Palawan Electric Cooperative

Power Supply Procurement Plan (2018 - 2027)

September 2018

POWER SUPPLY PROCUREMENT PLAN

In compliance with the Department of Energy's (DOE) Department Circular No. DC 2018-02-0003, "Adopting and Prescribing the Policy for the Competitive Selection Process in the Procurement by the Distribution Utilities of Power Supply Agreement for the Captive Market" or the Competitive Selection process (CSP) Policy, the Power Supply Procurement Plan (PSPP) Report is hereby created, pursuant to the Section 4 of the said Circular.

The PSPP refers to the DUs' plan for the acquisition of a variety of demand-side and supply-side resources to cost-effectively meet the electricity needs of its customers. The PSPP is an integral part of the Distribution Utilities' Distribution Development Plan (DDP) and must be submitted to the Department of Energy with supported Board Resolution and/or notarized Secretary's Certificate.

The Third-Party Bids and Awards Committee (TPBAC), Joint TPBAC or Third Party Auctioneer (TPA) shall submit to the DOE and in the case of Electric Cooperatives (ECs), through the National Electrification Administration (NEA) the following:

a. Power Supply Procurement Plan;
b. Distribution Impact Study/ Load Flow Analysis conducted that served as the basis of the Terms of Reference; and
c. Due diligence report of the existing generation plant

All Distribution Utilities' shall follow and submit the attached report to the Department of Energy for posting on the DOE CSP Portal. For ECs such reports shall be submitted to DOE and NEA. The NEA shall review the submitted report within ten (10) working days upon receipt prior to its submission to DOE for posting at the DOE CSP Portal.

The content of the PSSP shall be consistent with the DDP. The tables and graph format to be use on the PSPP report is provided on the following sheets. Further, the PSPP shall contain the following sections:

I. Table of Contents
II. Introduction
III. Energy and Demand Forecast (10 year historical and forecast)
IV. Energy Sales and Purchase
V. Daily Load Profile and Load Duration Curve
VI. Existing Contracts & Existing GenCos due diligence report
VII. Currently approved SAGR for Off-Grid ECs to be passed-on to consumers;
VIII. DU's Current Supply and Demand
IX. Distribution Impact Study
X. Schedule of Power Supply Procurement
XI. Timeline of the CSP

For inquiries, you may send it at doe.csp@gmail.com or you may contact us through telephone numbers (02) 840-2173 and (02) 479-2900 local 202.

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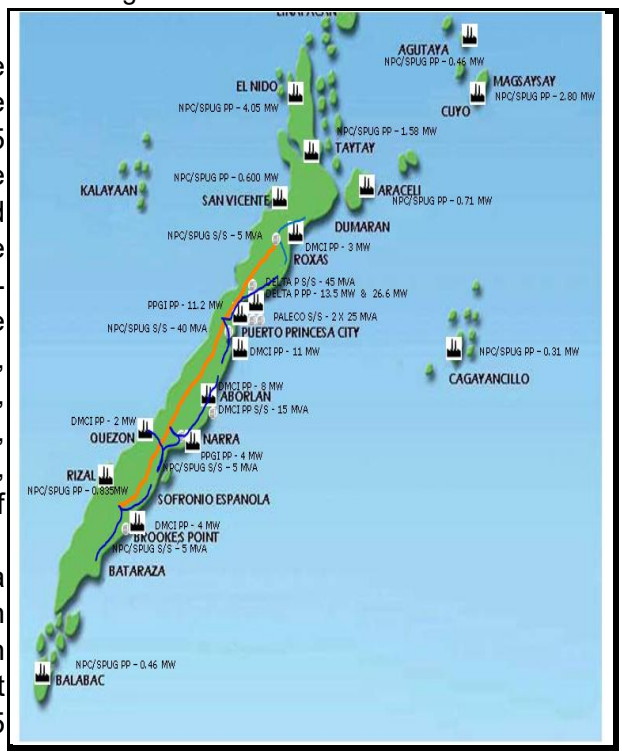
INTRODUCTION

PALECO PROFILE

Franchise Area

Figure 1: PALECO's Franchise MAP



The Palawan Electric Cooperative(PALECO) is a non-stock, non-profit electric cooperative organized and existing under and by virtue of the provisions of P.D. 269 as amended by P.D. 1645 on January 25, 1974; it was registered with the National Electrification Administration (NEA) and was granted a fifty-year (50) franchise to operate and supply electric power services to its member-consumers in its area coverage, namely the City/Municipalities of Puerto Princesa City, Narra, Aborlan, Quezon, Brooke's Point, Balabac, Rizal, Roxas, Taytay, El Nido, Araceli, Dumaran, Cuyo, Magsaysay, Bataraza, San Vicente, Cagayancillo, Agutaya and Espanola, all in the Province of Palawan.

PALECO has 370 barangays in its franchise area of which 81 were temporarily waived as connection to the existing distribution lines is unviable. In 2017, PALECO has electrified ninety-two percent (92%) of its potential barangays or a total of 265 barangays or a total of 265 out of 289 barangays and fifty nine percent (59%) of its potential consumers have electricity service connections. Table 2 shows the 2017 Status of Electrification per municipality.

Table 1 - 2017 STATUS OF ELECTRIFICATION

CITY/MUNICIPALITIES COVERED		DATE ENERGIZED	BARANGAYS			HOUSE CONNECTION			MEMBERSHIP	
			Potential	Actual	%	Potential	Actual	%	Actual	%
1	Puerto Princesa City	Jan. 11, 1975	65	62	95%	91,527	66,076	72%	55,203	60%
2	Aborlan	Dec. 23, 1978	17	17	100%	10,216	6,720	66%	6,868	67%
3	Narra	Mar. 17, 1980	23	23	100%	18,360	14,105	77%	12,849	70%
4	Brooke's Point	Feb. 11, 1982	18	18	100%	16,508	9,988	61%	9,403	57%
5	Sofronio Espanola	Jul. 29, 1983	9	8	89%	7,062	4,049	57%	3,960	56%
6	Bataraza	Aug. 16, 1996	9	7	78%	6,320	2,225	35%	2,132	34%
7	Balabac	Feb. 06, 1997	12	10	83%	1,638	699	43%	778	47%
8	Cuyo	Mar. 13, 1984	15	15	100%	5,807	4,367	75%	4,283	74%
9	Magsaysay	Aug. 28, 1984	11	11	100%	2,991	2,228	74%	2,328	78%
10	Agutaya	June 05, 1998	9	9	100%	3,150	374	12%	634	20%
11	Quezon	Jul. 29, 1988	10	8	80%	10,034	6,235	62%	5,995	60%
12	Rizal	Sept. 18, 1996	7	6	86%	8,380	1,422	17%	1,482	18%
13	Roxas	Feb. 06, 1992	24	24	100%	14,136	6,142	43%	5,976	42%
14	Araceli	Oct. 01,2001	13	4	31%	2,256	606	27%	662	29%
15	Dumaran	Jul. 18, 1993	7	3	43%	1,428	246	17%	59	4%
16	Cagayancillo	Aug. 18, 1997	12	12	100%	760	726	96%	194	26%
17	Taytay	May 22, 1992	10	10	100%	9,316	3,402	37%	3,210	34%
18	San Vicente	Jul. 22, 1995	8	8	100%	13,560	2,023	15%	2,003	15%
19	El Nido	Jun. 03, 1993	10	10	100%	5,050	3,330	66%	3,146	62%
	TOTAL		***289***	***265***	**92%**	***228,499***	***134,963***	**59%**	***121,165***	**53%**

Distribution Networks

PALECO distributes electricity through thirteen (13) different distribution systems to its franchise area in Palawan .

The so-called Palawan Grid is composed of four (4) separate distribution networks which is interconnected by the 69kV transmission line of National Power Corporation-Small Power Utilities Group (NPC-SPUG) from Puerto Princesa City to municipalities of Brookes Point and Roxas in southern and northern Palawan respectively.

Four (4) Palawan Grid Distribution Network:
1. Puerto Princesa City - covers the poblacion, northern barangays and souther barangays up to Bgy. Luzviminda of the city
2. Narra - covers the municipalities of Aborlan, Narra, Quezon, Barangays Aboabo, Isumbo and Panitian of Municipality of Sofronio Espanola and Barangays Inagawan and Kamuning of Puerto Princesa City,
3. Brooke's Point - covers municipalities of Brooke's Point, Bataraza and Barangays Pulot, Iraray, Punang and Labog of the Municipality of Sofronio Espanola, and:
4. Roxas - covers the municipality of Roxas

The energy requirement of the grid is supplied by New Power Providers (NPPs) and the rest of the municipalities including those in the islands shown in Figure 1, has its own individual distribution system and its energy requirement is being supplied by NPC-SPUG stand alone

Customer Count

Table 2 - CUSTOMER FORECAST

Number of Customer Connections in	ACTUAL	FORECAST									
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Residential	95,308	102,991	110,820	119,332	128,527	138,404	148,964	160,206	172,131	184,738	198,028
Commercial	8,523	9,037	9,545	10,109	10,729	11,406	12,141	12,933	13,783	14,691	15,657
Industrial	153	165	178	191	205	219	234	248	263	277	291
Others	2,679	3,265	3,526	3,787	4,047	4,304	4,559	4,810	5,057	5,301	5,542
Total (Captive Customers)	106,663	115,458	124,069	133,419	143,508	154,333	165,898	178,197	191,234	205,007	219,518

The expected average annual growth rate or increase in the number of customer is 7.5% for the next ten years. This is based on the trend of increase for the past 5 years which has an average annual growth rate of 6%. The Sitio Electrification and Barangay Line Enhancement Program is the major factor in the increase of the number of customers.

The 2017 customer profile in Figure 2 shows that PALECO's market base is mostly residential at 89% of the total customer population, followed by commercial customers at 8%.

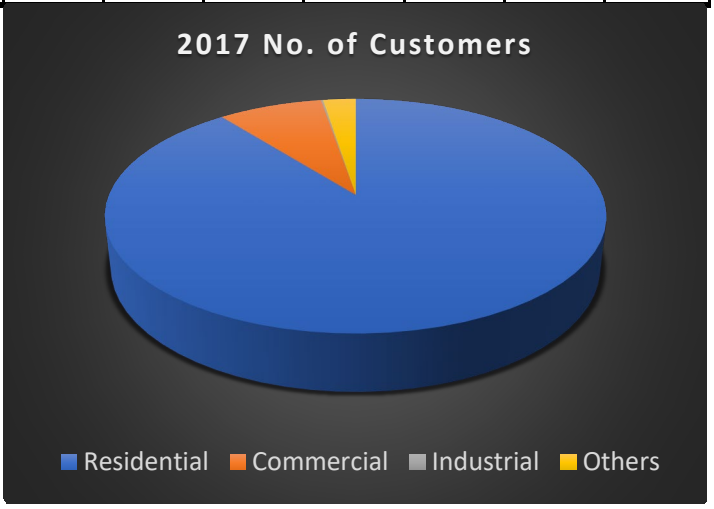


Figure 2 - 2017 Customer Profile

Operations and Performance

FINANCIAL (Statement of Operation for 2017)

REVENUES		
Sale of energy:		
Residential	P	950,659,439
Commercial & Industrial		849,498,205
Public buildings & facilities		215,191,468
Public streets & highways		27,533,237
		2,042,882,349
COST OF SERVICES		
Generation & transmission		**1,754,996,495**
Distribution		**201,869,822**
		1,956,866,317
GROSS INCOME		**86,016,032**
OTHER INCOME		**57,318,538**
		143,334,570
GENERAL & ADMINSTRATIVE EXPE		**135,577,488**
		7,757,082
FINANCING COSTS		**2,881,125**
NET SURPLUS FOR ALLOCATION BEFORE OTHER ADJUSTMENT		**4,875,957**
Correction of prior period errors		**3,133,908**
NET SURPLUS FOR ALLOCATION		**8,009,865**

TECHNICAL

2017	ALL OTHERS			SCHEDULED			POWER SUPPLIER			MAJOR STORM		
	SAIFI	SAIDI	MAIFI	SAIFI	SAIDI	MAIFI	SAIFI	SAIDI	MAIFI	SAIFI	SAIDI	MAIFI
PUERTO	12.16	774.97	0.21	13.03	2,170.52	0.18	34.35	2,127.19	3.95	0.23	22.30	-
NARRA - ABORLAN - QUEZON	18.99	1,380.39	0.09	7.76	379.96	1.98	14.99	1,311.99	2.34	0.67	160.04	0.07
BROOKE'S POINT - BATARAZA - S. ESPAÑOLA	9.48	929.24	-	3.93	381.78	0.03	6.97	1,111.91	-	0.50	154.63	0.04
ROXAS	1.29	95.93	-	1.36	74.50	0.03	4.81	338.15	-	-	-	-
Total	41.92	3,180.53	0.2938	26.09	3,006.76	2.2255	61.12	4,889.23	6.2896	1.40	336.97	0.10

ALL AREAS JAN-MAY 2017												
2017	ALL OTHERS			SCHEDULED			POWER SUPPLIER			MAJOR STORM		
	SAIFI	SAIDI	MAIFI	SAIFI	SAIDI	MAIFI	SAIFI	SAIDI	MAIFI	SAIFI	SAIDI	MAIFI
RIZAL	0.02	1.46	-	-	-	-	0.01	4.51	-	-	-	-
SAN VICENTE	0.50	30.80	-	-	-	-	0.28	14.91	-	-	-	-
TAYTAY	0.16	7.29	-	-	-	-	0.35	14.67	-	-	-	-
EL NIDO	0.23	10.43	-	-	-	-	0.17	4.76	-	-	-	-
BALABAC	-	-	-	-	-	-	-	-	-	-	-	-
ARACELI	0.03	0.97	-	-	-	-	-	-	-	-	-	-
CUYO-MAGSAYSAY	0.23	13.80	-	0.10	9.23	-	0.39	20.69	-	-	-	-
AGUTAYA	0.04	7.86	-	-	-	-	-	-	-	-	-	-
CAGAYANCILLO	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	1.21	72.62	-	0.10	9.23	-	1.21	59.55	-	-	-	-

TPBAC Information

PALECO opted to have a Third-Party Bids and Awards Committee (TPBAC). The following are the qualifications and procedure in selecting the two consumer representatives.

