05 Aug 20.17 0.00 21.30 3.400 0% 122% 4.53 Sep 21.12 0.00 20.52 3.400 0% 113% 2.80 Oct 21.01 0.00 20.52 3.400 0% 113% 2.80 Oct 21.01 0.00 21.21 3.400 0% 120% 4.15 Nov 20.42 0.00 21.21 3.400 0% 119% 3.88 2030 Jan 18.68 0.00 18.13 3.400 0% 115% 2.81 Feb 18.79 0.00 <th></th> <th>Feb</th> <th>18.06</th> <th>0.00</th> <th>17.03</th> <th>3.400</th> <th>0%</th> <th>113%</th> <th>2.36</th>		Feb	18.06	0.00	17.03	3.400	0%	113%	2.36
May 22.22 0.00 23.00 3.400 0% 119% 4.18 Jun 21.40 0.00 22.06 3.400 0% 119% 4.05 Jul 20.30 0.00 21.27 3.400 0% 122% 4.37 Aug 20.17 0.00 21.30 3.400 0% 122% 4.53 Sep 21.12 0.00 20.52 3.400 0% 113% 2.80 Oct 21.01 0.00 21.77 3.400 0% 120% 4.15 Nov 20.42 0.00 21.21 3.400 0% 121% 4.19 Dec 20.41 0.00 20.90 3.400 0% 115% 2.81 Feb 18.79 0.00 18.13 3.400 0% 115% 2.81 Feb 18.79 0.00 19.36 3.400 0% 115% 2.74 Mar 20.78 0.00 19.36 </th <th></th> <th>Mar</th> <th>19.98</th> <th>0.00</th> <th>18.16</th> <th>3.400</th> <th>0%</th> <th>108%</th> <th>1.58</th>		Mar	19.98	0.00	18.16	3.400	0%	108%	1.58
Jun 21.40 0.00 22.06 3.400 0% 119% 4.05 Jul 20.30 0.00 21.27 3.400 0% 122% 4.37 Aug 20.17 0.00 21.30 3.400 0% 122% 4.53 Sep 21.12 0.00 20.52 3.400 0% 113% 2.80 Oct 21.01 0.00 21.77 3.400 0% 120% 4.15 Nov 20.42 0.00 21.21 3.400 0% 121% 4.19 Dec 20.41 0.00 20.90 3.400 0% 115% 2.81 Feb 18.79 0.00 18.10 3.400 0% 115% 2.74 Mar 20.78 0.00 19.36 3.400 0% 110% 1.98 Apr 21.06 0.00 24.54 3.400 0% 121% 4.82 Jun 22.26 0.00 23.53 3.400 0% 121% 4.82 Jun 22.26 0.00 22.69 3.400 0% 124% 4.97 Aug 20.98 0.00 22.70 3.400 0% 115% 3.30 Oct 21.86 0.00 22.27 3.400 0% 115% 3.30 Oct 21.86 0.00 22.27 3.400 0% 112% 4.66 Nov 21.24 0.00 22.26 3.400 0% 112% 4.76 Nov 21.24 0.00 22.26 3.400 0% 112% 4.77 Dec 21.23 0.00 22.27 3.400 0% 112% 4.76 Nov 21.24 0.00 22.27 3.400 0% 112% 4.77 Dec 21.23 0.00 22.27 3.400 0% 112% 4.77 Dec 21.28 0.00 19.35 3.400 0% 117% 3.30 Feb 19.52 0.00 19.35 3.400 0% 117% 3.24 Mar 21.58 0.00 20.68 3.400 0% 112% 4.49 Apr 21.87 0.00 22.27 3.400 0% 112% 4.49 Apr 21.87 0.00 22.29 3.400 0% 123% 5.62 Jun 23.13 0.00 25.15 3.400 0% 123% 5.62 Jun 23.13		Apr	20.25	0.00	20.15	3.400	0%	116%	3.30
Jul 20.30 0.00 21.27 3.400 0% 122% 4.37 Aug 20.17 0.00 21.30 3.400 0% 122% 4.53 Sep 21.12 0.00 20.52 3.400 0% 113% 2.80 Oct 21.01 0.00 21.77 3.400 0% 120% 4.15 Nov 20.42 0.00 21.21 3.400 0% 121% 4.19 Dec 20.41 0.00 20.90 3.400 0% 119% 3.88 2030 Jan 18.68 0.00 18.10 3.400 0% 115% 2.81 Feb 18.79 0.00 18.33 3.400 0% 115% 2.74 Mar 20.78 0.00 18.36 3.400 0% 118% 3.83 May 23.11 0.00 24.54 3.400 0% 121% 4.82 Jul 21.12 0.00 <th></th> <th>May</th> <th>22.22</th> <th>0.00</th> <th>23.00</th> <th>3.400</th> <th>0%</th> <th>119%</th> <th>4.18</th>		May	22.22	0.00	23.00	3.400	0%	119%	4.18
Aug 20.17 0.00 21.30 3.400 0% 122% 4.53 Sep 21.12 0.00 20.52 3.400 0% 113% 2.80 Oct 21.01 0.00 21.77 3.400 0% 120% 4.15 Nov 20.42 0.00 21.21 3.400 0% 121% 4.19 Dec 20.41 0.00 20.90 3.400 0% 119% 3.88 2030 Jan 18.68 0.00 18.10 3.400 0% 115% 2.81 Feb 18.79 0.00 18.13 3.400 0% 115% 2.74 Mar 20.78 0.00 19.36 3.400 0% 110% 1.98 Apr 21.06 0.00 21.49 3.400 0% 118% 3.83 May 23.11 0.00 24.54 3.400 0% 121% 4.66 Jul 22.26 0.00 <th></th> <th>Jun</th> <th>21.40</th> <th>0.00</th> <th>22.06</th> <th>3.400</th> <th>0%</th> <th>119%</th> <th>4.05</th>		Jun	21.40	0.00	22.06	3.400	0%	119%	4.05
Sep 21.12 0.00 20.52 3.400 0% 113% 2.80 Oct 21.01 0.00 21.77 3.400 0% 120% 4.15 Nov 20.42 0.00 21.21 3.400 0% 121% 4.19 Dec 20.41 0.00 20.90 3.400 0% 119% 3.88 2030 Jan 18.68 0.00 18.10 3.400 0% 115% 2.81 Feb 18.79 0.00 18.13 3.400 0% 115% 2.74 Mar 20.78 0.00 19.36 3.400 0% 110% 1.98 Apr 21.06 0.00 21.49 3.400 0% 118% 3.83 May 23.11 0.00 24.54 3.400 0% 121% 4.66 Jul 21.12 0.00 22.69 3.400 0% 124% 4.97 Aug 20.98 0.00 <th></th> <th>Jul</th> <th>20.30</th> <th>0.00</th> <th>21.27</th> <th>3.400</th> <th>0%</th> <th>122%</th> <th>4.37</th>		Jul	20.30	0.00	21.27	3.400	0%	122%	4.37
Oct 21.01 0.00 21.77 3.400 0% 120% 4.15 Nov 20.42 0.00 21.21 3.400 0% 121% 4.19 Dec 20.41 0.00 20.90 3.400 0% 119% 3.88 2030 Jan 18.68 0.00 18.13 3.400 0% 115% 2.81 Feb 18.79 0.00 18.13 3.400 0% 115% 2.74 Mar 20.78 0.00 19.36 3.400 0% 110% 1.98 Apr 21.06 0.00 21.49 3.400 0% 118% 3.83 May 23.11 0.00 24.54 3.400 0% 121% 4.82 Jul 21.12 0.00 22.69 3.400 0% 121% 4.66 Jul 21.12 0.00 22.69 3.400 0% 124% 4.97 Aug 20.98 0.00 <th></th> <th>Aug</th> <th>20.17</th> <th>0.00</th> <th>21.30</th> <th>3.400</th> <th>0%</th> <th>122%</th> <th>4.53</th>		Aug	20.17	0.00	21.30	3.400	0%	122%	4.53
