

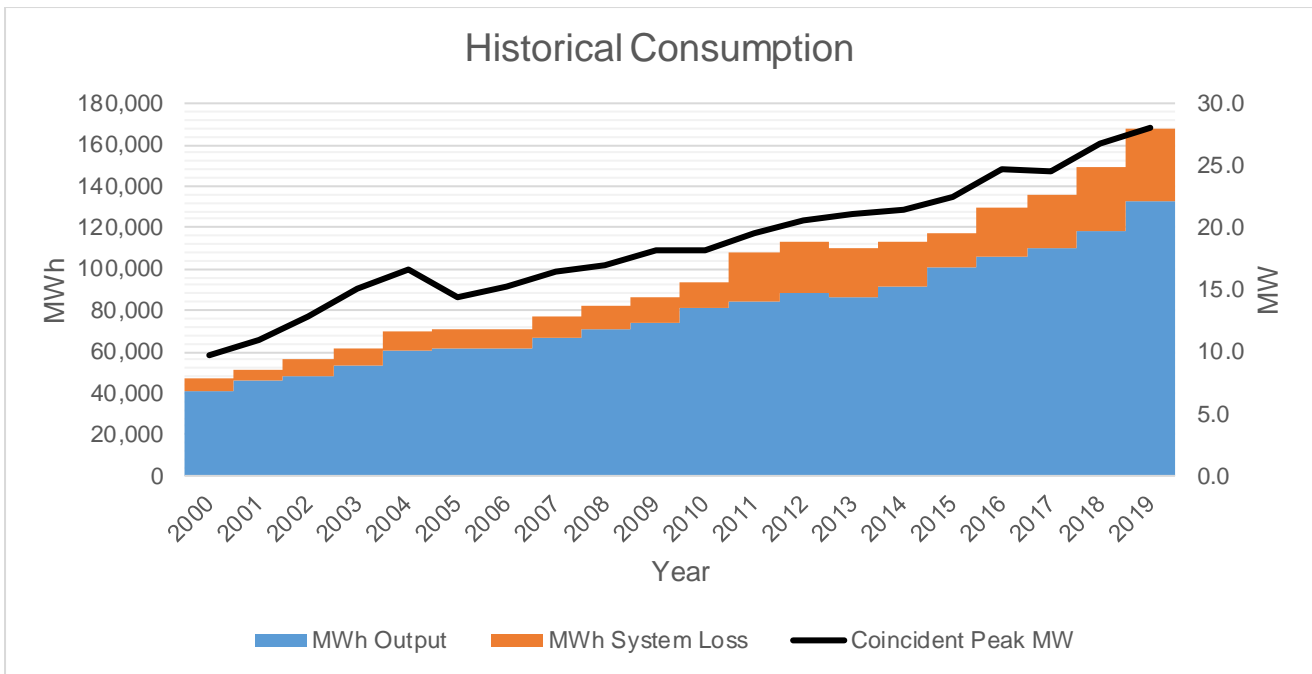
# **Power Supply Procurement Plan 2020**

**Zamboanga Del Sur II Electric Cooperative, Inc.  
(ZAMSURECO II)**

## 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 | 9.71               | 46,613      | 0    | 46,613    | 41,442     | 5,171           | 55%         | 0.00%       | 0.00%         | 11.09%      |
| 2001 | 10.98              | 51,735      | 0    | 51,735    | 45,709     | 6,026           | 54%         | 0.00%       | 0.00%         | 11.65%      |
| 2002 | 12.80              | 56,075      | 0    | 56,075    | 48,196     | 7,878           | 50%         | 0.00%       | 0.00%         | 14.05%      |
| 2003 | 15.13              | 61,589      | 0    | 61,589    | 53,353     | 8,235           | 46%         | 0.00%       | 0.00%         | 13.37%      |
| 2004 | 16.62              | 69,946      | 0    | 69,946    | 60,257     | 9,688           | 48%         | 0.00%       | 0.00%         | 13.85%      |
| 2005 | 14.32              | 71,111      | 0    | 71,111    | 61,690     | 9,420           | 57%         | 0.00%       | 0.00%         | 13.25%      |
| 2006 | 15.25              | 70,692      | 0    | 70,692    | 61,201     | 9,489           | 53%         | 0.00%       | 0.00%         | 13.42%      |
| 2007 | 16.49              | 77,066      | 0    | 77,066    | 66,391     | 10,676          | 53%         | 0.00%       | 0.00%         | 13.85%      |
| 2008 | 16.94              | 82,181      | 0    | 82,181    | 70,762     | 11,419          | 55%         | 0.00%       | 0.00%         | 13.89%      |
| 2009 | 18.23              | 86,385      | 0    | 86,385    | 74,386     | 12,000          | 54%         | 0.00%       | 0.00%         | 13.89%      |
| 2010 | 18.12              | 93,968      | 0    | 93,968    | 80,922     | 13,046          | 59%         | 0.00%       | 0.00%         | 13.88%      |
| 2011 | 19.48              | 107,948     | 0    | 107,948   | 84,299     | 23,649          | 63%         | 0.00%       | 0.00%         | 21.91%      |
| 2012 | 20.55              | 113,190     | 0    | 113,190   | 88,354     | 24,836          | 63%         | 0.00%       | 0.00%         | 21.94%      |
| 2013 | 21.02              | 109,706     | 0    | 109,706   | 86,166     | 23,540          | 60%         | 0.00%       | 0.00%         | 21.46%      |
| 2014 | 21.37              | 113,578     | 0    | 113,578   | 90,996     | 22,582          | 61%         | 0.00%       | 0.00%         | 19.88%      |
| 2015 | 22.43              | 116,791     | 0    | 116,791   | 100,476    | 16,315          | 59%         | 0.00%       | 0.00%         | 13.97%      |
| 2016 | 24.61              | 130,079     | 0    | 130,079   | 106,367    | 23,712          | 60%         | 0.00%       | 0.00%         | 18.23%      |
| 2017 | 24.47              | 135,784     | 0    | 135,784   | 109,607    | 26,176          | 63%         | 0.00%       | 0.00%         | 19.28%      |
| 2018 | 26.72              | 149,100     | 0    | 149,100   | 118,143    | 30,959          | 64%         | 0.00%       | 0.00%         | 20.76%      |
| 2019 | 28.03              | 175,016     | 0    | 168,188   | 132,520    | 35,668          | 68%         | 0.00%       | 3.90%         | 21.21%      |

Historical data shows that there is a steady growth on energy sales and purchase wherein there is a consistency of higher growth rate for peak demand. In the past 18 years of data, the coincident peak demand recorded a 5.7% annual average growth rate (AAGR). The years 2001 to 2004 records the highest AAGR of 14.9%. This has been the result of the coming in of developments upon the Zamboanga Sibugay Province has been carved out from the third district of Zamboanga del Sur in 2001. The peak demand has a significantly reduced by 13.8% as a result of feeder reconfiguration and load shifting of adjacent substation because of the commissioning of the M5-R.T. Lim Substation in November, 2004. Peak Demand increased from 24.47 MW in 2017 to 32.4 MW in 2019 at a rate of 7.61% due to incoming of new commercial and industrial customers. MWh Offtake increased from 135,784 MWh in 2017 to 175,016 MWh in 2019 at a rate of 4% due to rapid economic activity.

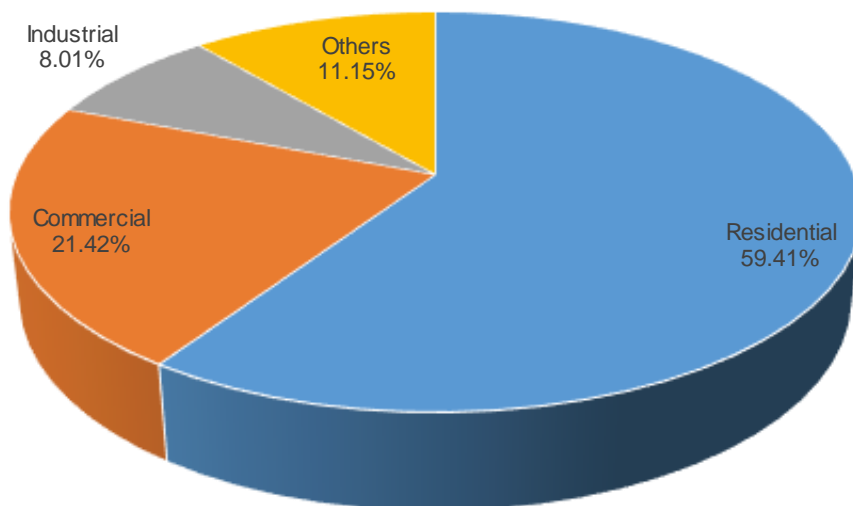


MWh Output increased from year 2001 to year 2019 at a rate of 6.19 %. System Loss from 2001 to 2010 with an average of 13.5%. However, in 2011 until 2014 it increased to 21.4% average. And the average system loss for the year 2019 was 20.38% which is 1.03% higher than the preceding year. The main cause of the increase was the significant growth of 21.26% in energy demand and there were not enough projects implemented to enhance the capacity of the existing distribution lines.



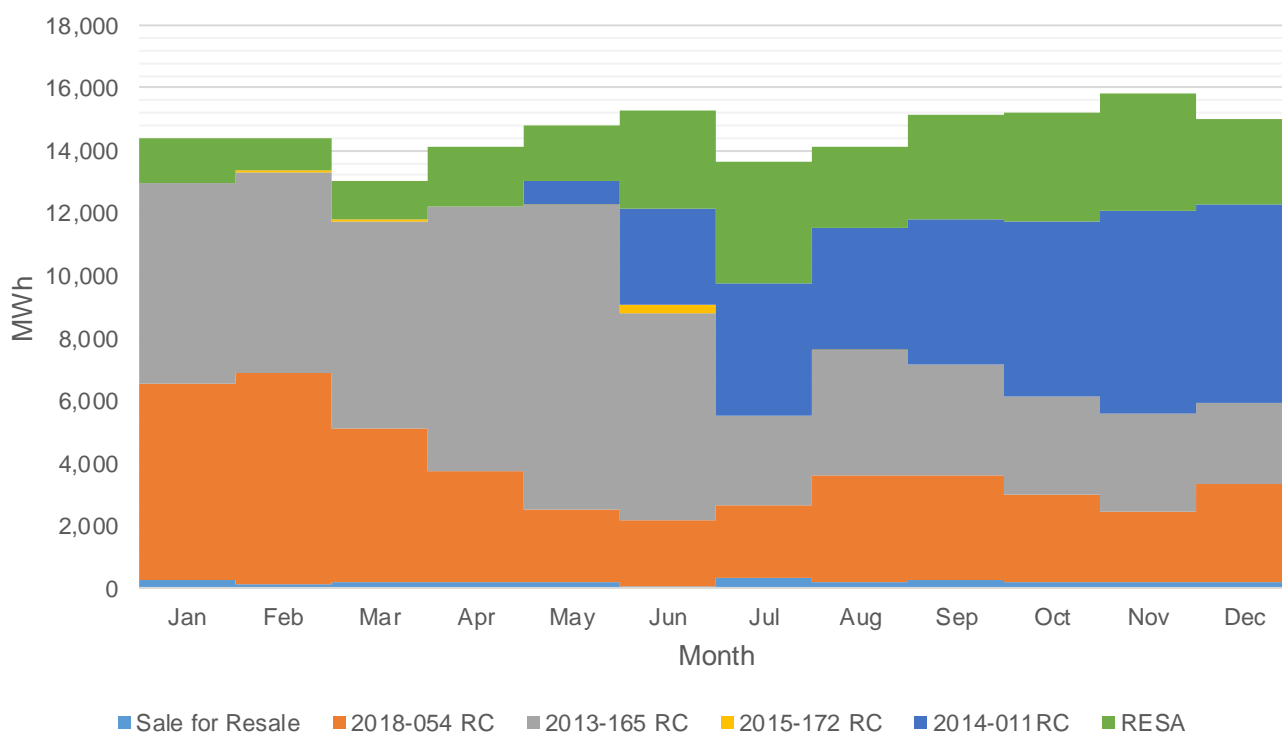
Historically, the overall System Loss ranged from 11.65% to 22.05%. Overall System Loss peaked at 22.05% on year 2012. The main cause of this increase was the significant growth in energy demand and there was not enough implemented activity to enhance the capacity of the existing distribution lines.