Qualifications:

1. The nominee must be a member-consumer-owner (MCO) of PALECO.
2. The nominee must have completely subscribed to PALECO capital share amounting to P1,200.00.
3. The nominee must be of good standing in paying his/her electric bill.
4. The applicant must be affiliated to any of the following groups:
    a. IIEE – Palawan Chapter
    b. PICPA – Palawan Chapter
    c. IBP – Palawan Chapter
    d. Civil Society Group
    e. Religious Groups
    f. Academe
5. The nominee must be cleared by NBI.
6. The nominee must be any of the following:
    a. lawyer
    b. finance officer or accountant that has knowledge on electricity pricing
    c. technical person or a person with knowledge and/or experience with any local or international competitive bidding procedures

Procedure:

1. PALECO shall announce the selection process for the Third Party BAC for 15 days starting the date of its publication. The use of PALECO official website and Facebook Fanpage, weekly radio program, radio and tv interviews, and bulletin boards in its Principal, Satellite and Extension Offices shall be utilized for the announcement.
2. The applicant must submit the following documents:
    a. Resume;
    b. Detailed description of relevant trainings and projects;
    c. Sworn statement/affidavit that the applicant is not employed by or financially interested in a competing enterprise or a business selling electric energy or electrical hardware to PALECO or doing business with
        PALECO, including the use or rental of poles;
    d. Certificate of Good Standing from PALECO;
    e. Certificate of Membership with the amount of subscribed capital share; and
    f. NBI clearance.
3. The PALECO Board of Directors shall use a scoresheet (Annex A) in the screening of the applicants based on the qualifications stated above.
4. Two consumer representatives must be selected from any of the profession/expertise stated in item 6 of the Qualifications.
5. The PALECO Board of Directors thru board resolution shall designate the two MCOs as consumer representatives.

The Technical Working Group (TWG) and Secretariat shall be selected from the employees of PALECO.

ENERGY AND DEMAND FORECAST

Table 3 - HISTORICAL DEMAND

Demand (kW)	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
January	21,123.00	24,034.00	27,676.00	35,413.00	35,270.00	35,689.00	35,564.00	38,736.00	42,774.00	44,453.00
February	21,298.00	25,822.00	28,038.00	34,449.00	32,669.00	37,172.00	35,313.00	37,533.00	42,014.00	45,812.00
March	23,011.00	26,395.00	30,772.00	34,597.00	34,931.00	40,385.00	37,600.00	39,429.00	45,009.00	49,242.00
April	23,592.00	29,441.00	31,143.00	34,923.00	34,237.00	37,743.00	41,396.00	40,901.00	48,254.00	51,188.00
May	23,287.00	26,246.00	32,265.00	37,125.00	35,348.00	39,099.00	42,767.00	42,873.00	50,121.00	53,242.00
June	24,057.00	27,683.00	32,261.00	35,347.00	35,226.00	37,122.00	40,833.00	41,834.00	47,979.00	52,709.00
July	22,628.00	26,588.00	31,215.00	34,280.00	33,055.00	34,821.00	37,020.00	40,368.00	45,910.00	48,937.00
August	23,157.00	27,339.00	27,987.00	35,886.00	34,283.00	35,104.00	38,575.00	41,021.00	45,786.00	50,476.00
September	24,535.00	27,492.00	27,987.00	37,373.00	33,808.00	36,532.00	38,782.00	41,266.00	46,545.00	53,646.00
October	24,774.00	26,530.00	29,120.00	38,219.00	36,126.00	36,510.00	39,984.00	41,723.00	45,027.00	52,568.00
November	25,597.00	26,100.00	29,432.00	38,677.00	35,875.00	37,896.00	39,757.00	43,296.00	46,374.00	53,957.00
December	25,433.00	27,240.00	29,525.00	39,249.00	37,683.00	37,620.00	39,999.00	42,791.00	45,953.00	52,548.00
TOTAL	**25,597.00**	**29,441.00**	**32,265.00**	**39,249.00**	**37,683.00**	**40,385.00**	**42,767.00**	**43,296.00**	**50,121.00**	**53,957.00**

Table 3 shows the historical monthly demand for the entire franchise area of PALECO.

Considering that PALECO has nine (9) stand alone systems in addition to the so-called Palawan Grid, historical monthly data for each system are presented in Tables 4 to 13.

Historical Per System

Table 4 - HISTORICAL DEMAND - PALAWAN GRID

Demand (kW)	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
January	19,124.00	21,525.00	24,738.00	32,097.00	31,465.00	32,238.00	31,664.00	34,218.00	37,487.00	38,340.00
February	19,365.00	23,335.00	25,100.00	31,083.00	28,965.00	33,420.00	31,256.00	33,135.00	36,887.00	40,040.00
March	20,750.00	23,776.00	27,788.00	31,363.00	31,175.00	36,280.00	33,388.00	34,874.00	39,519.00	43,210.00
April	21,280.00	26,685.00	27,986.00	31,590.00	30,400.00	34,038.00	36,829.00	35,987.00	42,436.00	44,300.00
May	21,040.00	23,618.00	28,946.00	33,620.00	31,465.00	34,820.00	37,967.00	37,826.00	44,065.00	46,500.00
June	21,760.00	24,966.00	29,068.00	31,988.00	31,606.00	33,060.00	36,251.00	36,777.00	42,367.00	46,600.00
July	20,308.00	23,861.00	28,040.00	30,830.00	29,430.00	30,900.00	32,840.00	35,609.00	39,964.00	43,000.00
August	20,732.00	24,600.00	24,860.00	32,510.00	30,970.00	31,258.00	34,143.00	36,235.00	40,321.00	44,300.00
September	22,225.00	24,730.00	24,860.00	33,935.00	30,106.00	32,621.00	34,433.00	36,400.00	41,100.00	47,150.00
October	22,560.00	23,740.00	25,946.00	34,750.00	32,440.00	32,613.00	35,311.00	36,927.00	39,558.00	46,050.00
November	23,255.00	23,310.00	26,315.00	34,883.00	32,110.00	33,652.00	35,228.00	38,246.00	40,749.00	47,300.00
December	23,045.00	24,408.00	26,401.00	35,550.00	34,010.00	33,257.00	35,480.00	37,730.00	39,960.00	45,560.00
TOTAL	**23,255.00**	**26,685.00**	**29,068.00**	**35,550.00**	**34,010.00**	**36,280.00**	**37,967.00**	**38,246.00**	**44,065.00**	**47,300.00**

Table 5 - HISTORICAL DEMAND - EL NIDO

Demand (kW)	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
January	320.00	320.00	537.00	660.00	874.00	964.00	1,239.00	1,537.00	1,938.00	2,637.00
February	335.00	330.00	580.00	694.00	873.00	935.00	1,232.00	1,528.00	1,896.00	2,406.00
March	342.00	348.00	563.00	687.00	920.00	1,132.00	1,309.00	1,507.00	2,039.00	2,411.00
April	343.00	475.00	587.00	720.00	940.00	1,160.00	1,427.00	1,675.00	2,182.00	3,034.00
May	339.00	422.00	602.00	785.00	962.00	1,226.00	1,516.00	1,846.00	2,313.00	2,915.00
June	342.00	422.00	595.00	691.00	879.00	1,065.00	1,393.00	1,759.00	2,018.00	2,425.00
July	350.00	400.00	580.00	734.00	891.00	942.00	1,168.00	1,570.00	2,385.00	2,413.00
August	353.00	420.00	535.00	718.00	863.00	966.00	1,274.00	1,528.00	1,993.00	2,465.00
September	332.00	420.00	535.00	718.00	863.00	892.00	1,114.00	1,516.00	1,857.00	2,743.00
October	344.00	424.00	578.00	728.00	863.00	1,042.00	1,086.00	1,484.00	2,033.00	2,681.00
November	340.00	424.00	560.00	850.00	907.00	1,075.00	1,384.00	1,761.00	2,279.00	2,992.00
December	343.00	420.00	569.00	840.00	917.00	1,194.00	1,402.00	1,736.00	2,403.00	3,113.00
TOTAL	**353.00**	**475.00**	**602.00**	**850.00**	**962.00**	**1,226.00**	**1,516.00**	**1,846.00**	**2,403.00**	**3,113.00**

Table 6 - HISTORICAL DEMAND - TAYTAY

Demand (kW)	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
January	295.00	285.00	385.00	460.00	581.00	585.00	660.00	678.00	799.00	877.00
February	295.00	285.00	380.00	460.00	602.00	607.00	650.00	656.00	785.00	862.00
March	330.00	310.00	385.00	510.00	576.00	608.00	656.00	696.00	862.00	934.00
April	355.00	300.00	430.00	520.00	573.00	660.00	738.00	756.00	934.00	1,019.00
May	300.00	305.00	505.00	575.00	630.00	665.00	795.00	783.00	945.00	1,050.00
June	290.00	375.00	440.00	505.00	495.00	670.00	750.00	764.00	864.00	1,000.00
July	295.00	390.00	460.00	525.00	500.00	647.00	720.00	771.00	873.00	930.00
August	300.00	375.00	465.00	531.00	475.00	632.00	745.00	780.00	884.00	1,000.00
September	305.00	375.00	465.00	530.00	565.00	659.00	763.00	801.00	927.00	963.00
October	205.00	375.00	470.00	535.00	581.00	660.00	1,140.00	790.00	847.00	989.00
November	310.00	375.00	460.00	570.00	600.00	660.00	688.00	765.00	879.00	955.00
December	305.00	400.00	440.00	578.00	595.00	660.00	685.00	772.00	890.00	1,055.00
TOTAL	**355.00**	**400.00**	**505.00**	**578.00**	**630.00**	**670.00**	**1,140.00**	**801.00**	**945.00**	**1,055.00**

Table 7 - HISTORICAL DEMAND - SAN VICENTE

Demand (kW)	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
January	340.00	400.00	425.00	390.00	500.00	560.00	470.00	490.00	610.00	625.00
February	325.00	420.00	400.00	420.00	400.00	460.00	440.00	455.00	539.00	620.00
March	340.00	430.00	430.00	440.00	465.00	500.00	465.00	480.00	566.00	688.00
April	310.00	450.00	455.00	445.00	480.00	-	505.00	530.00	602.00	701.00
May	350.00	400.00	500.00	455.00	470.00	515.00	510.00	520.00	655.00	629.00
June	340.00	400.00	450.00	450.00	455.00	500.00	520.00	555.00	613.00	624.00
July	340.00	390.00	450.00	460.00	455.00	460.00	480.00	515.00	581.00	590.00
August	320.00	410.00	455.00	440.00	465.00	465.00	490.00	530.00	577.00	640.00
September	320.00	400.00	455.00	465.00	465.00	485.00	510.00	530.00	632.00	648.00
October	330.00	420.00	455.00	450.00	460.00	430.00	505.00	540.00	585.00	698.00
November	345.00	420.00	445.00	470.00	490.00	565.00	510.00	550.00	575.00	668.00
December	360.00	420.00	447.00	490.00	490.00	565.00	500.00	535.00	690.00	838.00
TOTAL	**360.00**	**450.00**	**500.00**	**490.00**	**500.00**	**565.00**	**520.00**	**555.00**	**690.00**	**838.00**

Table 8 - HISTORICAL DEMAND - BALABAC

Demand (kW)	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
January	107.00	110.00	105.00	115.00	139.00	145.00	130.00	143.00	167.00	140.00
February	120.00	109.00	115.00	122.00	133.00	142.00	140.00	139.00	160.00	137.00
March	115.00	110.00	127.00	126.00	140.00	160.00	144.00	148.00	162.00	147.00
April	114.00	110.00	124.00	127.00	145.00	145.00	138.00	138.00	165.00	140.00
May	110.00	102.00	129.00	126.00	130.00	150.00	145.00	140.00	164.00	135.00
June	110.00	105.00	130.00	135.00	130.00	145.00	147.00	149.00	166.00	140.00
July	115.00	110.00	125.00	135.00	132.00	145.00	141.00	150.00	176.00	139.00
August	108.00	115.00	124.00	134.00	140.00	150.00	145.00	150.00	167.00	138.00
September	105.00	115.00	124.00	128.00	138.00	145.00	150.00	159.00	159.00	140.00
October	112.00	119.00	128.00	143.00	135.00	150.00	150.00	155.00	149.00	153.00
November	115.00	119.00	125.00	138.00	142.00	154.00	150.00	167.00	146.00	141.00
December	120.00	125.00	123.00	146.00	150.00	154.00	150.00	166.00	146.00	141.00
TOTAL	**120.00**	**125.00**	**130.00**	**146.00**	**150.00**	**160.00**	**150.00**	**167.00**	**176.00**	**153.00**