Nov 20.42 0.00 21.21 3.400 0% 121% 4.19 Dec 20.41 0.00 20.90 3.400 0% 119% 3.88 2030 Jan 18.68 0.00 18.10 3.400 0% 115% 2.81 Feb 18.79 0.00 18.13 3.400 0% 115% 2.74 Mar 20.78 0.00 19.36 3.400 0% 110% 1.98 Apr 21.06 0.00 21.49 3.400 0% 118% 3.83 May 23.11 0.00 24.54 3.400 0% 121% 4.66 Jul 22.26 0.00 23.53 3.400 0% 121% 4.66 Jul 21.12 0.00 22.69 3.400 0% 124% 4.97 Aug 20.98 0.00 22.70 3.400 0% 124% 5.12 Sep 21.97 0.00 <th></th> <th>Sep</th> <th>21.12</th> <th>0.00</th> <th>20.52</th> <th>3.400</th> <th>0%</th> <th>113%</th> <th>2.80</th>		Sep	21.12	0.00	20.52	3.400	0%	113%	2.80
Dec 20.41 0.00 20.90 3.400 0% 119% 3.88 2030 Jan 18.68 0.00 18.10 3.400 0% 115% 2.81 Feb 18.79 0.00 18.13 3.400 0% 115% 2.74 Mar 20.78 0.00 19.36 3.400 0% 110% 1.98 Apr 21.06 0.00 21.49 3.400 0% 111% 3.83 May 23.11 0.00 24.54 3.400 0% 121% 4.82 Jun 22.26 0.00 23.53 3.400 0% 121% 4.66 Jul 21.12 0.00 22.69 3.400 0% 124% 4.97 Aug 20.98 0.00 22.70 3.400 0% 124% 5.12 Sep 21.97 0.00 21.87 3.400 0% 122% 4.76 Nov 21.24 0.00 <th></th> <th>Oct</th> <th>21.01</th> <th>0.00</th> <th>21.77</th> <th>3.400</th> <th>0%</th> <th>120%</th> <th>4.15</th>		Oct	21.01	0.00	21.77	3.400	0%	120%	4.15
2030 Jan 18.68 0.00 18.10 3.400 0% 115% 2.81 Feb 18.79 0.00 18.13 3.400 0% 115% 2.74 Mar 20.78 0.00 19.36 3.400 0% 110% 1.98 Apr 21.06 0.00 21.49 3.400 0% 118% 3.83 May 23.11 0.00 24.54 3.400 0% 121% 4.82 Jun 22.26 0.00 23.53 3.400 0% 121% 4.66 Jul 21.12 0.00 22.69 3.400 0% 124% 4.97 Aug 20.98 0.00 22.70 3.400 0% 124% 4.97 Sep 21.97 0.00 21.87 3.400 0% 115% 3.30 Oct 21.86 0.00 23.22 3.400 0% 122% 4.76 Nov 21.24 0.00 <th></th> <th>Nov</th> <th>20.42</th> <th>0.00</th> <th>21.21</th> <th>3.400</th> <th>0%</th> <th>121%</th> <th>4.19</th>		Nov	20.42	0.00	21.21	3.400	0%	121%	4.19
Feb 18.79 0.00 18.13 3.400 0% 115% 2.74 Mar 20.78 0.00 19.36 3.400 0% 110% 1.98 Apr 21.06 0.00 21.49 3.400 0% 118% 3.83 May 23.11 0.00 24.54 3.400 0% 121% 4.82 Jun 22.26 0.00 23.53 3.400 0% 121% 4.66 Jul 21.12 0.00 22.69 3.400 0% 124% 4.97 Aug 20.98 0.00 22.70 3.400 0% 124% 5.12 Sep 21.97 0.00 21.87 3.400 0% 115% 3.30 Oct 21.86 0.00 23.22 3.400 0% 122% 4.76 Nov 21.24 0.00 22.61 3.400 0% 122% 4.77 Dec 21.23 0.00 22.27 </th <th></th> <th>Dec</th> <th>20.41</th> <th>0.00</th> <th>20.90</th> <th>3.400</th> <th>0%</th> <th>119%</th> <th>3.88</th>		Dec	20.41	0.00	20.90	3.400	0%	119%	3.88
Mar 20.78 0.00 19.36 3.400 0% 110% 1.98 Apr 21.06 0.00 21.49 3.400 0% 118% 3.83 May 23.11 0.00 24.54 3.400 0% 121% 4.82 Jun 22.26 0.00 23.53 3.400 0% 121% 4.66 Jul 21.12 0.00 22.69 3.400 0% 124% 4.97 Aug 20.98 0.00 22.70 3.400 0% 124% 5.12 Sep 21.97 0.00 21.87 3.400 0% 115% 3.30 Oct 21.86 0.00 23.22 3.400 0% 122% 4.76 Nov 21.24 0.00 22.61 3.400 0% 122% 4.77 Dec 21.23 0.00 22.27 3.400 0% 121% 4.44 2031 Jan 19.40 0.00 <th>2030</th> <th>Jan</th> <th>18.68</th> <th>0.00</th> <th>18.10</th> <th>3.400</th> <th>0%</th> <th>115%</th> <th>2.81</th>	2030	Jan	18.68	0.00	18.10	3.400	0%	115%	2.81
Apr 21.06 0.00 21.49 3.400 0% 118% 3.83 May 23.11 0.00 24.54 3.400 0% 121% 4.82 Jun 22.26 0.00 23.53 3.400 0% 121% 4.66 Jul 21.12 0.00 22.69 3.400 0% 124% 4.97 Aug 20.98 0.00 22.70 3.400 0% 124% 5.12 Sep 21.97 0.00 21.87 3.400 0% 115% 3.30 Oct 21.86 0.00 23.22 3.400 0% 122% 4.76 Nov 21.24 0.00 22.61 3.400 0% 122% 4.77 Dec 21.23 0.00 22.27 3.400 0% 121% 4.44 2031 Jan 19.40 0.00 19.31 3.400 0% 117% 3.24 Mar 21.58 0.00 <th></th> <th>Feb</th> <th>18.79</th> <th>0.00</th> <th>18.13</th> <th>3.400</th> <th>0%</th> <th>115%</th> <th>2.74</th>		Feb	18.79	0.00	18.13	3.400	0%	115%	2.74
May 23.11 0.00 24.54 3.400 0% 121% 4.82 Jun 22.26 0.00 23.53 3.400 0% 121% 4.66 Jul 21.12 0.00 22.69 3.400 0% 124% 4.97 Aug 20.98 0.00 22.70 3.400 0% 124% 5.12 Sep 21.97 0.00 21.87 3.400 0% 115% 3.30 Oct 21.86 0.00 23.22 3.400 0% 122% 4.76 Nov 21.24 0.00 22.61 3.400 0% 122% 4.77 Dec 21.23 0.00 22.27 3.400 0% 121% 4.44 2031 Jan 19.40 0.00 19.31 3.400 0% 117% 3.30 Feb 19.52 0.00 19.35 3.400 0% 117% 3.24 Mar 21.58 0.00 <th></th> <th>Mar</th> <th>20.78</th> <th>0.00</th> <th>19.36</th> <th>3.400</th> <th>0%</th> <th>110%</th> <th>1.98</th>		Mar	20.78	0.00	19.36	3.400	0%	110%	1.98