### Previous Year's Shares of Energy Sales

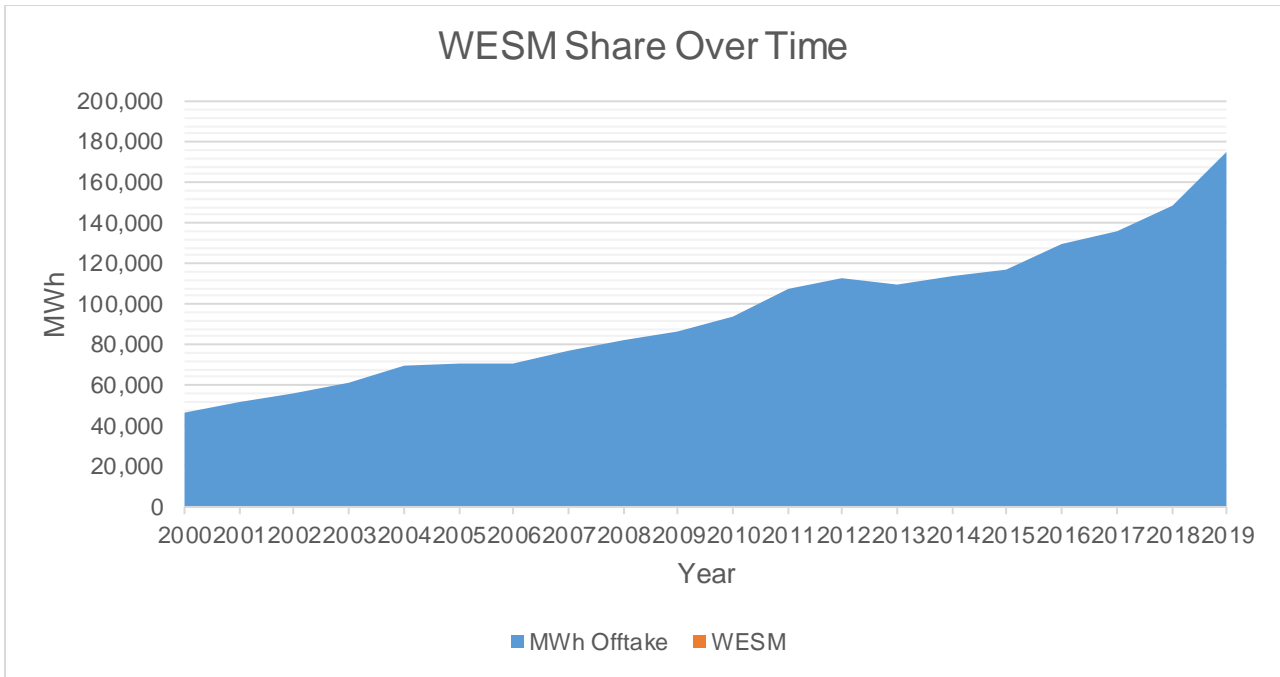


Residential customers account for the bulk of energy sales at 59.9%, this is due to the high number of connections. In contrast, Industrial customers accounted for only 8.07% of energy sales due to the low number of connections. These figures are expected to change in the following years due to the fast-growing development in the capital of the province in the areas of rubber processing and commercial shopping malls.

### MWh Offtake for Last Historical Year

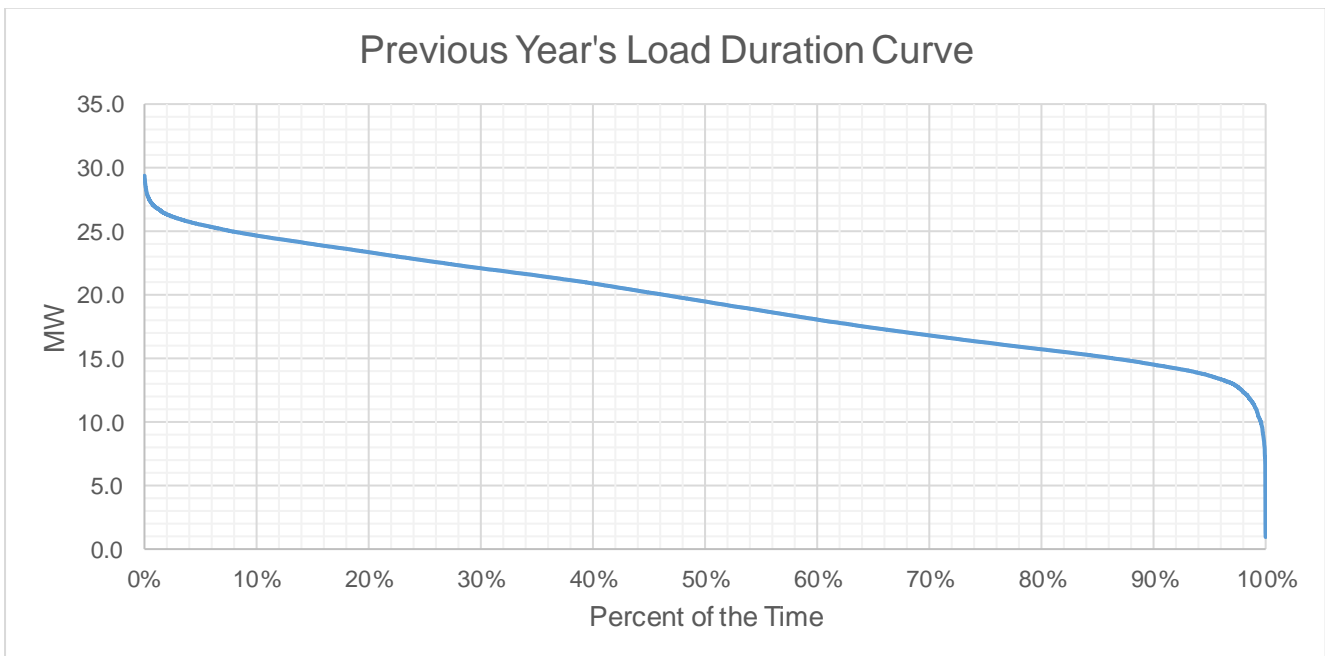


The PSA with 2013-165 RC accounts for the bulk of MWh Offtake for 2019.



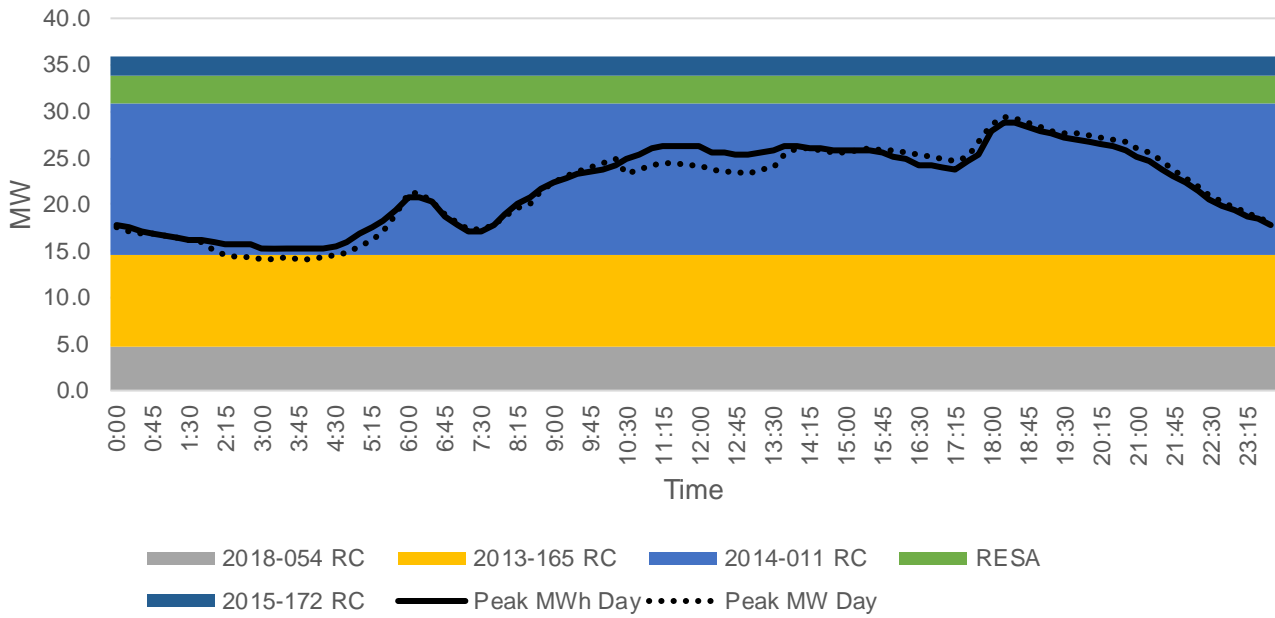
Since WESM is not yet operational in Mindanao, Energy Offtake relied solely in Power Supply Contracts with IPPs.