Table 9 - HISTORICAL DEMAND - ARACELI

Demand (kW)	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
January	125.00	120.00	125.00	137.00	139.00	127.00	140.00	138.00	144.00	140.00
February	122.00	120.00	125.00	136.00	131.00	130.00	145.00	142.00	155.00	140.00
March	120.00	126.00	136.00	130.00	132.00	130.00	145.00	145.00	165.00	150.00
April	118.00	121.00	140.00	128.00	130.00	136.00	148.00	145.00	160.00	157.00
May	108.00	118.00	140.00	125.00	130.00	145.00	148.00	145.00	170.00	171.00
June	108.00	120.00	145.00	124.00	134.00	140.00	155.00	155.00	166.00	168.00
July	105.00	126.00	140.00	130.00	128.00	140.00	135.00	155.00	157.00	165.00
August	124.00	120.00	136.00	129.00	128.00	134.00	148.00	150.00	157.00	172.00
September	110.00	122.00	136.00	132.00	130.00	148.00	150.00	140.00	161.00	178.00
October	118.00	122.00	135.00	138.00	132.00	140.00	145.00	155.00	151.00	173.00
November	122.00	122.00	130.00	132.00	135.00	145.00	149.00	152.00	164.00	180.00
December	125.00	122.00	135.00	138.00	-	145.00	149.00	158.00	159.00	180.00
TOTAL	**125.00**	**126.00**	**145.00**	**138.00**	**139.00**	**148.00**	**155.00**	**158.00**	**170.00**	**180.00**

Table 10 - HISTORICAL DEMAND - CAGAYANCILLO

Demand (kW)	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
January	56.00	68.00	70.00	68.00	80.00	75.00	85.00	97.00	117.00	124.00
February	54.00	68.00	70.00	65.00	72.00	82.00	76.00	94.00	120.00	120.00
March	52.00	70.00	70.00	65.00	70.00	82.00	74.00	101.00	118.00	135.00
April	52.00	70.00	65.00	72.00	70.00	82.00	78.00	101.00	127.00	128.00
May	50.00	70.00	68.00	70.00	72.00	82.00	78.00	103.00	133.00	126.00
June	62.00	70.00	68.00	68.00	72.00	82.00	80.00	111.00	123.00	134.00
July	60.00	70.00	72.00	68.00	72.00	85.00	91.00	103.00	125.00	135.00
August	60.00	70.00	72.00	72.00	72.00	75.00	98.00	108.00	126.00	134.00
September	70.00	72.00	72.00	75.00	70.00	80.00	95.00	115.00	125.00	140.00
October	70.00	78.00	75.00	72.00	49.00	82.00	94.00	120.00	125.00	135.00
November	75.00	78.00	79.00	72.00	40.00	82.00	110.00	120.00	127.00	137.00
December	70.00	76.00	75.00	72.00	45.00	82.00	105.00	120.00	135.00	134.00
TOTAL	**75.00**	**78.00**	**79.00**	**75.00**	**80.00**	**85.00**	**110.00**	**120.00**	**135.00**	**140.00**

Table 11 - HISTORICAL DEMAND - CUYO

Demand (kW)	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
January	691.00	970.00	1,025.00	1,185.00	1,150.00	995.00	780.00	1,020.00	1,105.00	1,150.00
February	637.00	925.00	1,010.00	1,180.00	1,147.00	1,045.00	1,000.00	1,010.00	1,080.00	1,050.00
March	902.00	995.00	1,010.00	980.00	1,090.00	1,125.00	1,030.00	1,080.00	1,175.00	1,130.00
April	955.00	1,000.00	1,075.00	1,020.00	1,135.00	1,150.00	1,125.00	1,160.00	1,210.00	1,245.00
May	925.00	980.00	1,095.00	1,065.00	1,130.00	1,105.00	1,180.00	1,120.00	1,230.00	1,260.00
June	980.00	990.00	1,080.00	1,075.00	1,100.00	1,105.00	1,135.00	1,160.00	1,245.00	1,190.00
July	990.00	1,000.00	1,065.00	1,085.00	1,100.00	1,120.00	1,065.00	1,095.00	1,205.00	1,125.00
August	1,095.00	1,000.00	1,060.00	1,035.00	1,085.00	1,050.00	1,140.00	1,130.00	1,135.00	1,186.00
September	998.00	1,005.00	1,060.00	1,055.00	1,110.00	1,105.00	1,165.00	1,190.00	1,175.00	1,223.00
October	970.00	1,005.00	1,040.00	1,065.00	1,105.00	1,000.00	1,140.00	1,130.00	1,180.00	1,237.00
November	970.00	1,005.00	1,015.00	1,225.00	1,075.00	1,160.00	1,110.00	1,105.00	1,050.00	1,144.00
December	1,000.00	1,000.00	1,049.00	1,105.00	1,090.00	1,160.00	1,100.00	1,140.00	1,145.00	1,080.00
TOTAL	**1,095.00**	**1,005.00**	**1,095.00**	**1,225.00**	**1,150.00**	**1,160.00**	**1,180.00**	**1,190.00**	**1,245.00**	**1,260.00**

Table 12 - HISTORICAL DEMAND - AGUTAYA

Demand (kW)	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
January	65.00	65.00	68.00	85.00	80.00	-	93.00	90.00	82.00	86.00
February	45.00	65.00	68.00	80.00	80.00	89.00	84.00	87.00	97.00	86.00
March	60.00	65.00	68.00	80.00	80.00	85.00	85.00	98.00	98.00	86.00
April	65.00	65.00	70.00	72.00	82.00	90.00	86.00	98.00	97.00	86.00
May	65.00	65.00	70.00	70.00	85.00	89.00	88.00	98.00	108.00	86.00
June	65.00	65.00	75.00	72.00	85.00	85.00	87.00	97.00	108.00	86.00
July	65.00	65.00	75.00	72.00	85.00	85.00	85.00	97.00	108.00	86.00
August	65.00	65.00	75.00	75.00	85.00	83.00	83.00	97.00	108.00	87.00
September	70.00	65.00	75.00	78.00	85.00	93.00	85.00	97.00	108.00	87.00
October	65.00	65.00	80.00	80.00	85.00	86.00	85.00	97.00	94.00	89.00
November	65.00	65.00	80.00	78.00	85.00	87.00	88.00	97.00	94.00	89.00
December	65.00	65.00	73.00	81.00	89.00	87.00	88.00	97.00	95.00	85.00
TOTAL	**70.00**	**65.00**	**80.00**	**85.00**	**89.00**	**93.00**	**93.00**	**98.00**	**108.00**	**89.00**

Table 13 - HISTORICAL DEMAND - RIZAL

Demand (kW)	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
January		171.00	198.00	216.00	262.00	-	303.00	325.00	325.00	334.00
February		165.00	190.00	209.00	266.00	262.00	290.00	287.00	295.00	351.00
March		165.00	195.00	216.00	283.00	283.00	304.00	300.00	305.00	351.00
April		165.00	211.00	229.00	282.00	282.00	322.00	311.00	341.00	378.00
May		166.00	210.00	234.00	274.00	302.00	340.00	292.00	338.00	370.00
June		170.00	210.00	239.00	270.00	270.00	315.00	307.00	309.00	342.00
July		176.00	208.00	241.00	262.00	297.00	295.00	303.00	336.00	354.00
August		164.00	205.00	242.00	-	291.00	309.00	313.00	318.00	354.00
September		188.00	205.00	257.00	276.00	304.00	317.00	318.00	301.00	374.00
October		182.00	213.00	258.00	276.00	307.00	328.00	325.00	305.00	363.00
November		182.00	223.00	259.00	291.00	316.00	340.00	333.00	311.00	351.00
December		204.00	213.00	249.00	297.00	316.00	340.00	337.00	330.00	362.00
TOTAL	**-**	**204.00**	**223.00**	**259.00**	**297.00**	**316.00**	**340.00**	**337.00**	**341.00**	**378.00**

ENERGY SALES AND PURCHASE

Table 14 - HISTORICAL ENERGY SALES AND PURCHASED

ENERGY SALES AND PURCHASED	HISTORICAL										
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	AAGR
Energy Sales (MWh)	111,233.66	121,598.64	135,598.52	141,651.85	161,718.42	178,538.36	191,865.04	208,320.37	236,901.51	257,945.43	9.83%
Energy Purchase (MWh)	125,439.25	137,411.41	153,160.43	160,696.18	180,457.47	199,515.56	214,409.38	235,132.29	266,933.99	289,181.16	9.75%
System Loss (MWh)	14,205.59	15,812.77	17,561.92	19,044.33	18,739.05	20,977.20	22,544.34	26,811.92	30,032.48	31,235.73	

Table 15 - FORECAST ENERGY SALES AND PURCHASE

ENERGY SALES AND PURCHASE	FORECAST										
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	AAGR
Energy Sales (MWh)	281,810.06	305,948.09	330,022.54	353,891.10	377,465.76	400,693.10	423,542.21	445,996.93	468,050.90	489,704.31	6.34%
Energy Purchase (MWh)	314,465.44	339,457.82	364,284.74	388,826.06	413,005.97	436,776.10	460,105.37	482,973.60	505,367.56	527,278.36	5.92%
System Loss (MWh)	32,655.38	33,509.73	34,262.19	34,934.96	35,540.21	36,083.00	36,563.16	36,976.67	37,316.66	37,574.05	

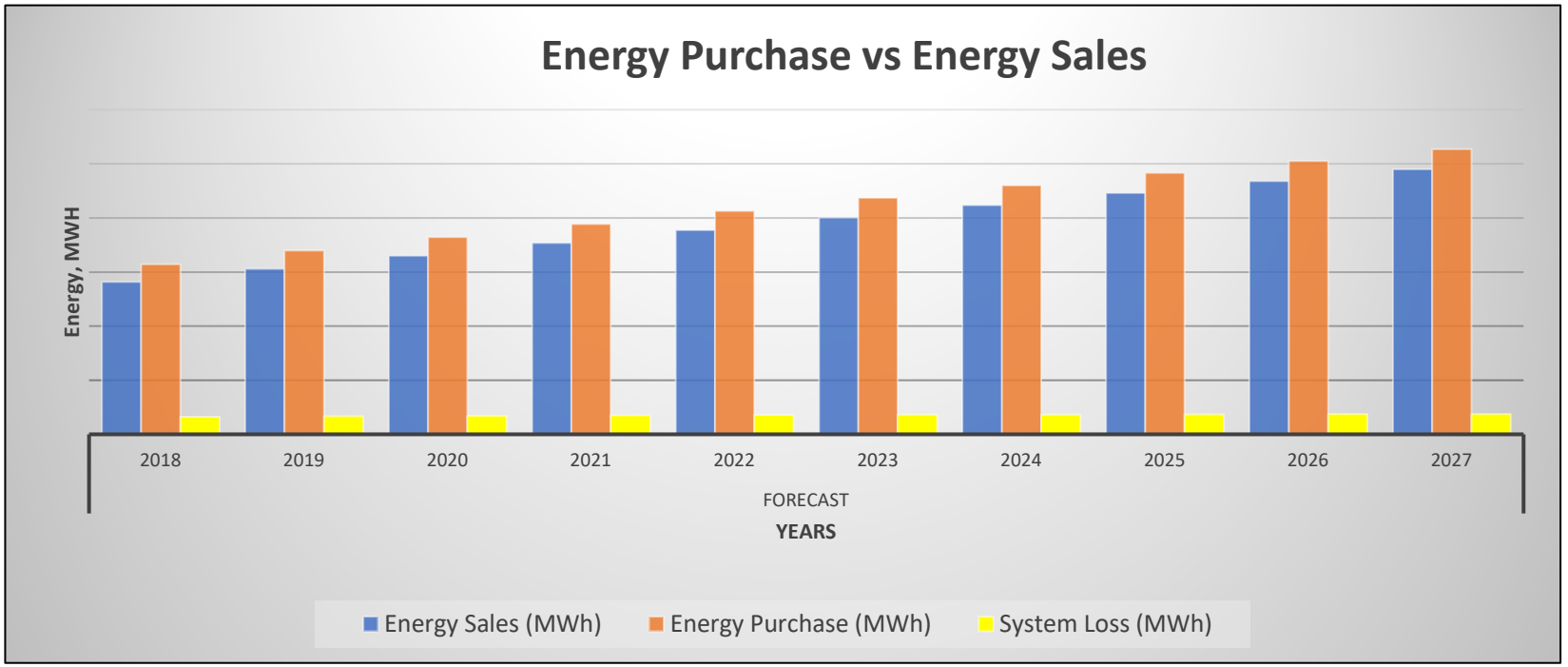


Figure 3 - FORECAST ENERGY SALES & PURCHASED

Tables 14 and 15 and Figure 3 are the historical and forecast energy sales and purchase for the entire franchise area of PALECO, which have recorded an average annual growth rate of 10% for the past 10 years (2008-2017). This is due to the upswing of the economic growth in the City of Puerto Princesa and the Province of Palawan. The remarkable increase in 2016 was due to the increase in operating hours of the power plants of National Power Corporation-Small Power Utilities Group in its service areas. Based on the trend for the past seven (7) years, the predicted energy sales and purchase have an average annual growth rate of 6% for next 10 years.