Jun 22.26 0.00 23.53 3.400 0% 121% 4.66 Jul 21.12 0.00 22.69 3.400 0% 124% 4.97 Aug 20.98 0.00 22.70 3.400 0% 124% 5.12 Sep 21.97 0.00 21.87 3.400 0% 115% 3.30 Oct 21.86 0.00 23.22 3.400 0% 122% 4.76 Nov 21.24 0.00 22.61 3.400 0% 122% 4.77 Dec 21.23 0.00 22.27 3.400 0% 121% 4.44 2031 Jan 19.40 0.00 19.31 3.400 0% 117% 3.30 Feb 19.52 0.00 19.35 3.400 0% 117% 3.24 Mar 21.58 0.00 20.68 3.400 0% 112% 2.49 Apr 21.87 0.00 <th></th> <th>Apr</th> <th>21.06</th> <th>0.00</th> <th>21.49</th> <th>3.400</th> <th>0%</th> <th>118%</th> <th>3.83</th>		Apr	21.06	0.00	21.49	3.400	0%	118%	3.83
Jul 21.12 0.00 22.69 3.400 0% 124% 4.97 Aug 20.98 0.00 22.70 3.400 0% 124% 5.12 Sep 21.97 0.00 21.87 3.400 0% 115% 3.30 Oct 21.86 0.00 23.22 3.400 0% 122% 4.76 Nov 21.24 0.00 22.61 3.400 0% 122% 4.77 Dec 21.23 0.00 22.27 3.400 0% 121% 4.44 2031 Jan 19.40 0.00 19.31 3.400 0% 117% 3.30 Feb 19.52 0.00 19.35 3.400 0% 117% 3.24 Mar 21.58 0.00 20.68 3.400 0% 112% 2.49 Apr 21.87 0.00 22.97 3.400 0% 121% 4.49 May 24.01 0.00 <th></th> <th>May</th> <th>23.11</th> <th>0.00</th> <th>24.54</th> <th>3.400</th> <th>0%</th> <th>121%</th> <th>4.82</th>		May	23.11	0.00	24.54	3.400	0%	121%	4.82
Aug 20.98 0.00 22.70 3.400 0% 124% 5.12 Sep 21.97 0.00 21.87 3.400 0% 115% 3.30 Oct 21.86 0.00 23.22 3.400 0% 122% 4.76 Nov 21.24 0.00 22.61 3.400 0% 122% 4.77 Dec 21.23 0.00 22.27 3.400 0% 121% 4.44 2031 Jan 19.40 0.00 19.31 3.400 0% 117% 3.30 Feb 19.52 0.00 19.35 3.400 0% 117% 3.24 Mar 21.58 0.00 20.68 3.400 0% 112% 2.49 Apr 21.87 0.00 22.97 3.400 0% 121% 4.49 May 24.01 0.00 26.23 3.400 0% 123% 5.62 Jun 23.13 0.00 <th></th> <th>Jun</th> <th>22.26</th> <th>0.00</th> <th>23.53</th> <th>3.400</th> <th>0%</th> <th>121%</th> <th>4.66</th>		Jun	22.26	0.00	23.53	3.400	0%	121%	4.66
Sep 21.97 0.00 21.87 3.400 0% 115% 3.30 Oct 21.86 0.00 23.22 3.400 0% 122% 4.76 Nov 21.24 0.00 22.61 3.400 0% 122% 4.77 Dec 21.23 0.00 22.27 3.400 0% 121% 4.44 2031 Jan 19.40 0.00 19.31 3.400 0% 117% 3.30 Feb 19.52 0.00 19.35 3.400 0% 117% 3.24 Mar 21.58 0.00 20.68 3.400 0% 112% 2.49 Apr 21.87 0.00 22.97 3.400 0% 121% 4.49 May 24.01 0.00 26.23 3.400 0% 123% 5.62 Jun 23.13 0.00 25.15 3.400 0% 123% 5.42		Jul	21.12	0.00	22.69	3.400	0%	124%	4.97
Oct 21.86 0.00 23.22 3.400 0% 122% 4.76 Nov 21.24 0.00 22.61 3.400 0% 122% 4.77 Dec 21.23 0.00 22.27 3.400 0% 121% 4.44 2031 Jan 19.40 0.00 19.31 3.400 0% 117% 3.30 Feb 19.52 0.00 19.35 3.400 0% 117% 3.24 Mar 21.58 0.00 20.68 3.400 0% 112% 2.49 Apr 21.87 0.00 22.97 3.400 0% 121% 4.49 May 24.01 0.00 26.23 3.400 0% 123% 5.62 Jun 23.13 0.00 25.15 3.400 0% 123% 5.42		Aug	20.98	0.00	22.70	3.400	0%	124%	5.12
Nov 21.24 0.00 22.61 3.400 0% 122% 4.77 Dec 21.23 0.00 22.27 3.400 0% 121% 4.44 2031 Jan 19.40 0.00 19.31 3.400 0% 117% 3.30 Feb 19.52 0.00 19.35 3.400 0% 117% 3.24 Mar 21.58 0.00 20.68 3.400 0% 112% 2.49 Apr 21.87 0.00 22.97 3.400 0% 121% 4.49 May 24.01 0.00 26.23 3.400 0% 123% 5.62 Jun 23.13 0.00 25.15 3.400 0% 123% 5.42		Sep	21.97	0.00	21.87	3.400	0%	115%	3.30
Dec 21.23 0.00 22.27 3.400 0% 121% 4.44 2031 Jan 19.40 0.00 19.31 3.400 0% 117% 3.30 Feb 19.52 0.00 19.35 3.400 0% 117% 3.24 Mar 21.58 0.00 20.68 3.400 0% 112% 2.49 Apr 21.87 0.00 22.97 3.400 0% 121% 4.49 May 24.01 0.00 26.23 3.400 0% 123% 5.62 Jun 23.13 0.00 25.15 3.400 0% 123% 5.42		Oct	21.86	0.00	23.22	3.400	0%	122%	4.76
2031 Jan 19.40 0.00 19.31 3.400 0% 117% 3.30 Feb 19.52 0.00 19.35 3.400 0% 117% 3.24 Mar 21.58 0.00 20.68 3.400 0% 112% 2.49 Apr 21.87 0.00 22.97 3.400 0% 121% 4.49 May 24.01 0.00 26.23 3.400 0% 123% 5.62 Jun 23.13 0.00 25.15 3.400 0% 123% 5.42		Nov	21.24	0.00	22.61	3.400	0%	122%	4.77
Feb 19.52 0.00 19.35 3.400 0% 117% 3.24 Mar 21.58 0.00 20.68 3.400 0% 112% 2.49 Apr 21.87 0.00 22.97 3.400 0% 121% 4.49 May 24.01 0.00 26.23 3.400 0% 123% 5.62 Jun 23.13 0.00 25.15 3.400 0% 123% 5.42		Dec	21.23	0.00	22.27	3.400	0%	121%	4.44
Mar 21.58 0.00 20.68 3.400 0% 112% 2.49 Apr 21.87 0.00 22.97 3.400 0% 121% 4.49 May 24.01 0.00 26.23 3.400 0% 123% 5.62 Jun 23.13 0.00 25.15 3.400 0% 123% 5.42	2031	Jan	19.40	0.00	19.31	3.400	0%	117%	3.30
Apr 21.87 0.00 22.97 3.400 0% 121% 4.49 May 24.01 0.00 26.23 3.400 0% 123% 5.62 Jun 23.13 0.00 25.15 3.400 0% 123% 5.42		Feb	19.52	0.00	19.35	3.400	0%	117%	3.24
May 24.01 0.00 26.23 3.400 0% 123% 5.62 Jun 23.13 0.00 25.15 3.400 0% 123% 5.42		Mar	21.58	0.00	20.68	3.400	0%	112%	2.49
Jun 23.13 0.00 25.15 3.400 0% 123% 5.42		Apr	21.87	0.00	22.97	3.400	0%	121%	4.49
		May	24.01	0.00	26.23	3.400	0%	123%	5.62
Jul 21.93 0.00 24.24 3.400 0% 126% 5.71		Jun	23.13	0.00	25.15	3.400	0%	123%	5.42
		Jul	21.93	0.00	24.24	3.400	0%	126%	5.71