### Previous Year's Load Profile



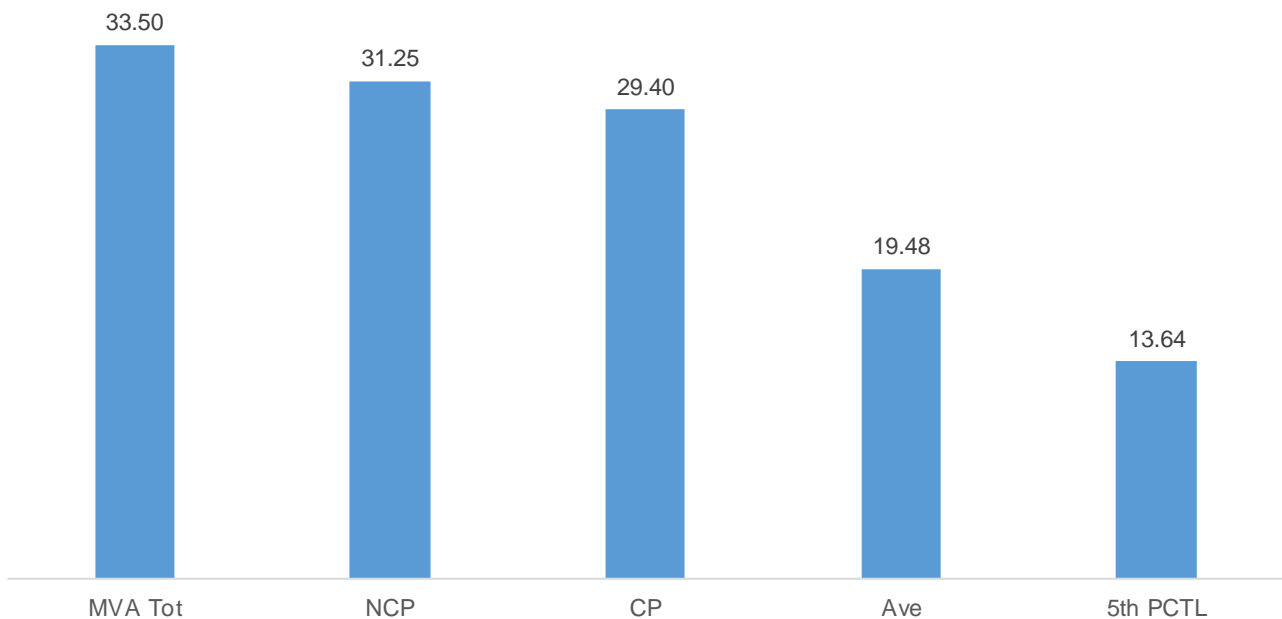
Based on the Load Duration Curve, the minimum load is 9.49 MW and the maximum load is 29.40 MW for the last historical year.

### Previous Year's Load for Peak MWh and MW Days



Peak MW occurred on 18:45 hrs due to residential type consumers where energy usage is at high during night time. Peak daily MWh occurred on 14:15 hr due to commercial establishments, industries, and government offices where in energy usage is almost consistent throughout the day. As shown in the Load Curves, the available supply is higher than the Peak Demand.

### Previous Year's Loading Summary



The Non-coincident Peak Demand is 31.25 MW, which is around 93.28% of the total substation capacity of 33.5 MVA at a power factor of 97.24%. The load factor or the ratio between the Average Load of 19.48 MW and the Non-coincident Peak Demand is 62.34% of. A safe estimate of the true minimum load is the fifth percentile load of 13.64 MW which is 43.65% of the Non-coincident Peak Demand.

| Metering Point | Substation MVA | Substation Peak MW |
|----------------|----------------|--------------------|
| M1-DANDA       | 5              | 5.33848            |
| M2-PANGI       | 10             | 10.36              |
| M3-SIRAWAI     | 5              | 2.5431             |
| M4-IMELDA      | 5              | 4.639152           |
| M5-RTLIM       | 3.5            | 3.51135463         |
| M6-IMELDA      | 5              | 4.86108            |

Amongst the six (6) substations of ZASURECO II, only M3-Sirawai Substation is under loaded. M1, M2, M4 and M6 Imelda Substations are in loaded state.

Given the existing condition of the substations and the identified different concerns of each, the key stone project would be the Upgrading of M2-Pangi Substation to 20 MVA. Its implementation will give way to the availability of higher capacity power transformer to be utilized to upgrade the other loaded substations such as M4-Imelda 1 S/S and M5-R.T. Lim S/S. However, taken into consideration the lead time of the activities from procurement to commissioning, substation already overloading state can become worse.

The coop has a proposed additional two (2) substation projects that will be located in Maganay, Buug Zamboanga Sibugay and in Sta. Maria, Alicia, Zamboanga Sibugay which are targeted to be installed in 2022 and 2023 respectively. These projects are intended to solve the overloading problems in M4-Imelda substation and provide measure to mitigate the increasing system loss due to the over extension of the feeders.

## Forecasted Consumption Data

|      |     | Coincident Peak MW | Contracted MW | Pending MW | Planned MW | Retail Electricity Suppliers MW | Existing Contracting Level | Target Contracting Level | MW Surplus / Deficit |
|------|-----|--------------------|---------------|------------|------------|---------------------------------|----------------------------|--------------------------|----------------------|
| 2020 | Jan | 30.70              | 35.92         | 0.00       | 0.000      |                                 | 117%                       | 117%                     | 5.23                 |
|      | Feb | 31.03              | 36.06         | 0.00       | 0.000      |                                 | 116%                       | 116%                     | 5.03                 |
|      | Mar | 31.22              | 35.75         | 0.00       | 0.000      |                                 | 115%                       | 115%                     | 4.53                 |
|      | Apr | 29.80              | 34.86         | 0.00       | 0.000      |                                 | 117%                       | 117%                     | 5.06                 |
|      | May | 29.78              | 35.04         | 0.00       | 0.000      |                                 | 118%                       | 118%                     | 5.27                 |
|      | Jun | 29.92              | 34.80         | 0.00       | 0.000      |                                 | 116%                       | 116%                     | 4.88                 |
|      | Jul | 29.06              | 32.17         | 0.00       | 0.000      |                                 | 111%                       | 111%                     | 3.11                 |
|      | Aug | 29.57              | 33.14         | 0.00       | 0.000      |                                 | 112%                       | 112%                     | 3.57                 |
|      | Sep | 30.39              | 33.98         | 0.00       | 0.000      |                                 | 112%                       | 112%                     | 3.58                 |
|      | Oct | 30.78              | 33.77         | 0.00       | 0.000      |                                 | 110%                       | 110%                     | 2.99                 |
|      | Nov | 30.43              | 33.87         | 0.00       | 0.000      |                                 | 111%                       | 111%                     | 3.44                 |
|      | Dec | 30.42              | 34.65         | 0.00       | 0.000      |                                 | 114%                       | 114%                     | 4.23                 |
| 2021 | Jan | 29.21              | 34.11         | 0.00       | 0.000      |                                 | 117%                       | 117%                     | 4.90                 |
|      | Feb | 29.58              | 33.73         | 0.00       | 0.000      |                                 | 114%                       | 114%                     | 4.14                 |
|      | Mar | 29.89              | 33.75         | 0.00       | 0.000      |                                 | 113%                       | 113%                     | 3.87                 |
|      | Apr | 30.55              | 32.96         | 0.00       | 0.000      |                                 | 108%                       | 108%                     | 2.41                 |
|      | May | 30.67              | 32.93         | 0.00       | 0.000      |                                 | 107%                       | 107%                     | 2.26                 |
|      | Jun | 30.56              | 32.71         | 0.00       | 0.000      |                                 | 107%                       | 107%                     | 2.15                 |
|      | Jul | 29.10              | 32.91         | 0.00       | 0.000      |                                 | 113%                       | 113%                     | 3.81                 |
|      | Aug | 29.61              | 32.40         | 0.00       | 0.000      |                                 | 109%                       | 109%                     | 2.79                 |
|      | Sep | 30.76              | 33.85         | 0.00       | 0.000      |                                 | 110%                       | 110%                     | 3.09                 |
|      | Oct | 31.43              | 33.90         | 0.00       | 0.000      |                                 | 108%                       | 108%                     | 2.47                 |
|      | Nov | 32.05              | 33.89         | 0.00       | 0.000      |                                 | 106%                       | 106%                     | 1.84                 |
|      | Dec | 32.39              | 34.67         | 0.00       | 0.000      |                                 | 107%                       | 107%                     | 2.28                 |
| 2022 | Jan | 31.54              | 29.30         | 0.00       | 5.000      |                                 | 93%                        | 109%                     | 2.76                 |
|      | Feb | 31.94              | 29.30         | 0.00       | 5.000      |                                 | 92%                        | 107%                     | 2.36                 |
|      | Mar | 32.27              | 29.30         | 0.00       | 5.000      |                                 | 91%                        | 106%                     | 2.03                 |
|      | Apr | 32.99              | 29.30         | 0.00       | 5.000      |                                 | 89%                        | 104%                     | 1.31                 |
|      | May | 33.12              | 29.30         | 0.00       | 5.000      |                                 | 88%                        | 104%                     | 1.18                 |