Considering that PALECO has nine (9) stand alone systems in addition to the so-called Palawan Grid, historical and forecast data for each system are presented in Tables 16 to 35

Historical & Forecast Per System

Table 16 - HISTORICAL ENERGY SALES AND PURCHASED - PALAWAN GRID

Energy Sales (MWh)	HISTORICAL										
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	AAGR
January	8,469.93	8,560.29	9,724.54	10,325.59	12,141.40	13,156.73	13,724.75	14,874.89	16,331.46	18,014.46	8.84%
February	8,495.73	9,509.58	9,804.88	10,174.56	12,092.20	13,630.09	13,589.18	14,568.96	16,593.79	17,474.51	8.50%
March	8,602.20	9,055.71	9,625.45	10,206.36	11,819.82	12,883.70	12,932.69	14,010.60	16,446.16	16,394.70	7.58%
April	8,765.37	9,818.19	10,992.33	11,140.72	12,440.95	14,510.80	15,095.47	15,471.65	18,760.32	19,744.12	9.63%
May	8,794.89	9,383.71	11,176.59	11,354.62	12,601.18	15,234.57	15,909.08	16,002.28	19,413.37	18,778.29	9.15%
June	9,206.96	9,705.51	11,307.52	11,333.63	13,119.95	14,930.54	16,877.74	16,611.13	18,494.55	20,146.93	9.27%
July	8,336.14	9,290.21	10,517.34	10,993.46	12,439.15	13,242.18	14,346.55	15,090.32	17,355.86	18,772.62	9.50%
August	8,571.03	9,697.59	11,153.40	11,165.52	12,628.81	13,795.70	14,735.39	15,893.76	17,706.31	19,076.84	9.38%
September	8,636.31	9,699.23	11,142.44	11,166.48	13,244.23	13,687.52	14,731.06	15,928.93	18,196.86	20,697.12	10.34%
October	8,532.00	9,214.90	10,260.87	11,088.80	11,962.72	13,445.37	15,071.48	16,066.56	16,552.73	19,969.03	10.01%
November	9,036.33	10,072.07	10,772.95	11,441.41	13,191.79	13,933.72	15,575.65	16,629.67	17,451.01	19,177.54	8.77%
December	9,173.62	9,408.87	9,893.41	12,241.99	13,140.29	13,678.33	14,610.00	17,015.90	17,576.71	20,095.60	9.31%
Total	**104,620.50**	**113,415.85**	**126,371.74**	**132,633.15**	**150,822.48**	**166,129.26**	**177,199.03**	**188,164.64**	**210,879.13**	**228,341.76**	**9.09%**
Energy Purchased (MWh)	**HISTORICAL**										
	2008	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**AAGR**
January	9,596.93	9,851.94	10,981.99	11,392.61	13,847.06	14,727.37	15,246.12	16,436.05	18,578.82	20,090.53	8.70%
February	9,591.07	10,685.26	11,208.75	11,812.51	13,806.78	15,480.32	14,881.58	16,602.63	18,868.14	20,006.35	8.67%
March	9,349.45	10,114.43	10,965.16	11,259.49	13,151.97	14,475.76	14,495.50	15,752.98	18,630.49	18,714.42	8.19%
April	10,809.64	11,144.24	12,614.16	12,576.74	14,225.00	16,560.90	17,565.18	18,024.74	21,551.87	22,139.49	8.50%
May	9,384.25	10,523.52	12,308.36	13,030.30	14,206.51	16,635.63	18,265.13	18,261.06	21,983.16	22,115.80	10.21%
June	10,305.48	11,016.79	13,033.52	12,939.93	14,397.02	16,230.69	18,201.62	18,506.93	20,765.38	22,952.17	9.45%

July	9,501.86	10,644.61	11,624.54	12,394.58	13,529.22	15,011.84	15,595.13	16,988.26	19,882.81	20,083.02	8.76%
August	9,677.77	11,002.80	11,898.25	12,781.89	14,265.25	14,857.64	16,950.70	17,776.77	19,983.87	21,954.27	9.58%
September	9,625.22	11,014.02	12,465.47	13,076.83	14,067.81	15,929.98	16,322.57	18,291.80	20,048.35	22,675.69	10.06%
October	10,006.00	10,107.47	11,603.53	12,437.31	13,918.63	14,872.72	16,783.19	18,340.55	19,149.74	21,741.92	9.09%
November	9,975.03	11,255.77	11,946.41	13,291.10	14,750.41	15,249.94	17,447.88	19,191.61	19,942.26	22,533.05	9.55%
December	10,008.73	10,826.64	11,640.28	13,276.19	14,039.68	15,771.68	16,708.64	18,867.47	19,559.87	21,754.75	9.06%
Total	**117,831.43**	**128,187.47**	**142,290.41**	**150,269.47**	**168,205.34**	**185,804.46**	**198,463.24**	**213,040.83**	**238,944.77**	**256,761.46**	**9.06%**
System Loss (MWh)	13,210.93	14,771.62	15,918.67	17,636.32	17,382.87	19,675.20	21,264.21	24,876.19	28,065.65	28,419.70	

Table 17 - FORECAST ENERGY SALES AND PURCHASE - PALAWAN GRID

ENERGY SALES AND PURCHASE	FORECAST										
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	AAGR
Energy Sales (MWh)	248157	267339	286399	305230	323767	341975	359834	377337	394481	411273	5.78%
Energy Purchase (MWh)	276702	296522	316025	335145	353850	372126	389972	407396	424407	441020	5.32%
System Loss (MWh)	28545	29183	29626	29916	30083	30151	30138	30059	29926	29747	

Table 18 - HISTORICAL ENERGY SALES AND PURCHASED - SAN VICENTE

Energy Sales (MWh)	HISTORICAL										
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	AAGR
January	81.37	78.15	95.13	104.67	115.21	119.86	126.87	152.09	218.06	250.06	13.96%
February	63.52	78.15	101.12	103.51	111.74	121.36	120.47	147.93	210.75	241.64	16.73%
March	71.02	90.36	97.93	71.46	97.74	108.65	93.14	150.49	187.22	203.29	15.20%
April	93.68	114.19	107.24	100.29	116.54	138.26	125.98	171.43	234.33	249.55	12.73%
May	76.97	95.29	112.56	123.32	110.52	124.51	136.93	184.08	259.87	243.44	14.78%
June	81.34	97.57	80.33	109.78	120.10	147.48	141.82	200.20	252.80	274.20	15.91%
July	66.40	94.75	100.49	104.88	94.96	98.34	129.78	184.40	224.43	245.77	16.94%
August	58.23	85.36	118.81	110.85	100.11	130.87	121.18	195.37	223.49	230.82	19.07%
September	66.25	97.51	108.35	100.47	120.56	119.38	126.36	189.58	456.17	262.99	24.91%
October	62.47	81.96	103.16	124.50	97.03	80.77	126.43	195.85	208.96	268.40	20.61%
November	71.73	98.89	110.51	101.15	122.04	52.48	151.24	191.37	216.86	264.25	28.30%
December	84.90	100.48	105.15	117.84	118.24	99.88	131.12	164.27	243.14	279.65	15.50%
Total	**877.86**	**1,112.66**	**1,240.77**	**1,272.71**	**1,324.80**	**1,341.84**	**1,531.32**	**2,127.06**	**2,936.08**	**3,014.05**	**15.55%**

Energy Purchased (MWh)	HISTORICAL										
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	AAGR
January	84.62	89.41	105.17	116.89	125.64	135.45	138.83	174.64	235.28	271.47	14.24%
February	80.36	102.36	111.89	92.95	122.59	135.06	133.61	163.80	235.26	256.45	15.11%
March	84.52	105.28	113.92	102.47	120.02	131.75	109.97	167.55	233.13	221.81	13.30%
April	102.05	127.26	137.14	132.97	135.32	156.56	154.77	213.38	276.72	280.56	12.74%
May	82.67	101.10	118.93	130.98	128.35	157.63	151.41	213.67	285.92	284.36	15.70%
June	86.93	118.84	102.93	129.95	116.62	135.77	163.67	216.99	268.86	283.60	15.36%
July	77.50	99.99	117.28	127.22	117.29	131.75	133.59	203.71	240.67	258.79	15.43%
August	68.20	101.46	127.47	123.50	124.07	129.56	146.36	212.67	245.01	276.42	18.05%
September	72.89	104.98	130.56	131.22	122.83	113.03	138.78	224.14	248.00	284.35	18.23%
October	84.81	96.62	115.85	125.03	119.61	61.97	146.65	204.61	236.49	290.50	22.65%
November	86.64	116.84	130.02	130.08	139.01	82.41	154.18	204.83	245.25	314.66	20.04%
December	90.22	112.62	130.38	131.42	133.50	138.84	158.38	219.74	256.07	294.40	14.59%
Total	**1,001.43**	**1,276.75**	**1,441.55**	**1,474.67**	**1,504.86**	**1,509.77**	**1,730.20**	**2,419.73**	**3,006.65**	**3,317.35**	**14.90%**
System Loss (MWh)	123.57	164.09	200.78	201.96	180.06	167.93	198.88	292.67	70.57	303.30	

Table 19 - FORECAST ENERGY SALES AND PURCHASE - SAN VICENTE

ENERGY SALES AND PURCHASE	FORECAST										
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	AAGR
Energy Sales (MWh)	3186	3465	3737	4003	4263	4517	4765	5008	5246	5478	6.22%
Energy Purchase (MWh)	3593	3842	4105	4378	4658	4943	5227	5509	5785	6051	5.97%
System Loss (MWh)	407	377	368	375	395	425	462	501	539	573	

Table 20 - HISTORICAL ENERGY SALES AND PURCHASED - TAYTAY

Energy Sales (MWh)	HISTORICAL										
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	AAGR
January	65.63	67.05	88.56	94.45	129.67	128.80	150.96	294.35	349.19	380.83	24.15%
February	66.88	66.46	87.91	99.95	122.82	134.34	141.36	250.99	326.31	333.78	21.41%
March	53.52	67.79	81.83	88.97	135.19	109.18	119.65	267.42	309.89	346.18	27.72%
April	73.64	69.35	81.83	104.35	83.06	140.83	169.90	304.40	376.01	394.87	24.13%
May	75.89	71.80	113.76	113.03	121.91	135.08	171.78	342.98	402.10	425.57	24.55%
June	72.35	72.05	87.75	90.19	115.65	166.37	139.77	347.34	384.62	432.69	28.00%

July	65.74	75.63	91.40	72.76	100.92	125.26	165.99	308.09	380.88	377.83	24.36%
August	70.40	74.78	111.74	109.73	110.45	115.68	174.48	324.39	341.63	328.90	21.95%
September	73.47	75.57	74.98	95.50	123.86	137.99	168.57	314.16	393.47	412.61	23.24%
October	43.80	73.32	97.67	101.36	125.26	109.98	229.81	310.35	362.09	417.13	32.40%
November	66.43	81.70	64.54	86.59	137.63	154.14	293.22	317.51	402.18	356.25	24.54%
December	67.50	86.03	82.49	116.95	142.80	132.62	254.70	322.43	326.09	435.07	25.92%
Total	**795.24**	**881.52**	**1,064.45**	**1,173.82**	**1,449.21**	**1,590.27**	**2,180.18**	**3,704.39**	**4,354.47**	**4,641.71**	**22.91%**
Energy Purchased (MWh)	**HISTORICAL**										
	2008	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**AAGR**
January	74.15	73.35	94.16	110.22	140.59	144.05	167.03	295.97	368.19	399.77	22.28%
February	67.98	65.14	94.64	99.91	137.30	145.68	149.18	289.84	348.29	388.20	24.28%
March	63.55	76.59	92.76	103.05	129.94	136.92	142.18	288.55	357.89	372.74	24.35%
April	80.63	70.85	110.66	118.88	96.70	164.25	173.48	357.97	420.44	453.03	26.65%
May	74.00	71.38	123.08	127.84	149.13	178.78	203.70	368.33	436.06	467.31	25.51%
June	75.62	84.44	93.63	85.68	120.37	157.07	188.75	356.41	401.49	460.68	24.60%
July	72.17	78.52	102.04	99.83	114.68	155.05	171.25	341.19	389.65	384.73	23.25%
August	78.96	82.29	108.76	117.91	125.77	148.87	185.77	339.74	396.17	445.70	22.96%
September	65.54	85.62	101.54	126.36	132.09	138.59	178.34	349.13	410.44	445.26	25.96%
October	63.20	80.06	108.50	103.56	135.84	147.41	252.33	330.30	388.70	416.92	24.93%
November	75.45	88.43	79.81	117.68	157.99	157.29	322.08	366.22	401.89	451.45	25.47%
December	75.96	93.24	107.26	136.74	146.61	157.93	273.34	355.47	404.68	445.23	23.02%
Total	**867.22**	**949.92**	**1,216.84**	**1,347.66**	**1,587.01**	**1,831.89**	**2,407.43**	**4,039.11**	**4,723.87**	**5,131.01**	**22.93%**
System Loss (MWh)	71.97	68.39	152.38	173.83	137.80	241.63	227.26	334.73	369.40	489.30	

Table 21 - FORECAST ENERGY SALES AND PURCHASE - TAYTAY

ENERGY SALES AND PURCHASE	**FORECAST**										
	2018	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**AAGR**
Energy Sales (MWh)	4,907.73	5,336.84	5,756.27	6,166.04	6,566.34	6,957.49	7,339.84	7,713.77	8,079.65	8,437.86	6.22%
Energy Purchase (MWh)	5,557.40	5,942.72	6,349.21	6,771.78	7,205.32	7,644.75	8,084.98	8,520.91	8,947.45	9,359.50	5.97%
System Loss (MWh)	649.67	605.88	592.94	605.74	638.98	687.26	745.14	807.14	867.80	921.65	