	Aug	21.79	0.00	24.26	3.400	0%	127%	5.86
	Sep	22.81	0.00	23.36	3.400	0%	117%	3.95
	Oct	22.70	0.00	24.82	3.400	0%	124%	5.51
	Nov	22.06	0.00	24.15	3.400	0%	125%	5.49
	Dec	22.05	0.00	23.79	3.400	0%	123%	5.14
2032	Jan	20.13	0.00	20.56	3.400	0%	119%	3.83
	Feb	20.24	0.00	20.61	3.400	0%	119%	3.77
	Mar	22.39	0.00	21.41	3.400	0%	111%	2.43
	Apr	22.69	0.00	24.49	3.400	0%	123%	5.20
	May	24.90	0.00	27.98	3.400	0%	126%	6.48
	Jun	23.99	0.00	26.82	3.400	0%	126%	6.23
	Jul	22.75	0.00	25.85	3.400	0%	129%	6.50
	Aug	22.60	0.00	25.49	3.400	0%	128%	6.28
	Sep	23.66	0.00	24.54	3.400	0%	118%	4.28
	Oct	23.55	0.00	26.08	3.400	0%	125%	5.93
	Nov	22.88	0.00	25.37	3.400	0%	126%	5.90
	Dec	22.88	0.00	25.00	3.400	0%	124%	5.52
2033	Jan	20.85	0.00	21.50	3.400	0%	119%	4.05
	Feb	20.97	0.00	21.56	3.400	0%	119%	4.00
	Mar	23.19	0.00	22.71	3.400	0%	113%	2.92
	Apr	23.50	0.00	25.63	3.400	0%	124%	5.53
	May	25.79	0.00	29.30	3.400	0%	127%	6.90
	Jun	24.84	0.00	28.07	3.400	0%	127%	6.63
	Jul	23.56	0.00	27.06	3.400	0%	129%	6.90
	Aug	23.41	0.00	4.50	3.400	0%	34%	-15.51
	Sep	24.51	0.00	4.50	3.400	0%	32%	-16.61
	Oct	24.39	0.00	4.50	3.400	0%	32%	-16.49
	Nov	23.70	0.00	4.50	3.400	0%	33%	-15.79
	Dec	23.69	0.00	4.50	3.400	0%	33%	-15.79