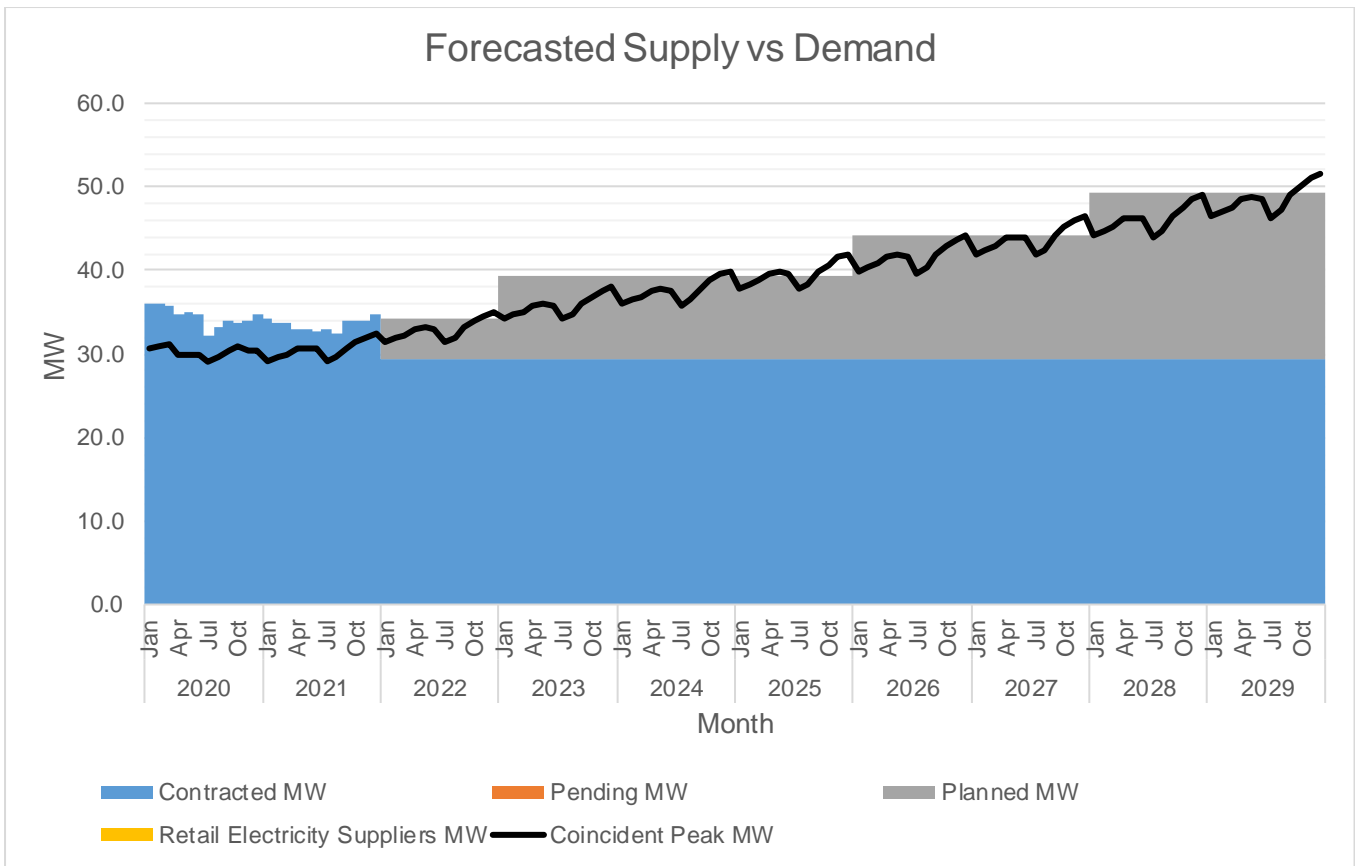
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|------|-----|-------|-------|------|--------|--|-----|------|-------|
|      | Jun | 33.00 | 29.30 | 0.00 | 5.000  |  | 89% | 104% | 1.30  |
|      | Jul | 31.42 | 29.30 | 0.00 | 5.000  |  | 93% | 109% | 2.88  |
|      | Aug | 31.97 | 29.30 | 0.00 | 5.000  |  | 92% | 107% | 2.33  |
|      | Sep | 33.22 | 29.30 | 0.00 | 5.000  |  | 88% | 103% | 1.08  |
|      | Oct | 33.94 | 29.30 | 0.00 | 5.000  |  | 86% | 101% | 0.36  |
|      | Nov | 34.61 | 29.30 | 0.00 | 5.000  |  | 85% | 99%  | -0.31 |
|      | Dec | 34.97 | 29.30 | 0.00 | 5.000  |  | 84% | 98%  | -0.67 |
| 2023 | Jan | 34.26 | 29.30 | 0.00 | 10.000 |  | 86% | 115% | 5.04  |
|      | Feb | 34.70 | 29.30 | 0.00 | 10.000 |  | 84% | 113% | 4.60  |
|      | Mar | 35.05 | 29.30 | 0.00 | 10.000 |  | 84% | 112% | 4.25  |
|      | Apr | 35.83 | 29.30 | 0.00 | 10.000 |  | 82% | 110% | 3.47  |
|      | May | 35.97 | 29.30 | 0.00 | 10.000 |  | 81% | 109% | 3.33  |
|      | Jun | 35.84 | 29.30 | 0.00 | 10.000 |  | 82% | 110% | 3.46  |
|      | Jul | 34.13 | 29.30 | 0.00 | 10.000 |  | 86% | 115% | 5.17  |
|      | Aug | 34.73 | 29.30 | 0.00 | 10.000 |  | 84% | 113% | 4.57  |
|      | Sep | 36.08 | 29.30 | 0.00 | 10.000 |  | 81% | 109% | 3.22  |
|      | Oct | 36.86 | 29.30 | 0.00 | 10.000 |  | 79% | 107% | 2.44  |
|      | Nov | 37.59 | 29.30 | 0.00 | 10.000 |  | 78% | 105% | 1.71  |
|      | Dec | 37.99 | 29.30 | 0.00 | 10.000 |  | 77% | 103% | 1.31  |
| 2024 | Jan | 36.00 | 29.30 | 0.00 | 10.000 |  | 81% | 109% | 3.30  |
|      | Feb | 36.46 | 29.30 | 0.00 | 10.000 |  | 80% | 108% | 2.84  |
|      | Mar | 36.83 | 29.30 | 0.00 | 10.000 |  | 80% | 107% | 2.47  |
|      | Apr | 37.65 | 29.30 | 0.00 | 10.000 |  | 78% | 104% | 1.65  |
|      | May | 37.79 | 29.30 | 0.00 | 10.000 |  | 78% | 104% | 1.51  |
|      | Jun | 37.66 | 29.30 | 0.00 | 10.000 |  | 78% | 104% | 1.64  |
|      | Jul | 35.86 | 29.30 | 0.00 | 10.000 |  | 82% | 110% | 3.44  |
|      | Aug | 36.49 | 29.30 | 0.00 | 10.000 |  | 80% | 108% | 2.81  |
|      | Sep | 37.91 | 29.30 | 0.00 | 10.000 |  | 77% | 104% | 1.39  |
|      | Oct | 38.73 | 29.30 | 0.00 | 10.000 |  | 76% | 101% | 0.57  |
|      | Nov | 39.50 | 29.30 | 0.00 | 10.000 |  | 74% | 100% | -0.20 |
|      | Dec | 39.91 | 29.30 | 0.00 | 10.000 |  | 73% | 98%  | -0.61 |
| 2025 | Jan | 37.85 | 29.30 | 0.00 | 10.000 |  | 77% | 104% | 1.45  |
|      | Feb | 38.33 | 29.30 | 0.00 | 10.000 |  | 76% | 103% | 0.97  |
|      | Mar | 38.73 | 29.30 | 0.00 | 10.000 |  | 76% | 101% | 0.57  |
|      | Apr | 39.59 | 29.30 | 0.00 | 10.000 |  | 74% | 99%  | -0.29 |

|      |     |       |       |      |        |  |     |      |       |
|------|-----|-------|-------|------|--------|--|-----|------|-------|
|      | May | 39.74 | 29.30 | 0.00 | 10.000 |  | 74% | 99%  | -0.44 |
|      | Jun | 39.60 | 29.30 | 0.00 | 10.000 |  | 74% | 99%  | -0.30 |
|      | Jul | 37.71 | 29.30 | 0.00 | 10.000 |  | 78% | 104% | 1.59  |
|      | Aug | 38.37 | 29.30 | 0.00 | 10.000 |  | 76% | 102% | 0.93  |
|      | Sep | 39.86 | 29.30 | 0.00 | 10.000 |  | 74% | 99%  | -0.56 |
|      | Oct | 40.73 | 29.30 | 0.00 | 10.000 |  | 72% | 96%  | -1.43 |
|      | Nov | 41.53 | 29.30 | 0.00 | 10.000 |  | 71% | 95%  | -2.23 |
|      | Dec | 41.97 | 29.30 | 0.00 | 10.000 |  | 70% | 94%  | -2.67 |
| 2026 | Jan | 39.83 | 29.30 | 0.00 | 15.000 |  | 74% | 111% | 4.47  |
|      | Feb | 40.34 | 29.30 | 0.00 | 15.000 |  | 73% | 110% | 3.96  |
|      | Mar | 40.75 | 29.30 | 0.00 | 15.000 |  | 72% | 109% | 3.55  |
|      | Apr | 41.66 | 29.30 | 0.00 | 15.000 |  | 70% | 106% | 2.64  |
|      | May | 41.82 | 29.30 | 0.00 | 15.000 |  | 70% | 106% | 2.48  |
|      | Jun | 41.67 | 29.30 | 0.00 | 15.000 |  | 70% | 106% | 2.63  |
|      | Jul | 39.68 | 29.30 | 0.00 | 15.000 |  | 74% | 112% | 4.62  |
|      | Aug | 40.37 | 29.30 | 0.00 | 15.000 |  | 73% | 110% | 3.93  |
|      | Sep | 41.95 | 29.30 | 0.00 | 15.000 |  | 70% | 106% | 2.35  |
|      | Oct | 42.85 | 29.30 | 0.00 | 15.000 |  | 68% | 103% | 1.45  |
|      | Nov | 43.70 | 29.30 | 0.00 | 15.000 |  | 67% | 101% | 0.60  |
|      | Dec | 44.16 | 29.30 | 0.00 | 15.000 |  | 66% | 100% | 0.14  |
| 2027 | Jan | 41.93 | 29.30 | 0.00 | 15.000 |  | 70% | 106% | 2.37  |
|      | Feb | 42.46 | 29.30 | 0.00 | 15.000 |  | 69% | 104% | 1.84  |
|      | Mar | 42.90 | 29.30 | 0.00 | 15.000 |  | 68% | 103% | 1.40  |
|      | Apr | 43.85 | 29.30 | 0.00 | 15.000 |  | 67% | 101% | 0.45  |
|      | May | 44.02 | 29.30 | 0.00 | 15.000 |  | 67% | 101% | 0.28  |
|      | Jun | 43.86 | 29.30 | 0.00 | 15.000 |  | 67% | 101% | 0.44  |
|      | Jul | 41.77 | 29.30 | 0.00 | 15.000 |  | 70% | 106% | 2.53  |
|      | Aug | 42.50 | 29.30 | 0.00 | 15.000 |  | 69% | 104% | 1.80  |
|      | Sep | 44.16 | 29.30 | 0.00 | 15.000 |  | 66% | 100% | 0.14  |
|      | Oct | 45.11 | 29.30 | 0.00 | 15.000 |  | 65% | 98%  | -0.81 |
|      | Nov | 46.01 | 29.30 | 0.00 | 15.000 |  | 64% | 96%  | -1.71 |
|      | Dec | 46.49 | 29.30 | 0.00 | 15.000 |  | 63% | 95%  | -2.19 |
| 2028 | Jan | 44.15 | 29.30 | 0.00 | 20.000 |  | 66% | 112% | 5.15  |
|      | Feb | 44.72 | 29.30 | 0.00 | 20.000 |  | 66% | 110% | 4.58  |
|      | Mar | 45.18 | 29.30 | 0.00 | 20.000 |  | 65% | 109% | 4.12  |