Table 22- HISTORICAL ENERGY SALES AND PURCHASED - EL NIDO

Energy Sales (MWh)	HISTORICAL										
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	AAGR
January	101.60	202.54	129.36	193.93	253.45	256.97	381.67	536.98	807.23	1,007.12	34.39%
February	102.02	102.38	110.52	181.33	230.39	246.88	378.75	555.06	799.81	1,131.09	32.45%
March	103.62	113.37	126.66	176.83	268.38	266.13	287.91	497.86	789.17	955.57	30.26%
April	103.08	122.41	126.66	174.81	260.79	358.19	410.48	675.77	848.37	1,225.94	32.89%
May	108.91	113.60	227.84	214.11	266.50	411.22	619.59	787.93	1,058.37	1,200.13	33.69%
June	98.21	136.43	176.21	199.89	217.48	371.74	447.20	644.57	990.70	1,253.54	33.99%
July	87.47	113.45	144.18	196.40	255.90	292.48	310.02	641.00	881.55	934.08	32.65%
August	96.72	110.91	136.35	210.92	213.61	270.51	347.95	470.18	856.13	1,058.81	32.19%
September	113.22	136.22	159.44	176.38	230.22	280.98	343.65	633.73	785.14	1,099.27	30.13%
October	103.22	115.98	157.06	181.43	245.35	218.01	353.41	634.24	745.57	909.88	29.84%
November	80.18	138.86	154.42	183.19	271.02	312.95	469.58	756.75	923.86	1,017.32	34.43%
December	80.55	117.97	168.90	236.65	269.31	324.25	434.38	514.43	991.00	1,253.81	37.28%
Total	**1,178.79**	**1,524.12**	**1,817.60**	**2,325.87**	**2,982.40**	**3,610.31**	**4,784.59**	**7,348.47**	**10,476.89**	**13,046.55**	**31.00%**
Energy Purchased (MWh)	**HISTORICAL**										
	2008	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**AAGR**
January	101.19	115.35	126.35	210.73	278.69	273.17	393.93	610.82	864.26	1,208.02	33.46%
February	100.09	121.18	126.22	204.93	268.16	292.92	353.21	606.45	891.24	1,179.42	33.25%
March	104.59	112.86	169.51	173.76	259.12	300.23	367.14	593.17	878.49	1,096.54	31.37%
April	111.42	150.64	196.92	224.73	285.87	407.91	475.43	778.04	1,076.42	1,434.57	33.53%
May	95.44	136.63	199.09	243.36	286.22	394.63	500.45	808.93	1,145.00	1,408.01	35.51%
June	105.15	130.46	184.86	215.20	257.88	337.94	465.94	666.41	981.62	1,231.23	31.85%
July	99.25	121.97	166.96	216.12	232.58	313.41	369.85	558.08	896.76	1,088.98	31.40%
August	104.68	126.22	165.92	219.02	255.72	307.86	410.50	661.65	893.00	1,195.24	31.61%
September	99.71	132.31	173.59	214.82	244.93	298.21	355.08	669.10	901.60	1,059.95	31.47%
October	103.80	132.03	172.28	201.47	254.39	299.22	423.68	650.50	882.27	1,088.05	30.29%
November	108.39	151.09	180.65	199.74	291.83	339.83	529.76	779.24	1,054.07	1,349.31	33.15%
December	111.46	146.64	196.69	237.01	295.30	374.40	549.50	804.45	1,108.62	1,278.48	31.54%
Total	**1,245.17**	**1,577.37**	**2,059.02**	**2,560.88**	**3,210.68**	**3,939.72**	**5,194.47**	**8,186.85**	**11,573.35**	**14,617.80**	**31.87%**
System Loss (MWh)	66.39	53.25	241.41	235.01	228.29	329.41	409.88	838.38	1096.46	1571.25	

Table 23 - FORECAST ENERGY SALES AND PURCHASE - EL NIDO

ENERGY SALES AND PURCHASE	FORECAST										
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	AAGR
Energy Sales (MWh)	16,569.27	20,032.18	23,586.89	27,198.58	30,842.49	34,500.76	38,160.36	41,811.70	45,447.72	49,063.17	12.89%
Energy Purchase (MWh)	18,482.52	22,317.76	26,231.20	30,186.18	34,157.33	38,126.88	42,082.25	46,014.51	49,917.31	53,786.20	12.68%
System Loss (MWh)	1,913.26	2,285.59	2,644.31	2,987.60	3,314.84	3,626.12	3,921.89	4,202.80	4,469.59	4,723.02	

Table 24 - HISTORICAL ENERGY SALES AND PURCHASED - ARACELI

Energy Sales (MWh)	HISTORICAL										
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	AAGR
January	16.95	23.05	22.78	28.00	33.73	25.39	32.88	31.70	40.96	56.42	16.26%
February	17.81	20.36	24.67	14.71	28.01	28.28	32.30	26.34	37.91	49.33	17.37%
March	16.83	23.94	24.28	25.24	26.48	27.86	29.15	27.29	40.89	43.32	12.42%
April	21.64	23.30	24.98	18.85	27.03	28.87	27.63	30.89	43.80	61.59	14.49%
May	19.16	22.75	31.17	28.76	32.89	31.13	33.80	29.16	60.02	54.67	16.53%
June	21.18	21.14	27.05	25.78	29.69	25.82	27.65	35.11	39.56	71.11	16.86%
July	22.42	22.04	29.44	25.43	27.80	26.66	29.40	30.95	41.67	56.18	12.05%
August	23.39	25.63	28.99	31.57	30.71	29.70	30.55	33.50	53.72	54.47	11.10%
September	19.97	23.42	26.13	12.37	24.02	29.10	29.30	36.47	54.35	69.04	21.41%
October	23.08	24.80	26.18	31.23	25.90	30.89	30.97	35.61	59.97	58.77	12.90%
November	19.84	23.91	26.68	27.11	31.25	31.50	30.93	35.50	46.96	65.32	14.90%
December	22.35	24.82	23.65	35.13	29.67	28.61	28.71	42.94	50.83	69.24	15.58%
Total	**244.63**	**279.16**	**316.01**	**304.16**	**347.19**	**343.80**	**363.27**	**395.48**	**570.65**	**709.45**	**13.32%**
Energy Purchased (MWh)	**HISTORICAL**										
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	AAGR
January	19.53	24.09	27.68	25.65	33.88	30.78	30.94	31.78	45.64	58.52	14.33%
February	19.32	24.11	26.34	17.90	31.62	30.41	30.52	30.80	41.16	51.24	14.92%
March	18.83	25.48	27.71	16.02	30.48	28.53	29.54	28.70	42.70	53.20	17.76%
April	22.94	27.65	30.55	23.33	34.74	34.92	35.98	32.34	50.40	66.64	15.31%
May	23.12	24.66	28.00	30.68	32.31	28.19	35.70	34.72	55.02	70.98	14.86%
June	23.86	24.65	38.17	29.69	32.63	32.69	33.88	38.50	43.82	72.52	15.84%
July	23.37	25.91	29.36	30.74	30.15	31.84	30.80	35.98	54.88	63.14	12.63%
August	24.08	27.09	30.50	31.82	31.85	32.83	33.88	38.36	59.36	68.88	13.31%

September	25.46	27.23	31.35	32.46	31.35	32.92	33.32	37.52	60.62	71.96	13.48%
October	24.32	25.81	29.34	31.01	31.30	32.72	33.74	36.68	56.42	70.00	13.41%
November	23.33	23.82	28.81	33.00	35.08	31.83	35.00	45.64	59.78	72.38	14.11%
December	25.70	29.01	30.57	34.18	33.37	36.26	30.10	45.22	61.04	71.12	13.46%
Total	**273.87**	**309.52**	**358.38**	**336.48**	**388.76**	**383.92**	**393.40**	**436.24**	**630.84**	**790.58**	**13.36%**
System Loss (MWh)	29.24	30.36	42.37	32.32	41.57	40.12	30.13	40.76	60.20	81.13	

Table 25- FORECAST ENERGY SALES AND PURCHASE - ARACELI

ENERGY SALES AND PURCHASE	FORECAST										
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	AAGR
Energy Sales (MWh)	749.62	815.21	879.31	941.94	1,003.12	1,062.91	1,121.35	1,178.50	1,234.42	1,289.17	6.22%
Energy Purchase (MWh)	856.28	915.65	978.28	1,043.39	1,110.19	1,177.90	1,245.72	1,312.89	1,378.61	1,442.10	5.97%
System Loss (MWh)	106.66	100.44	98.97	101.45	107.06	114.99	124.38	134.39	144.19	152.93	

Table 26 - HISTORICAL ENERGY SALES AND PURCHASED - CUYO

Energy Sales (MWh)	HISTORICAL										
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	AAGR
January	204.96	266.96	300.31	318.43	267.38	329.62	365.78	347.65	398.36	424.42	9.24%
February	247.99	270.72	305.79	97.88	163.00	293.66	308.10	324.15	384.51	379.03	14.24%
March	222.63	281.42	315.23	134.43	269.42	292.07	296.35	322.97	362.73	348.11	12.07%
April	272.73	327.34	321.47	286.86	340.76	380.47	389.06	381.76	451.55	428.98	5.73%
May	274.81	316.97	389.42	355.61	381.56	340.78	394.15	416.35	496.43	498.58	7.45%
June	268.71	314.49	354.37	327.01	369.99	413.19	363.43	448.14	487.73	515.66	8.07%
July	242.58	309.84	327.65	335.07	314.24	337.89	371.59	393.34	437.98	470.80	7.97%
August	269.98	311.17	353.05	340.60	355.74	364.94	360.33	407.01	457.44	469.82	6.56%
September	293.28	328.73	332.08	222.70	362.98	360.68	410.57	433.11	457.39	500.63	8.55%
October	257.38	293.67	341.83	172.95	324.38	359.59	372.21	414.35	427.65	459.04	11.65%
November	292.73	337.78	333.78	174.55	341.32	346.23	381.87	416.97	418.56	445.51	9.98%
December	272.85	268.47	309.56	290.07	329.45	339.81	361.90	406.74	410.14	448.59	5.91%
Total	**3,120.62**	**3,627.56**	**3,984.53**	**3,056.15**	**3,820.20**	**4,158.92**	**4,375.34**	**4,712.54**	**5,190.47**	**5,389.18**	**7.06%**
Energy Purchased (MWh)	**HISTORICAL**										
	2008	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**AAGR**
January	268.38	296.04	343.64	326.77	236.95	360.81	347.48	368.28	441.21	428.51	7.28%

February	272.61	318.01	361.83	91.41	219.21	356.43	357.01	375.37	411.45	412.06	19.24%
March	273.35	334.08	361.55	218.11	369.70	358.06	346.70	373.67	439.10	399.09	7.79%
April	341.57	396.52	409.89	363.69	418.19	420.70	469.70	462.36	516.15	509.91	4.92%
May	294.53	350.31	448.34	418.78	433.30	422.20	444.30	472.81	550.45	556.04	7.81%
June	299.36	365.93	451.14	394.49	405.19	428.36	424.37	493.01	527.60	549.67	7.54%
July	302.26	363.97	401.39	402.00	379.83	412.86	393.39	423.26	483.63	488.92	5.81%
August	310.62	366.17	402.95	364.21	391.51	398.89	445.49	458.61	477.92	525.21	6.27%
September	329.97	374.70	425.22	194.10	404.53	426.33	425.63	481.26	502.10	535.99	12.28%
October	301.78	345.87	382.89	237.61	383.03	399.28	420.41	441.73	452.58	474.32	7.83%
November	348.56	373.37	390.40	311.49	396.10	387.70	427.31	457.16	456.67	497.87	4.74%
December	318.88	301.76	391.15	299.38	367.08	407.04	394.51	439.25	438.06	470.74	5.53%
Total	**3,661.87**	**4,186.73**	**4,770.39**	**3,622.02**	**4,404.62**	**4,778.65**	**4,896.29**	**5,246.78**	**5,696.91**	**5,848.33**	**6.13%**
System Loss (MWh)	541.25	559.17	785.85	565.87	584.42	619.73	520.95	534.25	506.44	459.15	

Table 27- FORECAST ENERGY SALES AND PURCHASE - CUYO

ENERGY SALES AND PURCHASE	FORECAST										
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	AAGR
Energy Sales (MWh)	5,704.86	6,203.07	6,690.04	7,165.79	7,630.56	8,084.70	8,528.62	8,962.76	9,387.56	9,803.45	6.21%
Energy Purchase (MWh)	6,334.33	6,773.52	7,236.84	7,718.48	8,212.63	8,713.50	9,215.27	9,712.14	10,198.31	10,667.97	5.97%
System Loss (MWh)	629.47	570.45	546.80	552.69	582.07	628.80	686.65	749.38	810.75	864.52	

Table 28 - HISTORICAL ENERGY SALES AND PURCHASED - AGUTAYA

Energy Sales (MWh)	HISTORICAL										
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	AAGR
January	9.68	10.69	10.23	11.89	8.08	12.79	13.27	14.19	15.54	22.34	12.52%
February	8.36	8.88	9.34	10.46	8.86	12.50	11.43	12.57	13.81	19.47	11.28%
March	7.88	8.77	9.29	10.32	10.02	10.44	11.95	11.30	12.93	17.05	9.44%
April	9.33	6.70	10.57	9.41	12.17	12.32	12.81	13.62	15.69	20.54	11.74%
May	5.44	8.39	9.81	10.56	10.79	12.92	12.46	14.36	19.74	21.69	17.75%
June	7.40	10.67	10.38	10.96	12.23	13.24	11.38	15.49	14.16	23.61	16.34%
July	9.39	8.58	10.95	9.99	11.46	11.97	11.62	14.56	15.24	22.44	11.52%
August	8.68	9.26	9.49	11.03	10.63	13.19	10.39	14.55	16.04	20.93	11.71%
September	8.24	9.17	11.18	11.03	12.88	12.15	11.92	14.07	20.09	23.32	13.11%
October	9.36	10.15	10.56	8.42	10.68	11.43	11.13	14.37	18.97	20.69	10.40%