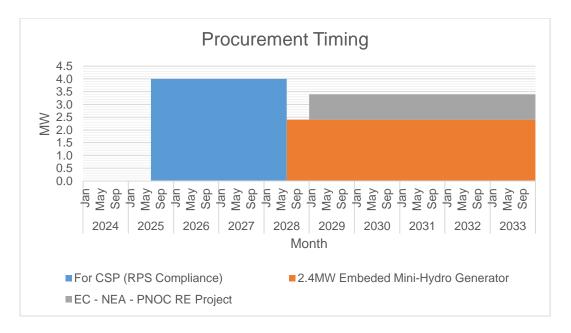
The Peak Demand was forecasted using Linear Trend analysis with Horizon Year up to 2050 and was assumed to occur on the month of May due to summertime. Monthly Peak Demand is at its lowest on the month of February due to cool weather. In general, Peak Demand is expected to grow at a rate of 4.23% annually.



The available supply is generally above the Peak Demand. However, the CSEE is due to expire on July 25, 2024.



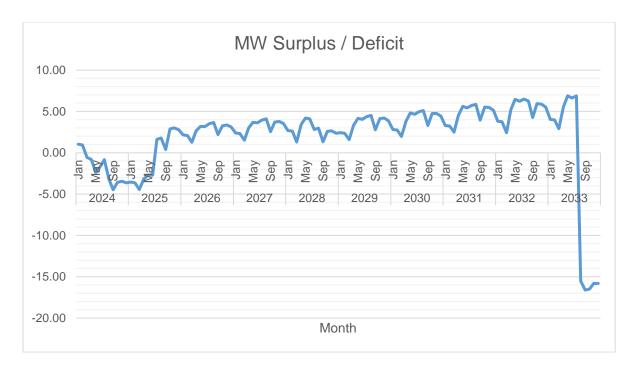
Of the available supply, the largest is 15.4 MW from PSALM, which was procured through Competitive Selection Process (CSP) Exemption. The new Power Supplier has been docketed to procure CASURECO IV's requirement starting July 26, 2023. The remaining demand will be ventured under RESA to comply with the Renewable Portfolio Standards (RPS).