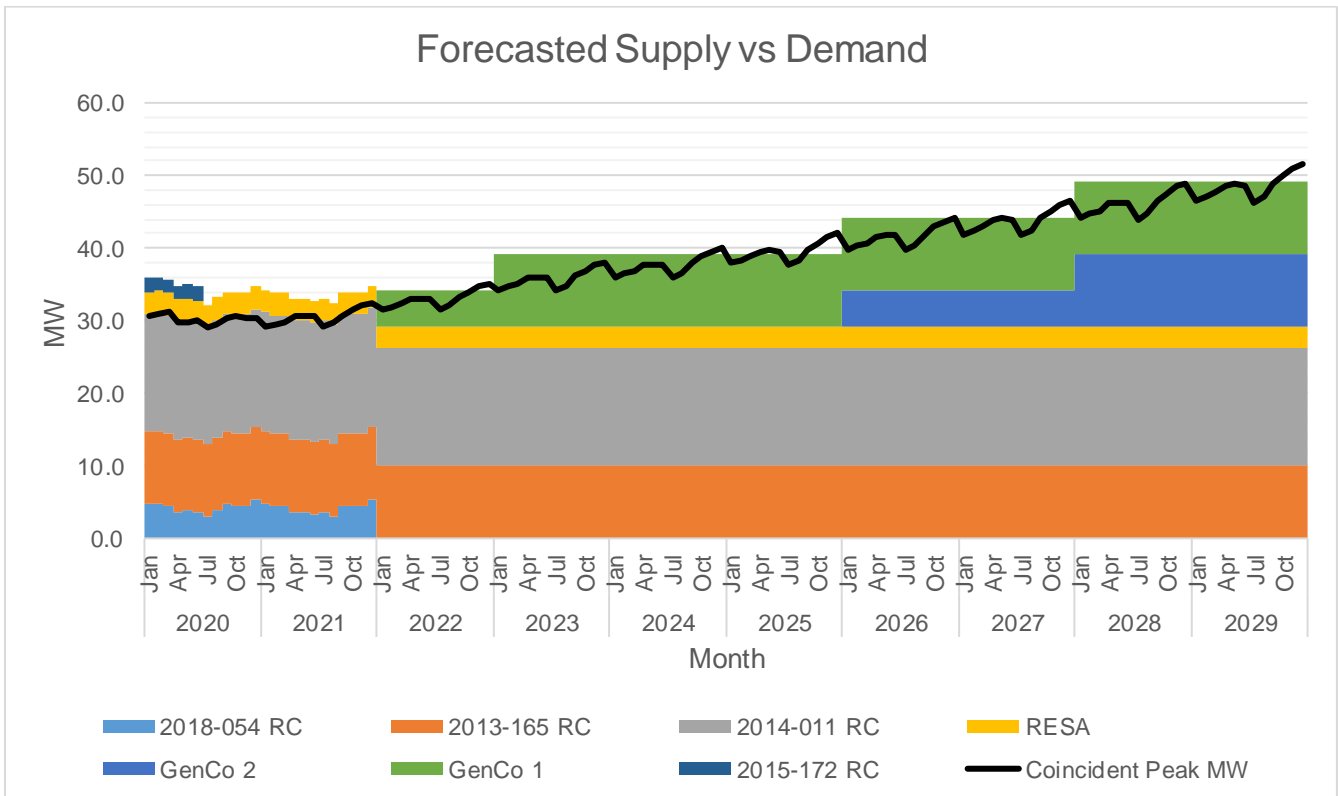
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|------|-----|-------|-------|------|--------|--|-----|------|-------|
|      | Apr | 46.18 | 29.30 | 0.00 | 20.000 |  | 63% | 107% | 3.12  |
|      | May | 46.36 | 29.30 | 0.00 | 20.000 |  | 63% | 106% | 2.94  |
|      | Jun | 46.19 | 29.30 | 0.00 | 20.000 |  | 63% | 107% | 3.11  |
|      | Jul | 43.98 | 29.30 | 0.00 | 20.000 |  | 67% | 112% | 5.32  |
|      | Aug | 44.76 | 29.30 | 0.00 | 20.000 |  | 65% | 110% | 4.54  |
|      | Sep | 46.50 | 29.30 | 0.00 | 20.000 |  | 63% | 106% | 2.80  |
|      | Oct | 47.51 | 29.30 | 0.00 | 20.000 |  | 62% | 104% | 1.79  |
|      | Nov | 48.45 | 29.30 | 0.00 | 20.000 |  | 60% | 102% | 0.85  |
|      | Dec | 48.96 | 29.30 | 0.00 | 20.000 |  | 60% | 101% | 0.34  |
| 2029 | Jan | 46.50 | 29.30 | 0.00 | 20.000 |  | 63% | 106% | 2.80  |
|      | Feb | 47.10 | 29.30 | 0.00 | 20.000 |  | 62% | 105% | 2.20  |
|      | Mar | 47.58 | 29.30 | 0.00 | 20.000 |  | 62% | 104% | 1.72  |
|      | Apr | 48.64 | 29.30 | 0.00 | 20.000 |  | 60% | 101% | 0.66  |
|      | May | 48.82 | 29.30 | 0.00 | 20.000 |  | 60% | 101% | 0.48  |
|      | Jun | 48.65 | 29.30 | 0.00 | 20.000 |  | 60% | 101% | 0.65  |
|      | Jul | 46.33 | 29.30 | 0.00 | 20.000 |  | 63% | 106% | 2.97  |
|      | Aug | 47.14 | 29.30 | 0.00 | 20.000 |  | 62% | 105% | 2.16  |
|      | Sep | 48.97 | 29.30 | 0.00 | 20.000 |  | 60% | 101% | 0.33  |
|      | Oct | 50.04 | 29.30 | 0.00 | 20.000 |  | 59% | 99%  | -0.74 |
|      | Nov | 51.02 | 29.30 | 0.00 | 20.000 |  | 57% | 97%  | -1.72 |
|      | Dec | 51.56 | 29.30 | 0.00 | 20.000 |  | 57% | 96%  | -2.26 |

The Peak Demand was forecasted using Regression Method. Monthly Peak Demand is at its lowest on the month of July due to rainy season. In general, Peak Demand is expected to grow at a rate of 5.8% annually. On the 2nd forecast year 2021, growth is expected to be 8.2% due to the coming in the 10 MVA Substation of Guban, Sirawai.

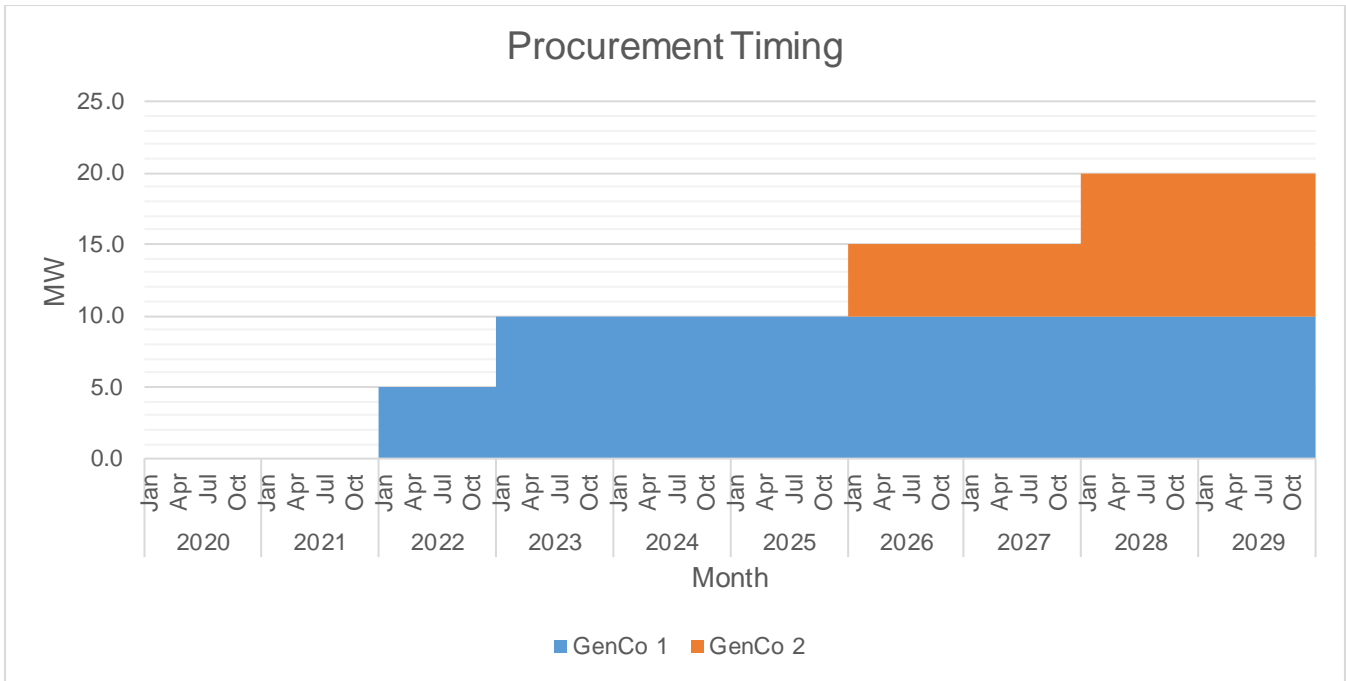
For **Barangays Served by another DU**, ZAMSURECO II has a standing agreement with ZANECO regarding Barangay Mamawan, Baligian, Zamboanaga del Norte since the area is closer to the existing facility of ZANECO and already not feasible if it will be connected to ZAMSURECO II. Though, there was no approved Sale for Resale agreement but the understanding between the two DUs in the objective of electrification prevailed.



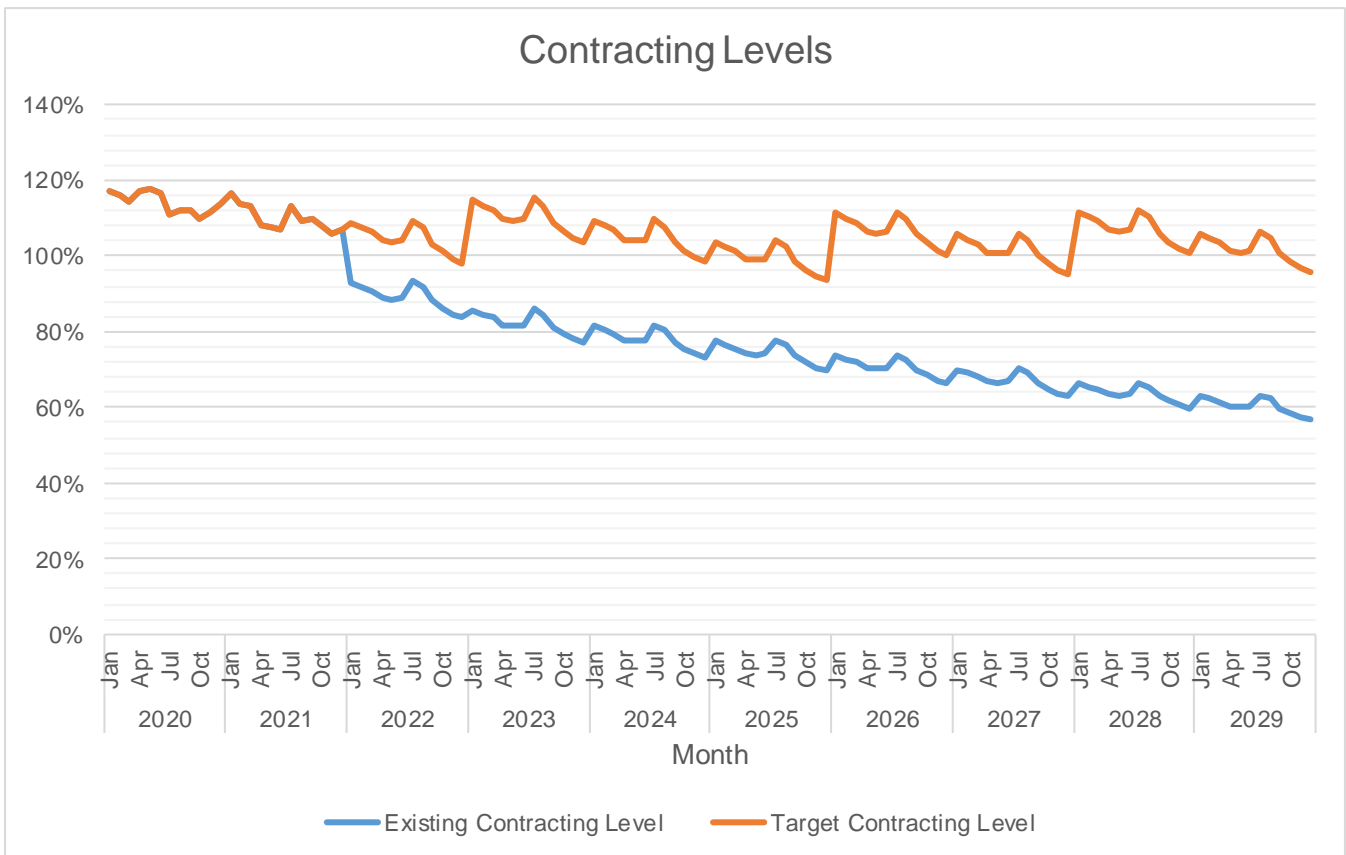
The available supply is generally below the Peak Demand. This is because of the PSALM CSEE was only until 2021 and the termination of KEGI PSA in 2020.