November	9.87	9.37	10.75	7.29	12.01	12.61	12.40	14.90	22.77	22.51	13.04%
December	9.34	9.76	11.37	8.77	12.60	10.79	12.49	14.57	20.25	21.66	11.76%
Total	**102.96**	**110.39**	**123.91**	**120.13**	**132.39**	**146.35**	**143.24**	**168.55**	**205.23**	**256.25**	**11.04%**
Energy Purchased (MWh)	**HISTORICAL**										
	2008	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**AAGR**
January	14.70	11.62	12.09	13.16	11.61	14.57	13.47	14.76	15.82	22.28	6.19%
February	14.52	12.27	12.26	13.16	13.71	14.63	14.33	14.81	15.13	19.93	4.20%
March	13.61	11.05	11.25	12.16	13.32	13.27	12.98	13.76	15.19	19.79	4.97%
April	10.72	7.51	12.75	13.80	14.12	15.36	15.19	15.95	18.67	23.18	11.59%
May	11.22	10.58	13.02	13.55	14.33	16.20	12.28	15.83	18.87	24.14	10.23%
June	14.83	11.73	12.69	13.13	14.37	15.14	15.01	17.15	17.00	25.79	7.75%
July	12.36	11.64	12.82	12.61	13.22	14.21	12.40	15.09	16.49	23.19	8.20%
August	11.47	10.83	12.86	13.69	13.88	14.76	13.04	15.88	18.44	24.27	9.47%
September	11.63	12.01	13.35	14.75	14.70	14.68	14.29	15.65	22.51	24.92	9.54%
October	12.21	11.59	13.39	6.46	14.18	14.44	12.89	15.58	21.46	23.17	15.11%
November	12.34	12.12	12.95	11.97	14.76	12.51	14.77	16.64	23.17	24.26	8.91%
December	13.97	13.63	14.89	8.21	16.00	15.93	16.17	16.86	22.69	23.85	11.32%
Total	**153.60**	**136.56**	**154.31**	**146.64**	**168.20**	**175.69**	**166.81**	**187.96**	**225.43**	**278.78**	**7.48%**
System Loss (MWh)	50.64	26.17	30.41	26.51	35.80	29.34	23.57	19.41	20.20	22.52	

Table 29 - FORECAST ENERGY SALES AND PURCHASE - AGUTAYA

ENERGY SALES AND PURCHASE	**FORECAST**										
	2018	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**AAGR**
Energy Sales (MWh)	270.62	294.31	317.46	340.09	362.19	383.78	404.89	425.53	445.73	465.51	6.22%
Energy Purchase (MWh)	301.94	322.88	344.96	367.92	391.48	415.35	439.27	462.96	486.13	508.52	5.97%
System Loss (MWh)	31.32	28.57	27.50	27.84	29.29	31.57	34.38	37.42	40.40	43.01	

Table 30 - HISTORICAL ENERGY SALES AND PURCHASED - CAGAYANCILLO

Energy Sales (MWh)	**HISTORICAL**										
	2008	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**AAGR**
January	6.90	8.81	7.12	2.50	9.09	8.39	11.49	11.43	14.47	17.43	31.40%
February	7.28	7.43	9.19	8.06	6.97	9.88	10.12	10.82	15.04	18.05	12.22%
March	7.28	6.43	8.09	8.06	10.32	9.54	11.23	11.74	18.37	18.56	12.66%

April	4.47	8.90	7.88	9.77	10.84	10.69	13.23	14.44	17.11	17.97	19.74%
May	5.61	7.64	6.65	10.42	6.50	11.33	12.31	13.59	16.55	17.82	18.33%
June	5.91	7.64	8.69	9.76	9.41	9.06	11.70	13.36	18.95	19.82	15.32%
July	8.18	7.40	8.67	9.76	10.37	9.81	7.99	13.17	19.12	19.26	12.58%
August	7.47	7.40	8.67	10.86	11.20	12.41	20.49	15.42	17.19	19.94	13.69%
September	7.47	9.24	11.25	10.89	4.64	12.40	13.24	16.30	16.31	21.36	23.64%
October	6.38	9.25	10.45	9.92	4.49	13.27	14.77	14.66	19.17	17.13	24.94%
November	8.84	9.25	10.45	8.57	5.05	11.11	12.64	16.67	17.63	23.31	18.00%
December	8.84	7.12	10.45	11.96	4.98	11.55	12.53	18.77	20.11	20.20	20.15%
Total	**84.63**	**96.52**	**107.54**	**110.54**	**93.85**	**129.43**	**151.75**	**170.37**	**210.00**	**230.83**	**12.64%**
Energy Purchased (MWh)	**HISTORICAL**										
	2008	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**AAGR**
January	16.50	14.74	17.06	14.53	12.93	12.44	16.55	14.25	17.61	20.47	3.82%
February	13.61	14.49	15.55	14.32	9.09	14.81	14.49	14.03	18.14	18.75	6.62%
March	11.80	13.43	10.13	14.02	13.63	13.95	15.50	14.04	17.36	18.12	6.33%
April	13.02	16.23	14.53	15.25	14.35	15.74	17.22	17.03	20.08	20.53	5.71%
May	14.14	15.40	14.58	14.59	7.54	14.76	17.34	16.12	19.94	19.84	9.42%
June	12.94	16.03	14.19	14.67	14.90	12.70	17.73	17.40	19.33	20.40	6.32%
July	12.17	15.25	14.86	14.04	15.23	14.33	9.73	15.87	18.82	20.98	8.98%
August	13.97	15.90	15.32	15.00	15.07	15.88	15.83	17.57	19.77	21.82	5.28%
September	15.97	17.05	16.34	15.66	5.54	17.04	16.84	18.44	20.81	23.44	19.48%
October	15.77	16.04	15.80	15.12	4.88	15.99	16.06	18.18	19.55	19.88	19.86%
November	16.13	16.09	16.40	15.38	5.43	16.98	17.40	19.33	19.44	23.49	19.80%
December	15.37	16.54	9.94	15.42	4.84	16.82	17.49	18.36	20.16	22.42	25.72%
Total	**171.39**	**187.18**	**174.71**	**178.01**	**123.44**	**181.43**	**192.18**	**200.61**	**231.01**	**250.14**	**6.06%**
System Loss (MWh)	86.75	90.66	67.17	67.47	29.59	51.99	40.43	30.25	21.02	19.31	

Table 31 - FORECAST ENERGY SALES AND PURCHASE - CAGAYANCILLO

ENERGY SALES AND PURCHASE	**FORECAST**										
	2018	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**AAGR**
Energy Sales (MWh)	243.72	265.06	285.92	306.30	326.20	345.66	364.67	383.27	401.46	419.28	6.22%
Energy Purchase (MWh)	270.93	289.71	309.53	330.13	351.27	372.69	394.15	415.40	436.20	456.29	5.97%
System Loss (MWh)	27.21	24.65	23.61	23.83	25.06	27.03	29.48	32.14	34.74	37.01	

Table 32 - HISTORICAL ENERGY SALES AND PURCHASED - BALABAC

Energy Sales (MWh)	HISTORICAL										
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	AAGR
January	23.17	21.25	22.35	22.65	24.56	28.19	26.59	25.03	27.21	39.24	6.98%
February	9.55	17.62	19.46	18.16	22.11	17.90	22.31	24.48	23.17	34.66	18.83%
March	16.53	16.97	20.24	21.02	19.73	26.13	20.89	22.04	25.00	28.21	7.09%
April	17.71	19.34	21.04	21.39	24.06	19.37	21.28	25.32	31.51	47.31	12.89%
May	16.78	17.40	22.68	19.35	19.79	17.99	24.14	23.98	30.99	32.53	8.92%
June	16.07	17.26	19.20	20.39	23.24	26.04	25.85	27.73	28.28	35.53	9.45%
July	16.28	17.97	20.51	21.46	21.24	22.93	25.83	30.34	28.84	36.02	9.57%
August	17.78	19.40	20.25	23.43	20.39	19.41	23.56	26.07	25.54	33.26	7.96%
September	18.07	19.97	20.85	18.56	21.19	23.52	25.35	24.98	32.56	40.91	10.15%
October	18.86	19.92	20.48	23.70	22.30	21.29	25.52	26.87	33.80	38.53	8.74%
November	18.25	21.31	22.73	23.72	20.70	21.16	26.60	27.14	39.66	36.41	9.22%
December	19.37	19.92	19.63	23.15	25.29	24.63	26.97	28.03	39.34	37.44	8.32%
Total	**208.43**	**228.31**	**249.42**	**256.97**	**264.62**	**268.56**	**294.88**	**312.01**	**365.89**	**440.04**	**8.82%**
Energy Purchased (MWh)	**HISTORICAL**										
	2008	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**AAGR**
January	19.20	20.56	21.98	23.32	27.40	25.15	25.00	25.82	27.04	43.39	10.81%
February	18.49	20.19	21.83	20.26	25.45	24.48	25.41	26.34	28.28	41.11	10.23%
March	17.92	19.48	22.07	21.57	24.86	24.16	24.22	24.71	30.58	38.43	9.32%
April	19.16	20.03	23.95	23.39	26.04	24.46	26.30	28.22	32.06	44.71	10.55%
May	17.20	18.60	25.74	22.58	23.58	27.41	25.97	28.16	33.09	41.10	11.09%
June	18.58	20.83	21.95	23.51	24.75	26.29	27.22	30.51	31.38	43.71	10.42%
July	18.80	20.34	23.18	24.32	23.44	23.70	25.71	30.33	30.14	39.04	8.88%
August	19.74	21.62	21.22	25.62	23.86	26.17	26.97	28.38	30.33	43.15	9.85%
September	20.96	21.47	23.34	25.86	24.63	26.87	26.70	29.58	36.26	42.90	8.59%
October	20.75	20.90	23.74	25.25	24.52	25.44	26.65	28.15	42.13	40.42	8.62%
November	19.94	22.34	23.90	26.02	26.04	27.24	29.51	30.48	44.24	42.43	9.47%
December	22.55	23.74	25.66	26.82	27.27	29.35	29.70	31.05	43.38	38.65	6.86%
Total	**233.28**	**250.09**	**278.57**	**288.51**	**301.83**	**310.73**	**319.35**	**341.72**	**408.93**	**499.02**	**9.02%**
System Loss (MWh)	24.86	21.78	29.15	31.54	37.22	42.17	24.48	29.71	43.03	58.98	

Table 33 - FORECAST ENERGY SALES AND PURCHASE - BALABAC

ENERGY SALES AND PURCHASE	FORECAST										
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	AAGR
Energy Sales (MWh)	464.57	505.25	545.01	583.86	621.81	658.89	695.13	730.58	765.27	799.23	6.22%
Energy Purchase (MWh)	540.49	577.97	617.50	658.60	700.76	743.50	786.32	828.71	870.20	910.27	5.97%
System Loss (MWh)	75.92	72.72	72.49	74.74	78.96	84.61	91.18	98.13	104.93	111.04	

Table 34 - HISTORICAL ENERGY SALES AND PURCHASED - RIZAL

Energy Sales (MWh)	HISTORICAL										
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	AAGR
January	-	34.01	34.01	33.63	37.79	41.34	54.02	55.86	91.72	120.73	18.82%
February	-	23.93	23.93	32.38	37.29	42.34	45.24	56.24	107.25	121.90	24.95%
March	-	28.61	28.61	29.45	38.14	38.53	41.78	59.70	92.26	99.18	18.35%
April	-	25.43	25.43	32.25	43.56	49.37	45.55	77.02	111.63	130.81	24.83%
May	-	29.24	29.24	33.43	37.81	45.66	51.57	75.11	122.79	128.48	21.86%
June	-	23.33	23.33	34.64	41.96	50.01	51.06	78.32	116.91	114.25	23.91%
July	-	24.62	24.62	32.93	36.25	39.06	50.95	73.66	102.32	124.09	23.35%
August	-	24.88	24.88	26.11	37.96	46.98	46.55	78.48	102.79	118.41	23.49%
September	-	28.51	28.51	45.74	42.48	45.33	46.52	80.22	110.65	129.46	23.75%
October	-	23.55	23.55	31.38	38.90	39.65	51.82	83.74	113.39	140.94	26.39%
November	-	28.82	28.82	31.62	45.32	49.90	45.31	87.76	108.93	112.65	21.90%
December	-	27.62	27.62	34.80	43.83	47.29	44.10	85.94	107.27	130.06	24.25%
Total	**-**	**322.55**	**322.55**	**398.35**	**481.28**	**535.46**	**574.48**	**892.04**	**1,287.91**	**1,470.95**	**22.09%**
Energy Purchased (MWh)	**HISTORICAL**										
	2008	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**AAGR**
January	-	28.95	32.70	37.26	46.01	45.25	54.86	60.42	111.41	138.01	23.55%
February	-	27.96	30.13	36.17	45.96	49.60	47.66	69.61	113.90	133.19	23.19%
March	-	26.79	30.22	33.82	45.27	47.59	45.94	71.95	110.56	119.48	22.32%
April	-	30.68	36.84	39.72	49.04	57.21	59.30	93.28	145.77	160.16	24.39%
May	-	28.43	35.83	37.86	45.58	46.71	57.79	86.06	141.76	130.49	23.00%
June	-	26.67	35.62	39.19	46.19	45.90	57.61	86.51	127.38	141.72	24.37%
July	-	26.75	33.84	40.57	43.44	47.35	48.89	81.99	116.16	134.15	23.83%
August	-	28.52	34.21	41.90	46.27	50.75	56.41	88.63	121.80	146.27	23.54%
September	-	29.40	36.42	42.91	45.53	48.48	54.50	97.47	124.33	153.55	24.58%

October	-	27.45	35.47	39.57	45.75	48.03	52.90	92.58	123.35	134.60	23.61%
November	-	32.22	37.43	41.44	51.47	55.88	50.78	102.06	128.49	151.63	24.43%
December	-	35.99	37.57	41.43	52.21	56.57	59.40	101.88	127.31	143.43	20.40%
Total	**-**	**349.82**	**416.27**	**471.84**	**562.72**	**599.31**	**646.02**	**1,032.45**	**1,492.22**	**1,686.69**	**22.91%**
System Loss (MWh)	0.00	27.27	93.72	73.49	81.44	63.86	71.54	140.41	204.31	215.74	