The first wave of supply procurement will be for the RPS Compliance Supply Contract of 4 MW planned to be available by the month of July 2024. This will be followed by the 3.003 MWp Embedded Solar Generator, 1.5 MW and 2.4 MW embedded hydro generators.



Currently, the Coop is under-contracted due limited operating time of PSALM and is due to expire in July 2024. Then by 2025 until 2029, with the addition of the embedded renewable energy generators, it is expected that the Coop will be sufficiently contracted until 2033.



Currently, there is Under-contacting by 2.36 MW. The highest deficit is 6.9 MW which is expected to occur on the month of July 2033 and -15.51 MW starting August 2033. With the current deficit, the supply will be purchased from the Wholesale Electricity Spot Market (WESM) until such time that the embedded generators will be available by 2025 onwards.

		MWh Offtake	MWh Output	MWh System Loss	Transm'n Loss	System Loss
2024	Jan	7,656	6,672	847	1.79%	11.26%
	Feb	7,265	6,517	613	1.86%	8.60%
	Mar	6,996	6,272	581	2.05%	8.48%
	Apr	9,455	8,392	860	2.14%	9.29%
	May	10,235	9,072	918	2.39%	9.19%
	Jun	10,346	9,158	944	2.36%	9.35%
	Jul	9,292	8,339	777	1.89%	8.52%
	Aug	9,504	8,512	816	1.85%	8.74%
	Sep	10,051	8,973	817	2.60%	8.34%
	Oct	9,914	8,889	840	1.87%	8.63%
	Nov	9,308	8,290	828	2.04%	9.08%
	Dec	8,704	7,815	678	2.42%	7.99%
2025	Jan	8,223	7,244	872	1.29%	10.75%
	Feb	7,856	7,076	633	1.86%	8.21%
	Mar	7,573	6,811	600	2.14%	8.10%
	Apr	10,049	9,112	887	0.49%	8.87%
	May	10,942	9,851	948	1.31%	8.77%
	Jun	11,204	9,946	975	2.53%	8.92%
	Jul	10,149	9,058	802	2.85%	8.13%
	Aug	10,279	9,245	842	1.87%	8.35%
	Sep	10,863	9,741	843	2.58%	7.96%
	Oct	10,718	9,649	866	1.89%	8.24%
	Nov	10,060	9,000	855	2.04%	8.67%
	Dec	9,414	8,488	701	2.39%	7.62%

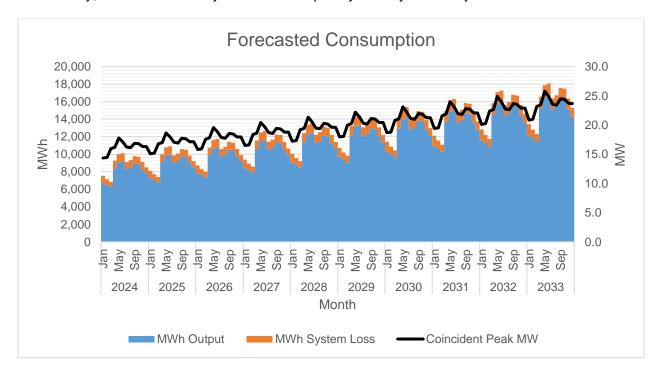
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2026	Jan	8,880	7,829	893	1.78%	10.24%
	Feb	8,454	7,648	649	1.86%	7.82%
	Mar	8,144	7,362	615	2.04%	7.71%
	Apr	10,993	9,848	909	2.14%	8.45%
	May	11,902	10,647	971	2.39%	8.36%
	Jun	12,033	10,751	999	2.35%	8.50%
	Jul	10,851	9,791	822	2.19%	7.75%
	Aug	11,094	9,993	863	2.15%	7.95%
	Sep	11,647	10,527	864	2.20%	7.58%
	Oct	11,573	10,428	888	2.22%	7.85%
	Nov	10,825	9,727	876	2.05%	8.26%
	Dec	10,092	9,177	719	1.95%	7.26%
2027	Jan	9,550	8,425	955	1.78%	10.18%
	Feb	9,094	8,232	694	1.86%	7.77%
	Mar	8,761	7,924	658	2.04%	7.67%
	Apr	11,823	10,598	972	2.14%	8.40%
	May	12,802	11,458	1,038	2.39%	8.31%
	Jun	12,942	11,570	1,068	2.35%	8.45%
	Jul	11,672	10,538	879	2.19%	7.70%
	Aug	11,934	10,755	923	2.15%	7.90%
	Sep	12,529	11,329	924	2.20%	7.54%
	Oct	12,449	11,224	950	2.22%	7.80%
	Nov	11,645	10,470	936	2.05%	8.21%
	Dec	10,858	9,878	768	1.95%	7.22%
2028	Jan	10,231	9,032	1,016	1.78%	10.12%
	Feb	9,745	8,825	739	1.86%	7.73%
	Mar	9,388	8,496	701	2.04%	7.62%
	Apr	12,667	11,361	1,035	2.14%	8.35%
	May	13,716	12,283	1,105	2.39%	8.26%
	Jun	13,864	12,402	1,137	2.35%	8.40%
	Jul	12,505	11,295	936	2.19%	7.65%
	Aug	12,787	11,530	983	2.14%	7.85%
	Sep	13,426	12,147	984	2.20%	7.49%
	Oct	13,342	12,035	1,012	2.22%	7.75%
	Nov	12,480	11,228	998	2.04%	8.16%
	Dec	11,638	10,592	819	1.95%	7.17%
2029	Jan	10,922	9,649	1,079	1.78%	10.05%
	Feb	10,406	9,428	784	1.86%	7.68%
	Mar	10,026	9,077	744	2.04%	7.58%
	Apr	13,523	12,136	1,098	2.14%	8.30%
	May	14,643	13,120	1,173	2.39%	8.21%
	Jun	14,800	13,246	1,206	2.35%	8.35%
	Jul	13,349	12,064	993	2.19%	7.61%
	Aug	13,653	12,317	1,043	2.14%	7.81%
	Sep	14,339	12,979	1,044	2.20%	7.45%
	Oct	14,250	12,861	1,074	2.22%	7.71%
	Nov	13,330	11,999	1,059	2.04%	8.11%
0000	Dec	12,429	11,318	869	1.95%	7.13%
2030	Jan	11,623	10,276	1,141	1.78%	9.99%