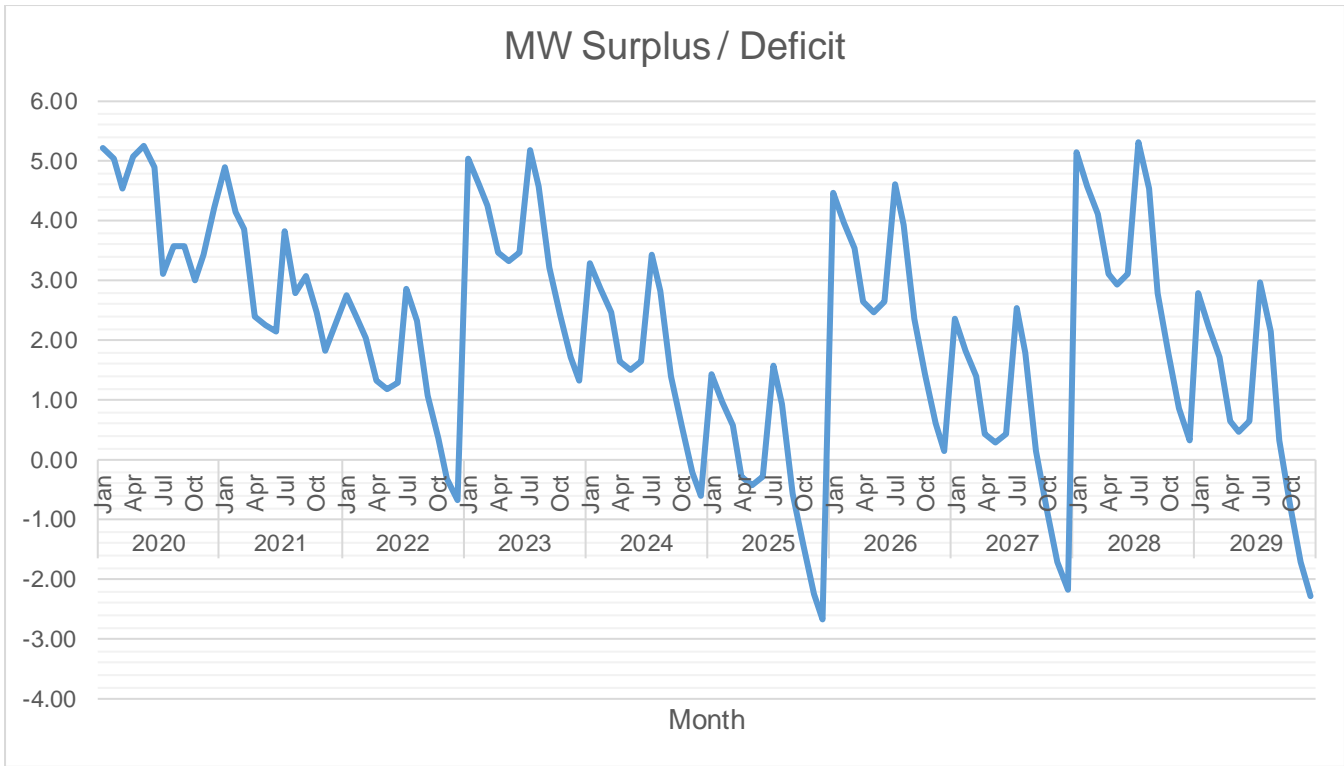
Of the available supply, the largest is 16.3 MW from GNP. This is followed by 10 MW from TSI.



The first wave of supply procurement will be for 5 MW planned to be available by the month of January 2021. This will be followed by 5 MW in 2022. Another 5MW power supply will be procured to cater the base load and it will be available by the month of January 2024. This will be followed by another 5MW by 2026 and 2029.



Currently, there is over-contracting by 13% in average. The highest target contracting level is 117% which is expected to occur on 2021. The lowest target contracting level is 99% which is expected to occur on 2028.



Currently, there is over-contracting by 13% in average. The highest target contracting level is 117% which is expected to occur on 2021. The lowest target contracting level is 99% which is expected to occur on 2028

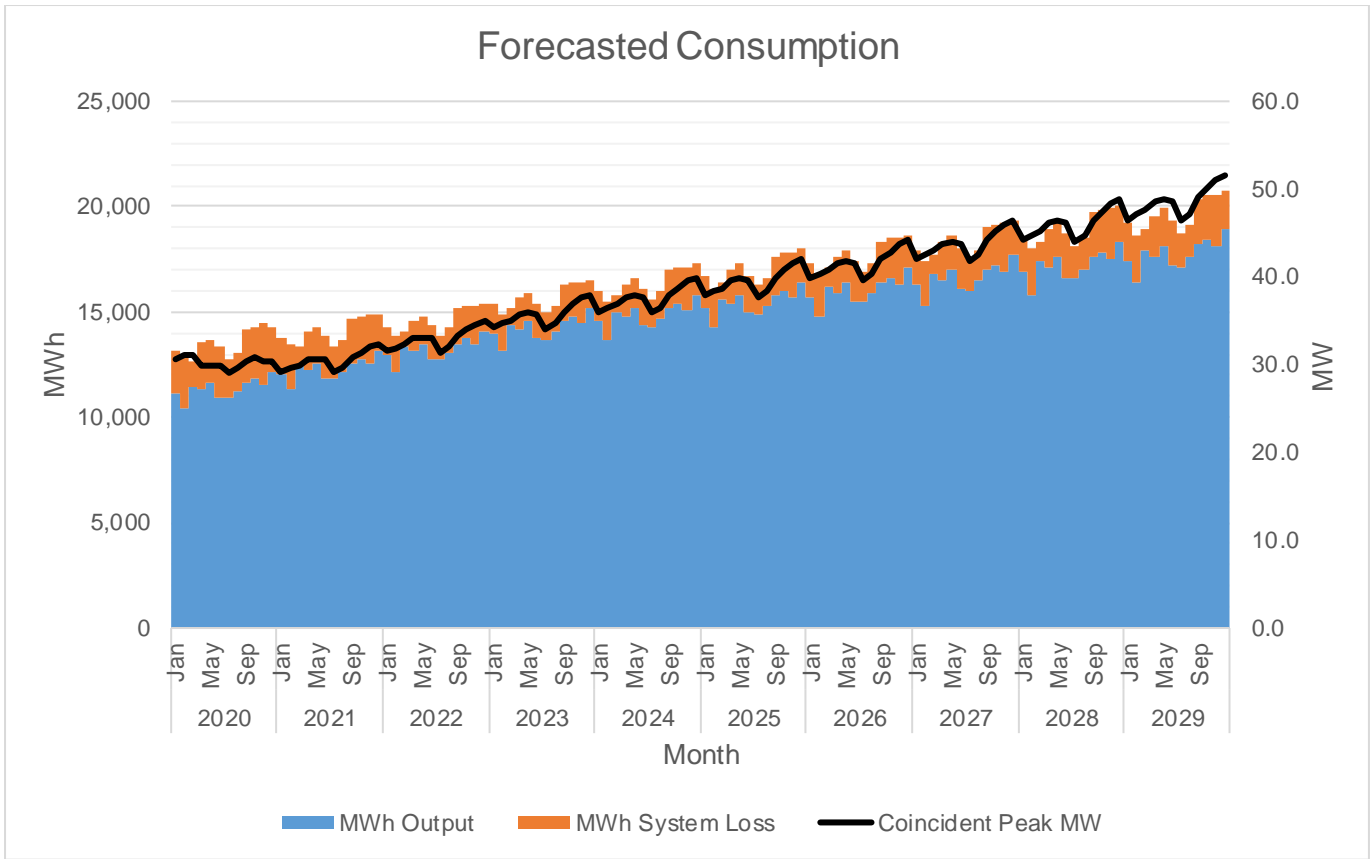
|      |     | MWh Offtake | MWh Output | MWh System Loss | Transm'n Loss | System Loss |
|------|-----|-------------|------------|-----------------|---------------|-------------|
| 2020 | Jan | 24,004      | 11,134     | 2,043           | 45.11%        | 15.50%      |
|      | Feb | 24,049      | 10,420     | 2,586           | 45.92%        | 19.88%      |
|      | Mar | 23,576      | 11,488     | 1,132           | 46.47%        | 8.97%       |
|      | Apr | 24,418      | 11,304     | 2,219           | 44.62%        | 16.41%      |
|      | May | 24,278      | 11,635     | 2,024           | 43.74%        | 14.82%      |
|      | Jun | 24,352      | 10,958     | 2,443           | 44.97%        | 18.23%      |
|      | Jul | 23,389      | 10,906     | 1,849           | 45.47%        | 14.49%      |
|      | Aug | 23,767      | 11,236     | 1,819           | 45.07%        | 13.93%      |
|      | Sep | 23,821      | 11,627     | 2,533           | 40.56%        | 17.89%      |
|      | Oct | 24,277      | 11,837     | 2,401           | 41.35%        | 16.87%      |
|      | Nov | 24,517      | 11,579     | 2,850           | 41.15%        | 19.75%      |
|      | Dec | 24,855      | 12,167     | 2,061           | 42.76%        | 14.49%      |
| 2021 | Jan | 24,186      | 12,047     | 1,692           | 43.20%        | 12.31%      |
|      | Feb | 24,193      | 11,292     | 2,142           | 44.47%        | 15.94%      |
|      | Mar | 23,800      | 12,421     | 938             | 43.87%        | 7.02%       |
|      | Apr | 24,601      | 12,226     | 1,838           | 42.83%        | 13.07%      |
|      | May | 24,475      | 12,576     | 1,676           | 41.77%        | 11.76%      |
|      | Jun | 24,512      | 11,865     | 2,023           | 43.34%        | 14.57%      |
|      | Jul | 23,944      | 11,812     | 1,531           | 44.28%        | 11.47%      |
|      | Aug | 24,322      | 12,158     | 1,506           | 43.82%        | 11.02%      |
|      | Sep | 24,379      | 12,571     | 2,097           | 39.83%        | 14.30%      |
|      | Oct | 24,856      | 12,787     | 1,988           | 40.56%        | 13.46%      |
| 2022 | Jan | 25,104      | 12,519     | 2,360           | 40.73%        | 15.86%      |
|      | Dec | 25,461      | 13,136     | 1,707           | 41.70%        | 11.50%      |
|      | Jan | 19,795      | 12,954     | 1,324           | 27.87%        | 9.27%       |