Table 35 - FORECAST ENERGY SALES AND PURCHASE - RIZAL

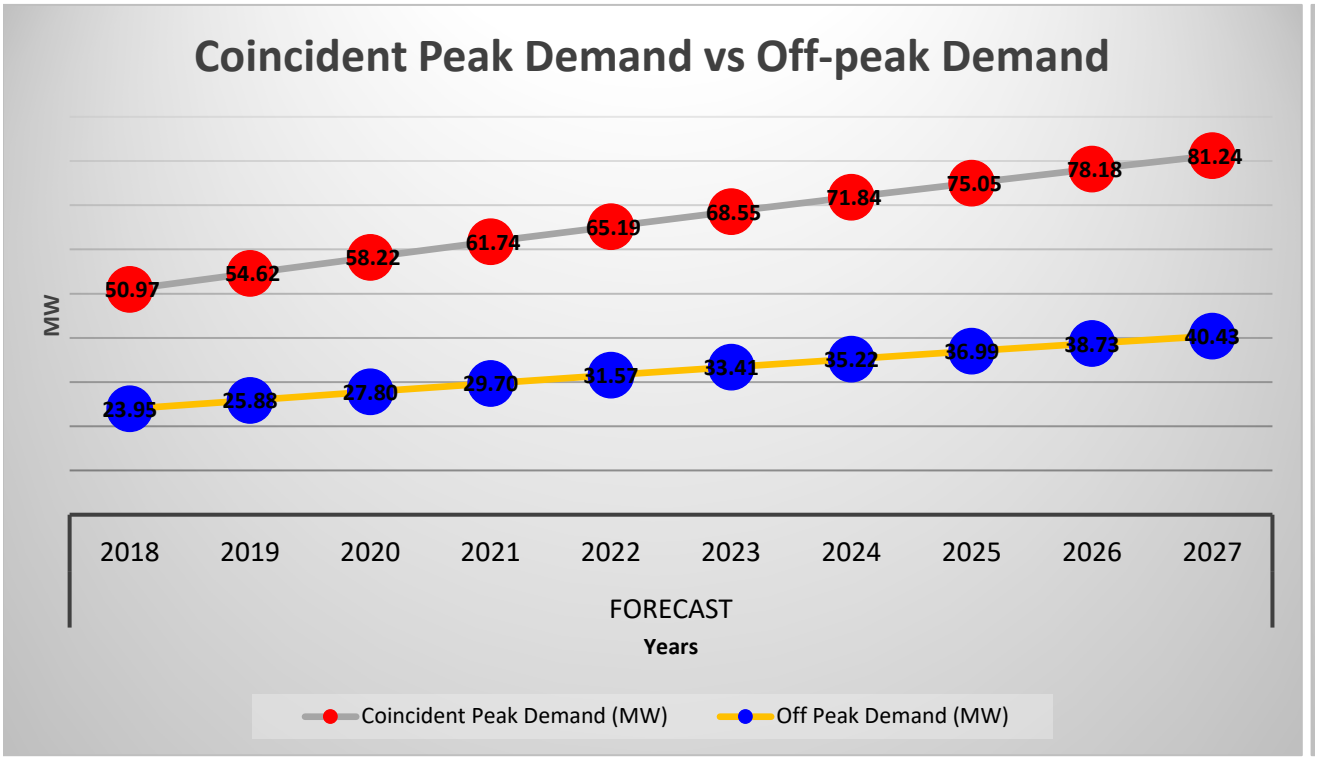
ENERGY SALES AND PURCHASE	FORECAST										
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	AAGR
Energy Sales (MWh)	1,556.82	1,692.80	1,825.72	1,955.57	2,082.43	2,206.38	2,327.55	2,446.05	2,561.99	2,675.51	6.21%
Energy Purchase (MWh)	1,826.86	1,953.52	2,087.15	2,226.05	2,368.57	2,513.02	2,657.74	2,801.04	2,941.25	3,076.71	5.97%
System Loss (MWh)	270.04	260.72	261.43	270.48	286.14	306.64	330.19	354.99	379.26		

DEMAND

Palawan Grid

Demand	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Coincident Peak Demand (MW)	24.16	27.45	29.67	30.79	34.33	35.097	38.051	38.417	44.065	47.3
Off Peak Demand (MW)									23.84	22.0

Demand	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Coincident Peak Demand (MW)	50.97	54.62	58.22	61.74	65.19	68.55	71.84	75.05	78.18	81.24
Off Peak Demand (MW)	23.95	25.88	27.80	29.70	31.57	33.41	35.22	36.99	38.73	40.43



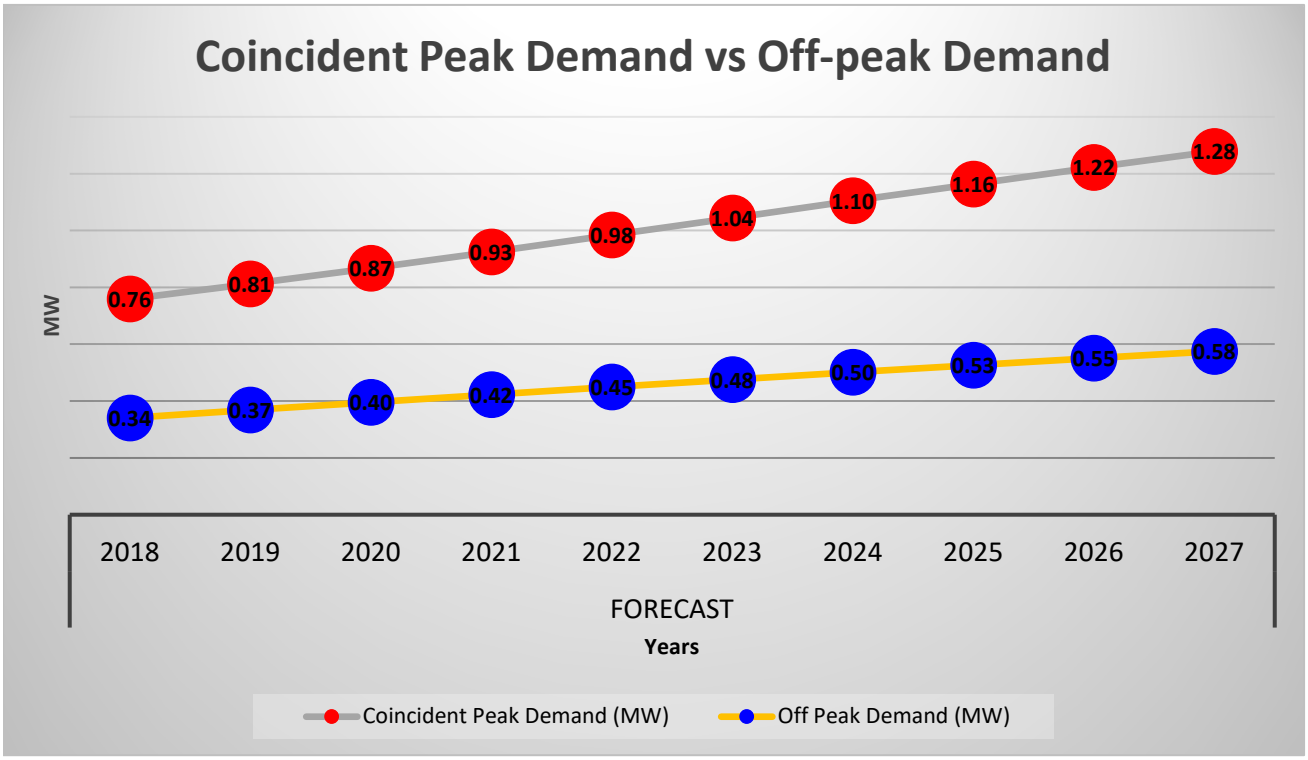
Average Annual Growth Rate- Coincident Peak Demand:

Historical	8%
Forecast	5%
Average Annual Growth Rate-Forecast Off-Peak Demand	6%

San Vicente System

Demand	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Coincident Peak Demand (MW)	0.36	0.45	0.50	0.49	0.50	0.57	0.56	0.56	0.69	0.70
Off Peak Demand (MW)									0.33	0.31

Demand	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Coincident Peak Demand (MW)	0.76	0.81	0.87	0.93	0.98	1.04	1.10	1.16	1.22	1.28
Off Peak Demand (MW)	0.34	0.37	0.40	0.42	0.45	0.48	0.50	0.53	0.55	0.58



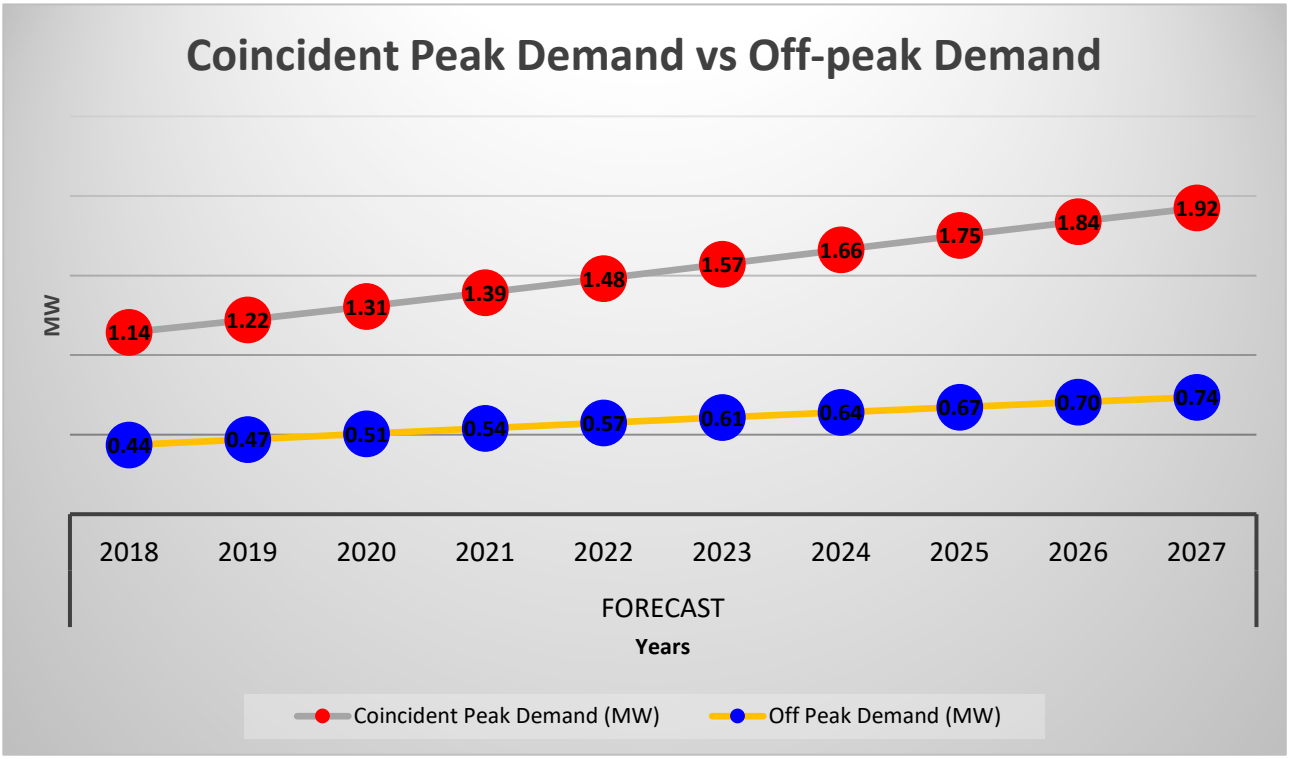
Average Annual Growth Rate- Coincident Peak Demand:

Historical	8%
Forecast	6%
Average Annual Growth Rate-Forecast Off-Peak Demand	6%

Taytay System

Demand	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Coincident Peak Demand (MW)	0.36	0.40	0.51	0.58	0.63	0.67	0.80	0.80	0.95	1.06
Off Peak Demand (MW)									0.53	0.40

Demand	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Coincident Peak Demand (MW)	1.14	1.22	1.31	1.39	1.48	1.57	1.66	1.75	1.84	1.92
Off Peak Demand (MW)	0.44	0.47	0.51	0.54	0.57	0.61	0.64	0.67	0.70	0.74