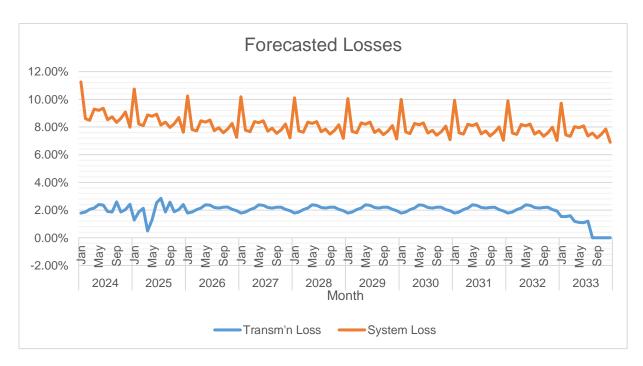
	Feb	11,077	10,041	830	1.86%	7.63%
	Mar	10,672	9,667	787	2.04%	7.53%
	Apr	14,392	12,922	1,161	2.14%	8.25%
	May	15,583	13,970	1,241	2.39%	8.16%
	Jun	15,747	14,102	1,276	2.35%	8.30%
	Jul	14,204	12,843	1,050	2.19%	7.56%
	Aug	14,530	13,115	1,103	2.14%	7.76%
	Sep	15,267	13,826	1,105	2.20%	7.40%
	Oct	15,173	13,701	1,137	2.21%	7.66%
	Nov	14,194	12,783	1,121	2.04%	8.06%
	Dec	13,232	12,055	919	1.95%	7.09%
2031	Jan	12,334	10,912	1,203	1.78%	9.93%
	Feb	11,757	10,663	875	1.86%	7.59%
	Mar	11,328	10,266	830	2.04%	7.48%
	Apr	15,272	13,720	1,225	2.14%	8.20%
	May	16,535	14,832	1,309	2.38%	8.11%
	Jun	16,706	14,969	1,345	2.35%	8.25%
	Jul	15,069	13,632	1,108	2.19%	7.51%
	Aug	15,418	13,924	1,164	2.14%	7.71%
	Sep	16,209	14,686	1,166	2.20%	7.76%
	Oct	16,111	14,555	1,199	2.21%	7.61%
	Nov	15,071	13,580	1,183	2.04%	8.01%
	Dec	14,046	12,802	970	1.95%	7.04%
2032	Jan	13,059	11,557	1,270	1.78%	9.90%
2032	Feb	12,449	11,294	924	1.85%	7.56%
	Mar	11,996	10,874	877	2.04%	7.46%
	Apr	16,167	14,528	1,293	2.14%	8.17%
	May	17,504	15,706	1,381	2.38%	8.08%
	Jun	17,682	15,847	1,419	2.35%	8.22%
	Jul	15,949	14,431	1,169	2.19%	7.49%
	Aug	16,323	14,745	1,228	2.14%	7.43%
	Sep	17,170	15,560	1,232	2.20%	7.34%
	Oct	17,170	15,423	1,267	2.21%	7.59%
	Nov	15,966	14,391	1,207	2.04%	7.99%
	Dec	14,875	13,561	1,024	1.95%	7.02%
2033	Jan	15,038	12,121	1,306	10.71%	9.73%
2033	Feb	14,733	11,846	951	13.14%	7.43%
	Mar	14,733	11,406	902	16.05%	7.43%
		·				
	Apr	17,394	15,239	1,330	4.74%	8.03%
	May	19,701	16,475	1,421	9.16%	7.94%
	Jun	19,483	16,627	1,461	7.16%	8.08%
	Jul	19,209	15,142	1,203	14.91%	7.36%
	Aug	2,371	15,469	1,264	-605.57%	7.55%
	Sep	2,662	16,316	1,267	-560.51%	7.21%
	Oct	3,038	16,171	1,303	-475.27%	7.46%
	Nov	3,041	15,090	1,285	-438.47%	7.85%
	Dec	3,112	14,225	1,054	-391.00%	6.90%

MWh Offtake was forecasted using Quadratic Trend with Horizon Year up to 2050.

System Loss was calculated through a Load Flow Study conducted by using DSAS software. Based on the same study, the Distribution System can adequately convey electricity to customers.



MWh Output was expected to grow at a rate of 8.32% annually.



Transmission Loss is expected to range from 1.74% to 2.36% while System Loss is expected to range from 5.48% to 9.61%.