|      |     |        |        |       |        |        |
|------|-----|--------|--------|-------|--------|--------|
|      | Feb | 19,792 | 12,158 | 1,676 | 30.10% | 12.11% |
|      | Mar | 19,583 | 13,348 | 734   | 28.09% | 5.21%  |
|      | Apr | 20,031 | 13,141 | 1,438 | 27.22% | 9.86%  |
|      | May | 19,962 | 13,510 | 1,311 | 25.75% | 8.85%  |
|      | Jun | 19,976 | 12,768 | 1,583 | 28.16% | 11.03% |
|      | Jul | 19,660 | 12,713 | 1,198 | 29.24% | 8.61%  |
|      | Aug | 19,875 | 13,075 | 1,179 | 28.28% | 8.27%  |
|      | Sep | 19,908 | 13,509 | 1,641 | 23.90% | 10.83% |
|      | Oct | 20,181 | 13,732 | 1,556 | 24.25% | 10.18% |
|      | Nov | 20,324 | 13,455 | 1,847 | 24.71% | 12.07% |
|      | Dec | 20,529 | 14,099 | 1,335 | 24.82% | 8.65%  |
| 2023 | Jan | 20,434 | 13,954 | 1,389 | 24.92% | 9.05%  |
|      | Feb | 20,415 | 13,118 | 1,758 | 27.13% | 11.82% |
|      | Mar | 20,235 | 14,367 | 770   | 25.20% | 5.09%  |
|      | Apr | 20,673 | 14,148 | 1,508 | 24.27% | 9.63%  |
|      | May | 20,608 | 14,537 | 1,375 | 22.79% | 8.64%  |
|      | Jun | 20,608 | 13,762 | 1,661 | 25.16% | 10.77% |
|      | Jul | 20,301 | 13,706 | 1,256 | 26.30% | 8.40%  |
|      | Aug | 20,520 | 14,084 | 1,237 | 25.34% | 8.07%  |
|      | Sep | 20,556 | 14,539 | 1,721 | 20.90% | 10.59% |
|      | Oct | 20,841 | 14,768 | 1,632 | 21.31% | 9.95%  |
|      | Nov | 20,988 | 14,482 | 1,937 | 21.77% | 11.80% |
|      | Dec | 21,205 | 15,152 | 1,401 | 21.94% | 8.46%  |
| 2024 | Jan | 21,372 | 14,553 | 1,453 | 25.11% | 9.08%  |
|      | Feb | 21,335 | 13,677 | 1,839 | 27.28% | 11.85% |
|      | Mar | 21,187 | 14,984 | 805   | 25.48% | 5.10%  |
|      | Apr | 21,613 | 14,753 | 1,578 | 24.44% | 9.66%  |
|      | May | 21,554 | 15,161 | 1,439 | 22.98% | 8.67%  |
|      | Jun | 21,536 | 14,356 | 1,737 | 25.27% | 10.80% |
|      | Jul | 21,242 | 14,299 | 1,315 | 26.50% | 8.42%  |
|      | Aug | 21,464 | 14,692 | 1,294 | 25.53% | 8.09%  |
|      | Sep | 21,503 | 15,167 | 1,801 | 21.09% | 10.61% |
|      | Oct | 21,798 | 15,403 | 1,708 | 21.50% | 9.98%  |
|      | Nov | 21,950 | 15,109 | 2,027 | 21.93% | 11.83% |
|      | Dec | 22,178 | 15,804 | 1,466 | 22.13% | 8.49%  |
| 2025 | Jan | 21,767 | 15,144 | 1,516 | 23.46% | 9.10%  |
|      | Feb | 21,723 | 14,229 | 1,919 | 25.66% | 11.89% |
|      | Mar | 21,579 | 15,593 | 840   | 23.85% | 5.11%  |
|      | Apr | 22,017 | 15,350 | 1,647 | 22.80% | 9.69%  |
|      | May | 21,957 | 15,778 | 1,502 | 21.30% | 8.69%  |
|      | Jun | 21,934 | 14,942 | 1,813 | 23.61% | 10.82% |
|      | Jul | 21,632 | 14,884 | 1,372 | 24.85% | 8.44%  |
|      | Aug | 21,865 | 15,292 | 1,350 | 23.89% | 8.11%  |
|      | Sep | 21,906 | 15,788 | 1,880 | 19.35% | 10.64% |
|      | Oct | 22,215 | 16,030 | 1,782 | 19.82% | 10.01% |
|      | Nov | 22,374 | 15,728 | 2,115 | 20.25% | 11.85% |
|      | Dec | 22,614 | 16,447 | 1,530 | 20.51% | 8.51%  |
| 2026 | Jan | 24,710 | 15,728 | 1,579 | 29.96% | 9.12%  |
|      | Feb | 24,664 | 14,774 | 1,998 | 32.00% | 11.91% |
|      | Mar | 24,512 | 16,194 | 875   | 30.36% | 5.13%  |
|      | Apr | 24,972 | 15,939 | 1,715 | 29.31% | 9.71%  |

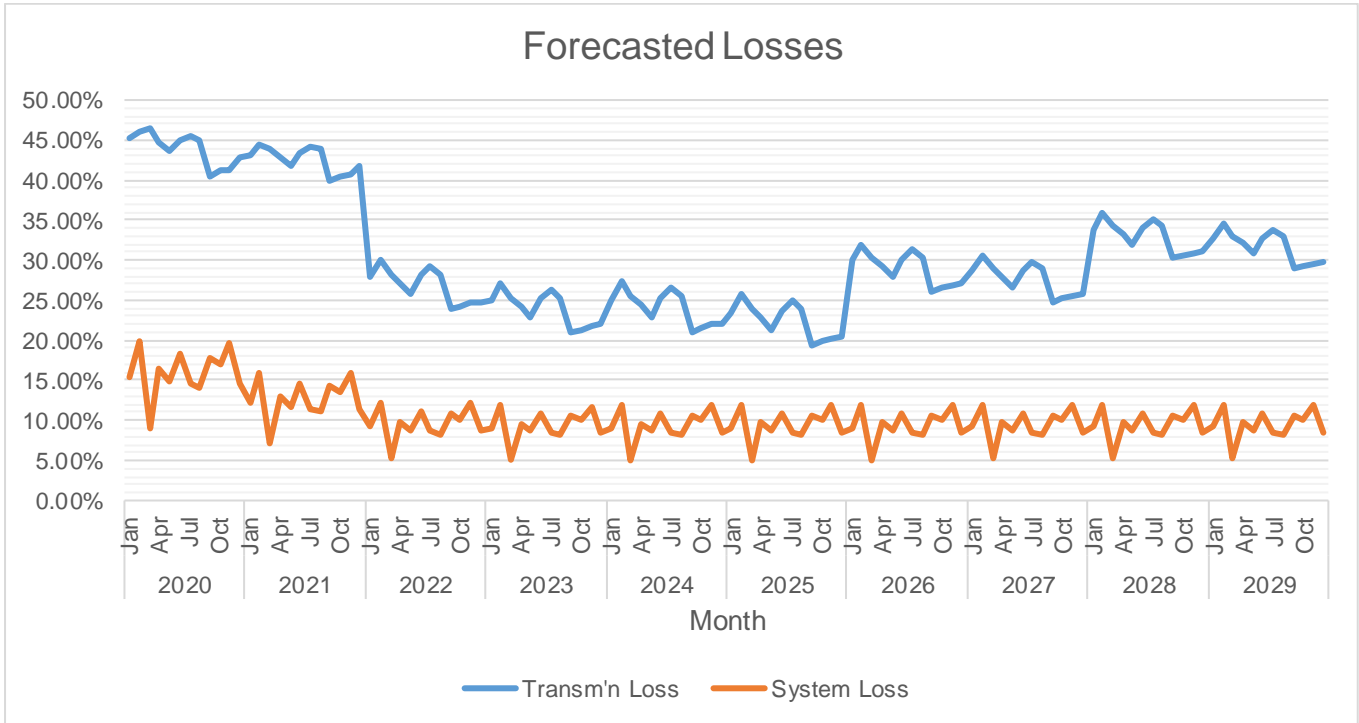
|      |     |        |        |       |        |        |
|------|-----|--------|--------|-------|--------|--------|
|      | May | 24,909 | 16,386 | 1,564 | 27.94% | 8.71%  |
|      | Jun | 24,884 | 15,521 | 1,888 | 30.04% | 10.84% |
|      | Jul | 24,567 | 15,461 | 1,428 | 31.25% | 8.46%  |
|      | Aug | 24,813 | 15,884 | 1,406 | 30.32% | 8.13%  |
|      | Sep | 24,857 | 16,401 | 1,957 | 26.15% | 10.66% |
|      | Oct | 25,181 | 16,649 | 1,856 | 26.51% | 10.03% |
|      | Nov | 25,347 | 16,339 | 2,202 | 26.85% | 11.88% |
|      | Dec | 25,599 | 17,081 | 1,593 | 27.05% | 8.53%  |
| 2027 | Jan | 25,137 | 16,305 | 1,640 | 28.61% | 9.14%  |
|      | Feb | 25,088 | 15,312 | 2,077 | 30.69% | 11.94% |
|      | Mar | 24,928 | 16,787 | 909   | 29.01% | 5.14%  |
|      | Apr | 25,411 | 16,520 | 1,782 | 27.98% | 9.74%  |
|      | May | 25,344 | 16,986 | 1,625 | 26.57% | 8.73%  |
|      | Jun | 25,317 | 16,092 | 1,962 | 28.69% | 10.87% |
|      | Jul | 24,985 | 16,030 | 1,484 | 29.90% | 8.47%  |
|      | Aug | 25,245 | 16,468 | 1,461 | 28.98% | 8.15%  |
|      | Sep | 25,292 | 17,005 | 2,034 | 24.73% | 10.68% |
|      | Oct | 25,629 | 17,259 | 1,928 | 25.14% | 10.05% |
|      | Nov | 25,803 | 16,942 | 2,288 | 25.47% | 11.90% |
|      | Dec | 26,067 | 17,706 | 1,655 | 25.72% | 8.55%  |
| 2028 | Jan | 28,104 | 16,873 | 1,701 | 33.91% | 9.16%  |
|      | Feb | 28,052 | 15,843 | 2,154 | 35.85% | 11.97% |
|      | Mar | 27,885 | 17,372 | 943   | 34.32% | 5.15%  |
|      | Apr | 28,391 | 17,092 | 1,848 | 33.29% | 9.76%  |
|      | May | 28,321 | 17,578 | 1,685 | 31.98% | 8.75%  |
|      | Jun | 28,291 | 16,655 | 2,035 | 33.94% | 10.89% |
|      | Jul | 27,944 | 16,592 | 1,539 | 35.11% | 8.49%  |
|      | Aug | 28,217 | 17,044 | 1,515 | 34.23% | 8.16%  |
|      | Sep | 28,268 | 17,602 | 2,109 | 30.27% | 10.70% |
|      | Oct | 28,620 | 17,861 | 2,000 | 30.60% | 10.07% |
|      | Nov | 28,801 | 17,538 | 2,373 | 30.87% | 11.92% |
|      | Dec | 29,079 | 18,323 | 1,716 | 31.09% | 8.57%  |
| 2029 | Jan | 28,520 | 17,435 | 1,761 | 32.69% | 9.17%  |
|      | Feb | 28,465 | 16,367 | 2,230 | 34.67% | 11.99% |
|      | Mar | 28,288 | 17,948 | 976   | 33.10% | 5.16%  |
|      | Apr | 28,817 | 17,657 | 1,913 | 32.09% | 9.78%  |
|      | May | 28,744 | 18,161 | 1,745 | 30.75% | 8.76%  |
|      | Jun | 28,712 | 17,211 | 2,106 | 32.72% | 10.90% |
|      | Jul | 28,349 | 17,147 | 1,594 | 33.90% | 8.50%  |
|      | Aug | 28,638 | 17,612 | 1,568 | 33.02% | 8.18%  |
|      | Sep | 28,691 | 18,190 | 2,183 | 28.99% | 10.72% |
|      | Oct | 29,056 | 18,456 | 2,070 | 29.36% | 10.09% |
|      | Nov | 29,244 | 18,126 | 2,457 | 29.62% | 11.94% |
|      | Dec | 29,533 | 18,931 | 1,777 | 29.88% | 8.58%  |

MWh Offtake was forecasted using Regression. The assumed load factor is 56%.





MWh Output was expected to grow at a rate of 3.9% annually.



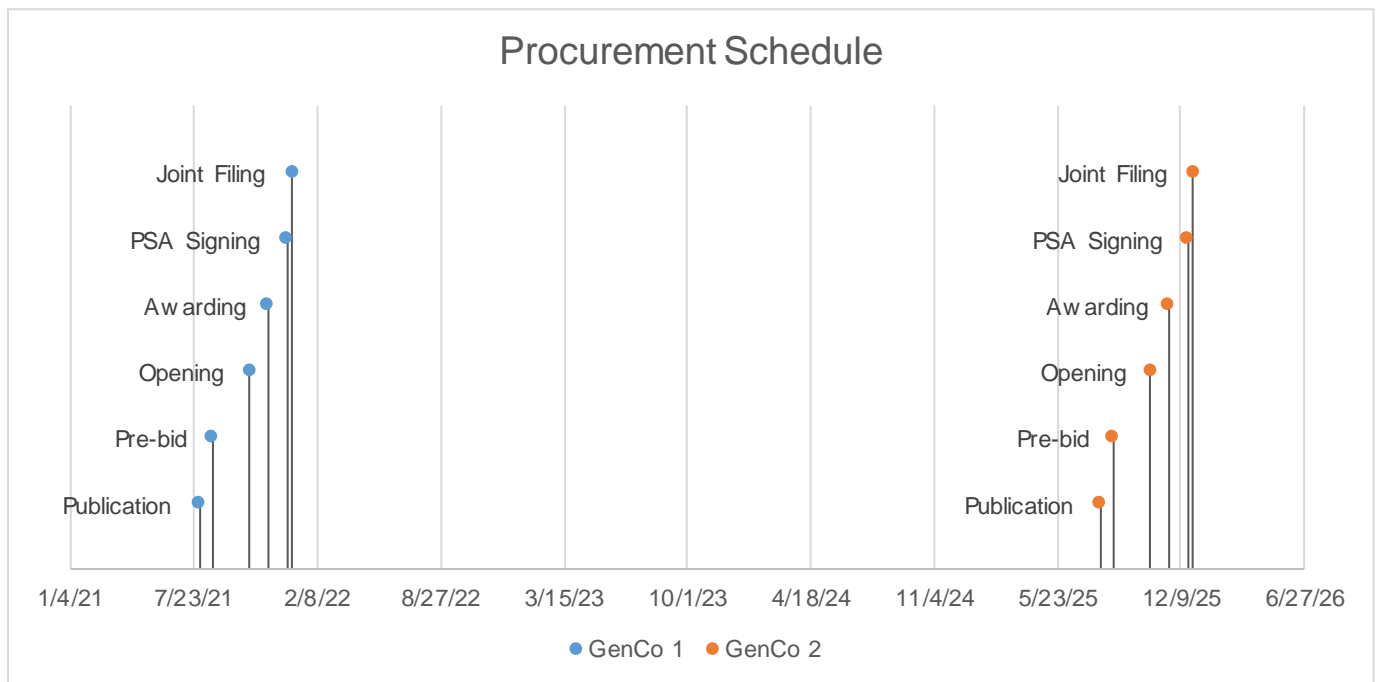
The Total System Loss is expected to range from 13% to 16%.

## Power Supply

| Case No.    | Type    | GenCo  | Minimum MW | Minimum MWh/yr | PSA Start  | PSA End    |
|-------------|---------|--|------------|----------------|------------|------------|
| 2018-054 RC | Base    | Power Sector Assets and Liabilities Management Corporation | 2.87       | 33,349         | 12/26/2018 | 12/25/2021 |
| 2013-165 RC | Base    | Therma South, Inc.   | 4.00       | 35,040         | 12/26/2015 | 12/25/2040 |
| 2015-172 RC | Peaking | King Energy Generation, Inc.                               | 2.00       | 3,600          | 6/26/2016  | 6/25/2020  |
| 2014-011 RC | Base    | GN Power Mariveles Coal Plant Ltd.                         | 1.00       | 8,760          | 7/26/2018  | 7/25/2043  |
| RESA        | Base    | Hedcor, Inc.   | 8.15       | 107,091        | 7/26/2018  | 7/25/2038  |

The PSA with GN Power Kauswagan filed with ERC under Case No. 2014-011 RC was procured through CSP. It was selected to provide for base requirements due to its type of technology. Historically, the utilization of the PSA is 100%. The actual billed overall monthly charge under the PSA ranged from 5 P/kWh to 6 P/KWh in the same period.

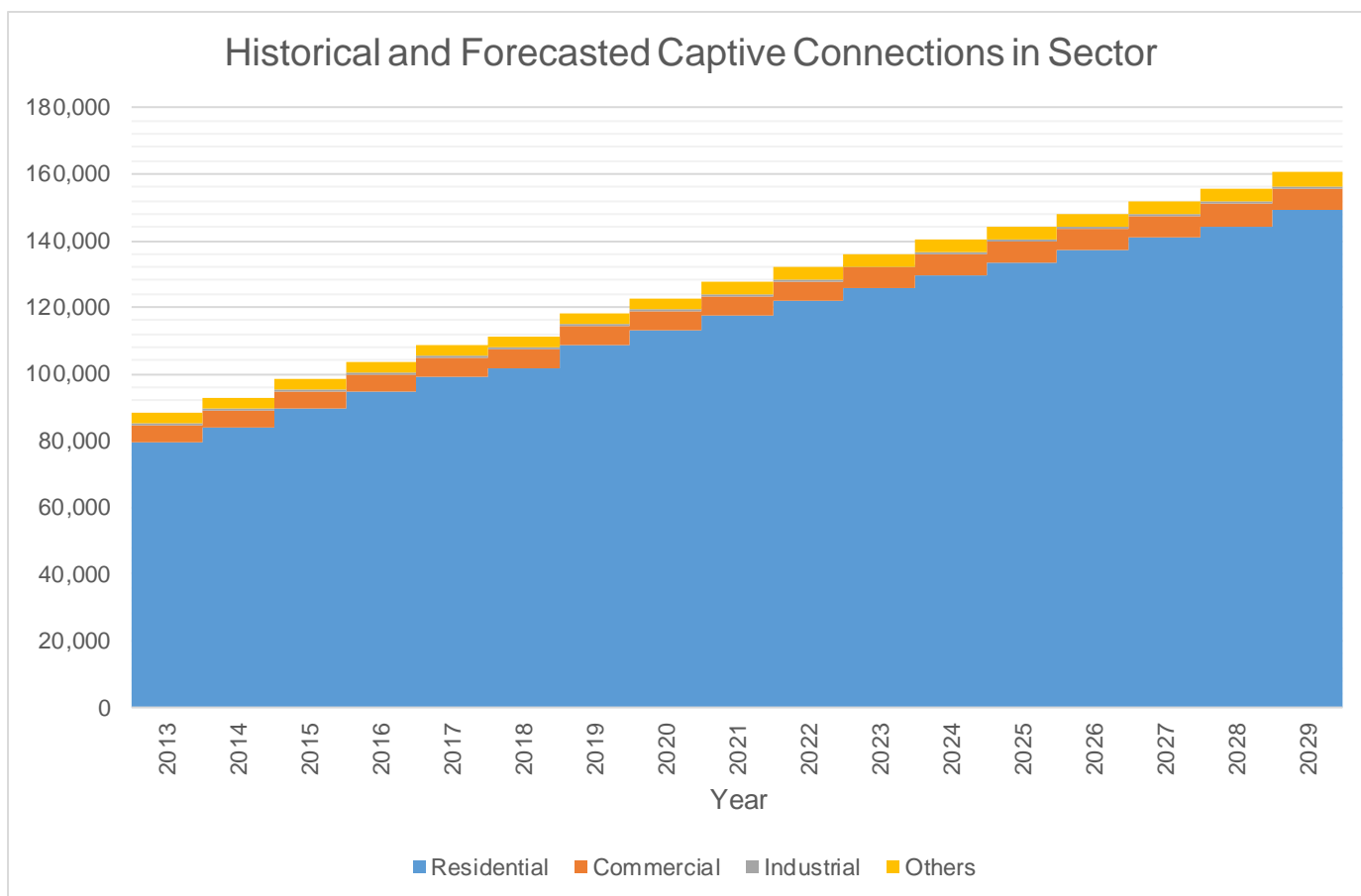
|                | GenCo 1      | GenCo 2    |
|----------------|--------------|------------|
| Type           | Intermediate | Base       |
| Minimum MW     | 5.00         | 5.00       |
| Minimum MWh/yr | 10,950       | 30,660     |
| PSA Start      | 1/1/2022     | 1/1/2026   |
| PSA End        | 12/31/2040   | 12/31/2046 |
| Publication    | 8/1/2021     | 8/1/2025   |
| Pre-bid        | 8/22/2021    | 8/22/2025  |
| Opening        | 10/21/2021   | 10/21/2025 |
| Awarding       | 11/20/2021   | 11/20/2025 |
| PSA Signing    | 12/20/2021   | 12/20/2025 |
| Joint Filing   | 12/29/2021   | 12/29/2025 |



For the procurement of 5 MW Intermediate/Peaking supply which is planned to be available on January 2022, the first publication or launch of CSP will be on August 2021. Joint filing is planned on December 2021, or 150 days later, in accordance with DOE's 2018 CSP Policy.

The base supply of another 5MW is planned for the PSA to be in effect on 2026 and corresponding CSP schedule will be followed.

# Captive Customer Connections



The number of residential connections is expected to grow at a rate of 3% annually. Said customer class is expected to account for 91.7% of the total consumers.

There are also households which are part of the franchise area of ZAMSURECO II Brgy. Mamawan, Baliguian, Zamboanga del Norte, but being served by our neighboring DU which is ZANECO because of its proximity to the existing facility, made it more feasible and viable to connect. The meter reading, billing and collection are being done by ZANECO.

There are no agreements approved by the ERC regarding this arrangement by ZAMSURECO II and ZANECO but for the purpose of electrifying the consumers, an internal agreement was made. Similarly, ZANECO also has an area part of its franchise that the reading, billing and collection was undertaken by ZAMSURECO which is the Brgy. Marcelo, Kalawit, Zamboanga del Norte.