Power Supply

Case No.	Туре	GenCo	Minimu m MW	Minimu m MWh/yr	Maximu m MW	Maximum MWh/yr	PSA Start	PSA End	Case No.	Туре
COE-CSP- 2023-11-049	Base	Power Sector Assets and Liabilities Manageme nt Corporatio n	15.4	65,884	15.4	65,884	07/26/20 23	07/25/20 24	COE-CSP- 2023-11-049	Base
ERC Case No. 2024-010 RC	Base	Therma Luzon, Inc.	2.99	65,235	24.79	175,792	07/26/20 23	07/25/20 33	ERC Case No. 2024-010 RC	Base
3.003 MWp Embedded Solar Generator	Peakin g	Other	3	4,309	3	4,318	12/26/20 24	12/25/20 44	3.003 MWp Embedded Solar Generator	Peakin g
1.5MW Embedded Mini- Hydro Generator	Peakin g	Other	1.5	7,672	1.5	7,672	09/26/20 25	09/25/20 45	1.5MW Embeded Mini- Hydro Generator	Peakin g

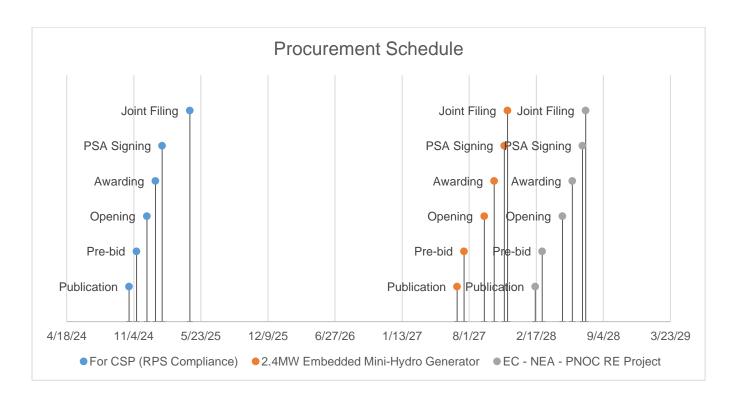
The PSA with PSALM is for filing with ERC and was procured under CSP exemption. It was selected to provide for base requirements while conducting the regular CSP for the New Power Supplier. Historically, the utilization of the PSA is 96.8%. Outages of the plant led to unserved energy of around 2,446.66 MWh in the past year. The actual billed overall monthly charge under the PSA ranged from 3.90 P/kWh to 5.91 P/KWh in the same period. CASURECO IV's PSA with TLI and waiting for final approval of ERC.

Supply Label	Туре	Minimu m MW	Minimu m MWh/yr	Maximu m MW	Maximu m MWh/yr	PSA Start	PSA End	Publicati on
2.4MW Embedded Hydro Generator	Intermedi ate	2.4	12,869	2.4	15,861	6/26/202 6	12/25/204 6	03/07/202 4
EC - NEA - PNOC RE Project	Peaking	1.0	1,412	1.0	1,439	12/26/20 28	12/25/204 8	02/14/202 8
For CSP (RPS Compliance)	Base	4.0	5,041	4.0	16,824	6/26/202 5	12/25/20 29	10/21/20 24

The remaining capacities were planned to be sourced from renewable energy sources to comply with the RPS. Currently, the Embedded Solar Generator is planned to be implemented via joint venture. The Embedded Hydro Generators will be under Renewable Energy Supply Agreements (RESA).

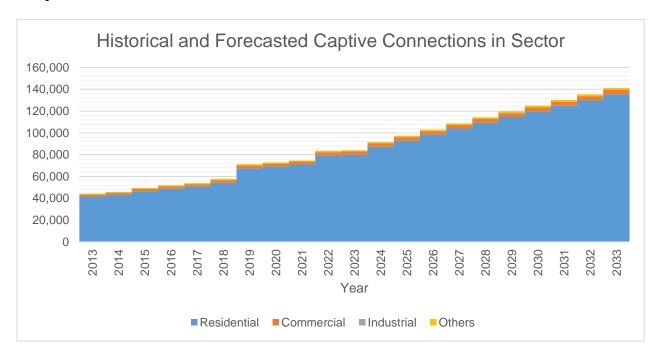
By 2029, the Coop intends to avail the Grant from the EC-NEA-PNOC RE partnership for a 1MW Embedded Solar Generator.

	For CSP (RPS Compliance)	2.4MW Embedded Mini-Hydro Generator	EC - NEA - PNOC RE Project
Type	Intermediate	Peaking	Peaking
Minimum MW	4.00	2.40	1.00
Minimum MWh/yr	5,041	12,869	1,412
Maximum MW	4.00	2.40	1.00
Maximum MWh/yr	16,394	15,861	1,439
PSA Start	6/26/2025	6/26/2028	12/26/2028
PSA End	6/25/2029	12/25/2048	12/25/2048
Publication	10/21/2024	6/26/2027	2/14/2028
Pre-bid	11/12/2024	7/17/2027	3/6/2028
Opening	12/13/2024	9/15/2027	5/5/2028
Awarding	1/8/2025	10/15/2027	6/4/2028
PSA Signing	1/28/2025	11/14/2027	7/4/2028
Joint Filing	4/20/2025	11/23/2027	7/13/2028



For the procurement of 4.0 MW of supply which is planned to be available on July 26, 2025, the first publication or launch of CSP will be on October 21, 2024. Joint filing is planned on or before April 20, 2025, or 180 days later, in accordance with DOE's CSP Policy.

Captive Customer Connections



The number of Residential connections is expected to grow at a rate of 5.15% annually. Said customer class is expected to account for 69.62% of the total consumption.

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