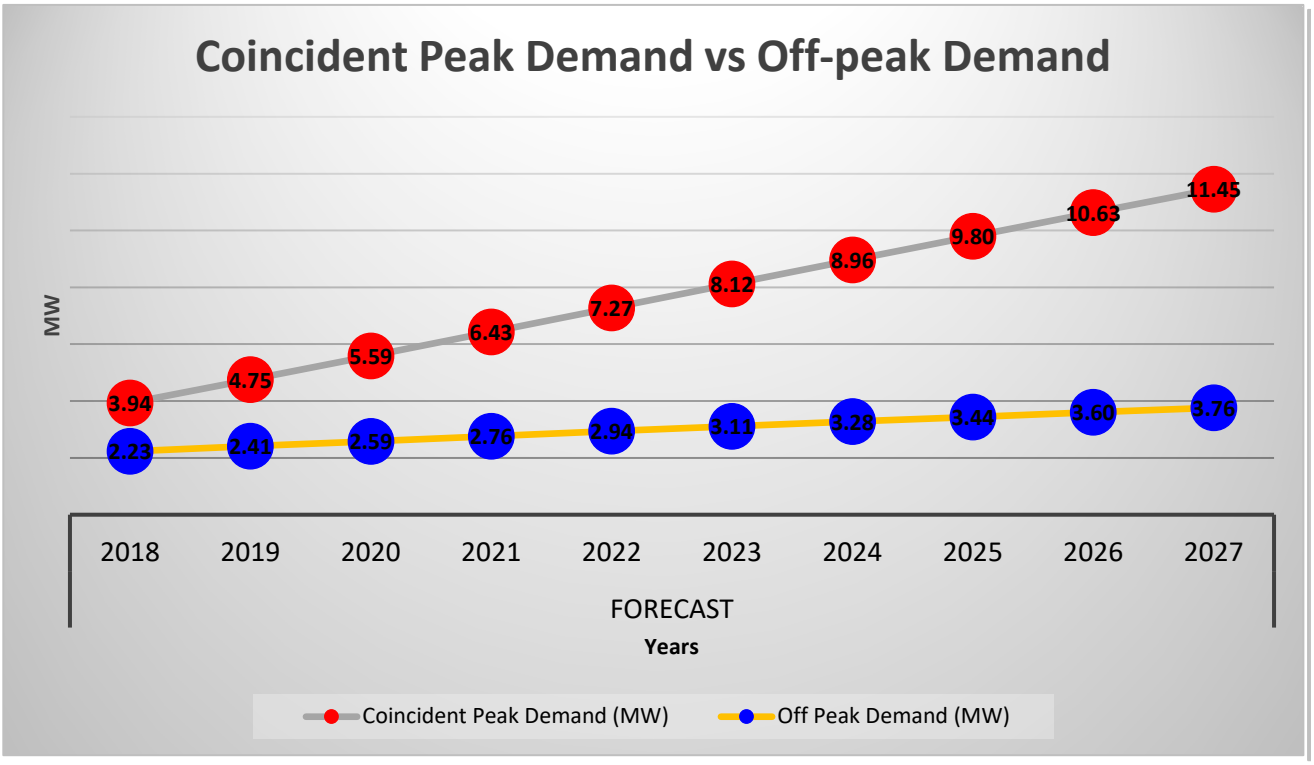
Average Annual Growth Rate- Coincident Peak Demand:

Historical	13%
Forecast	6%
Average Annual Growth Rate-Forecast Off-Peak Demand	6%

El Nido System

Demand	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Coincident Peak Demand (MW)	0.35	0.48	0.60	0.85	0.96	1.28	1.52	1.84	2.40	3.11
Off Peak Demand (MW)									1.60	2.05

Demand	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Coincident Peak Demand (MW)	3.94	4.75	5.59	6.43	7.27	8.12	8.96	9.80	10.63	11.45
Off Peak Demand (MW)	2.23	2.41	2.59	2.76	2.94	3.11	3.28	3.44	3.60	3.76



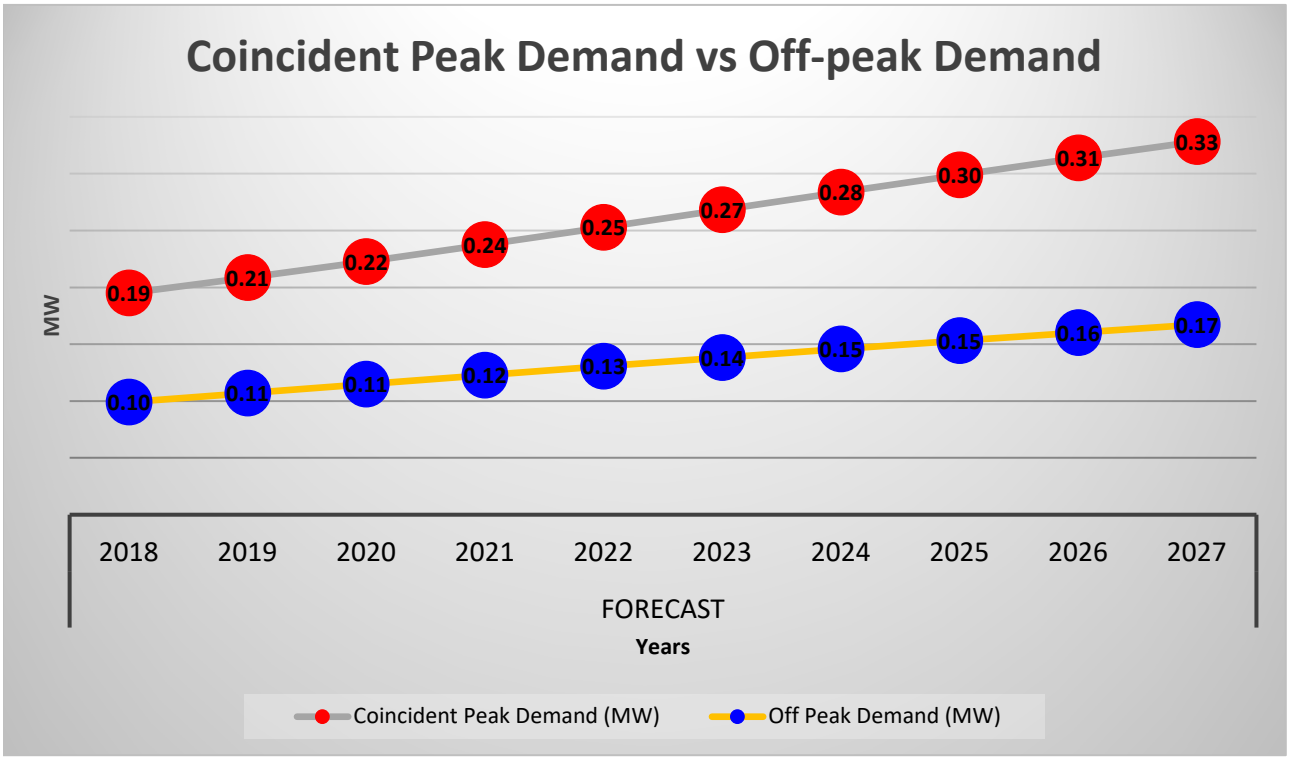
Average Annual Growth Rate- Coincident Peak Demand:

Historical	28%
Forecast	13%
Average Annual Growth Rate-Forecast Off-Peak Demand	6%

Araceli System

Demand	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Coincident Peak Demand (MW)	0.13	0.13	0.15	0.14	0.14	0.15	0.16	0.16	0.17	0.18
Off Peak Demand (MW)									0.06	0.09

Demand	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Coincident Peak Demand (MW)	0.19	0.21	0.22	0.24	0.25	0.27	0.28	0.30	0.31	0.33
Off Peak Demand (MW)	0.10	0.11	0.11	0.12	0.13	0.14	0.15	0.15	0.16	0.17



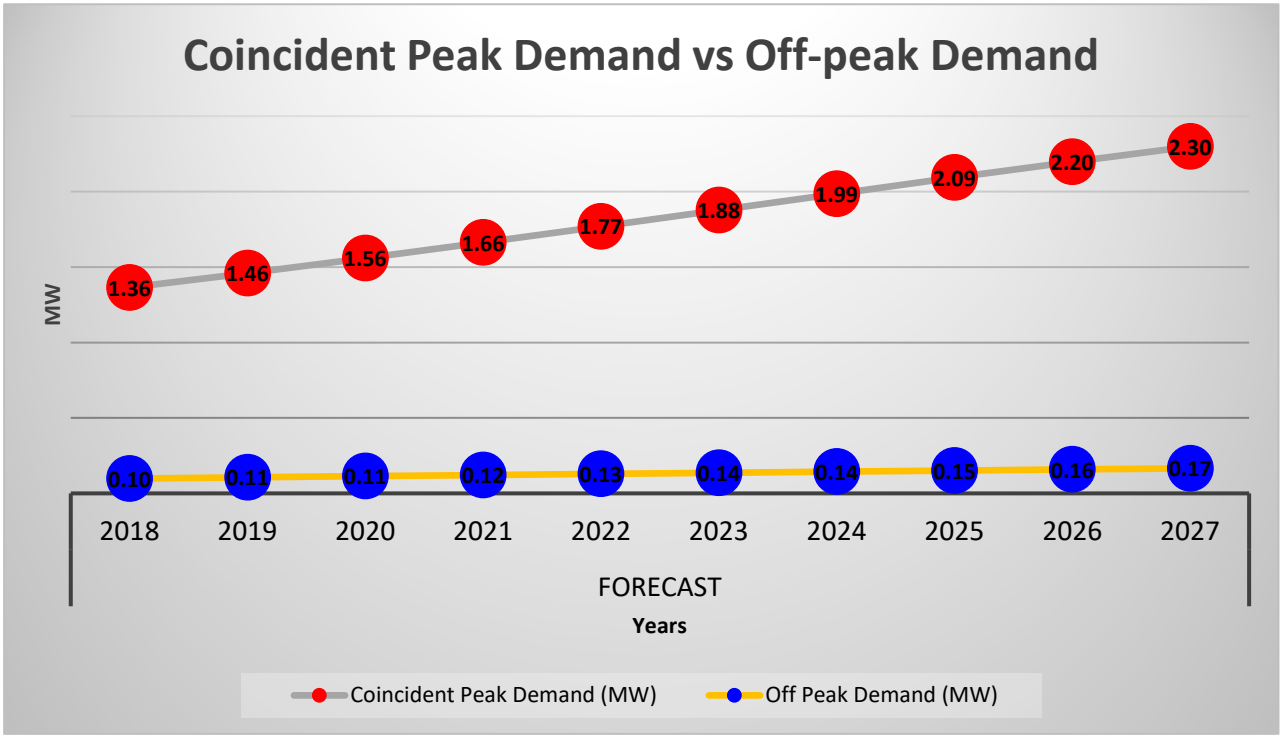
Average Annual Growth Rate- Coincident Peak Demand:

Historical	4%
Forecast	6%
Average Annual Growth Rate-Forecast Off-Peak Demand	6%

Cuyo System

Demand	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Coincident Peak Demand (MW)	1.10	1.01	1.10	1.23	1.15	1.16	1.18	1.20	1.25	1.26
Off Peak Demand (MW)									0.71	0.78

Demand	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Coincident Peak Demand (MW)	1.36	1.46	1.56	1.66	1.77	1.88	1.99	2.09	2.20	2.30
Off Peak Demand (MW)	0.10	0.11	0.11	0.12	0.13	0.14	0.14	0.15	0.16	0.17



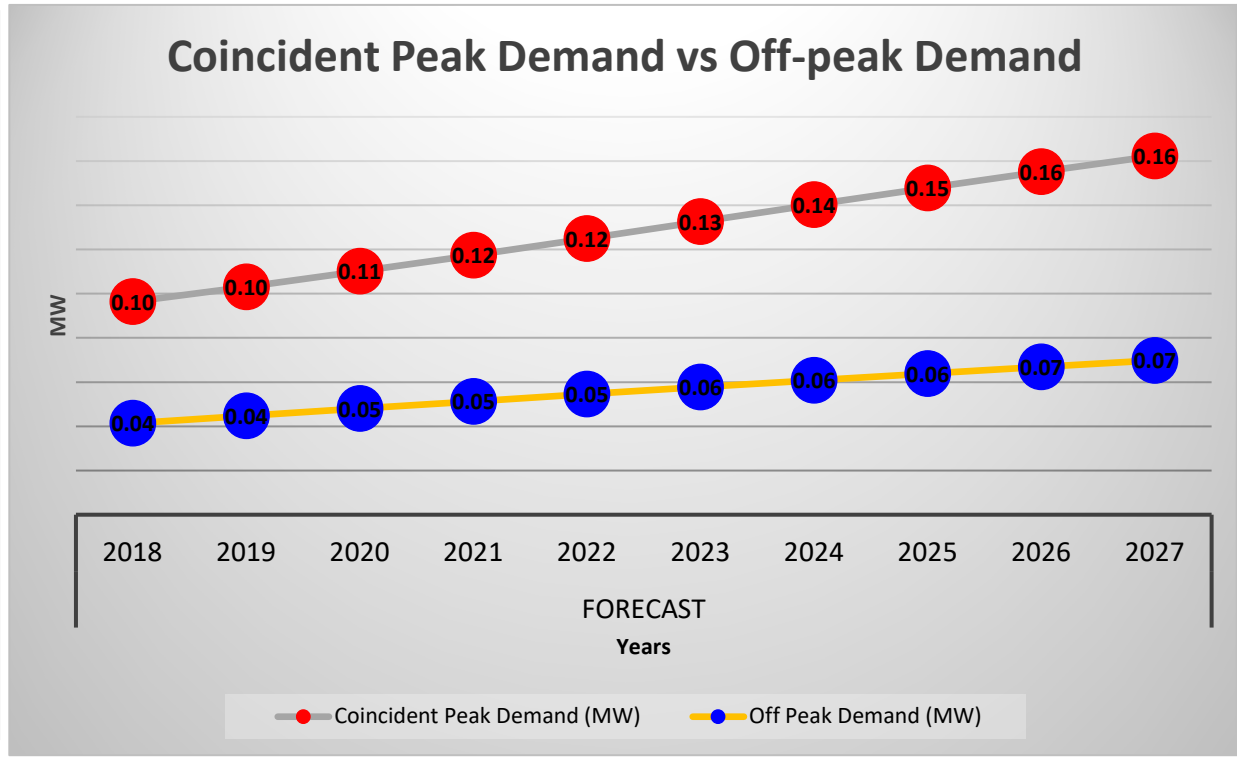
Average Annual Growth Rate- Coincident Peak Demand:

Historical	2%
Forecast	6%
Average Annual Growth Rate-Forecast Off-Peak Demand	6%

Agutaya System

Demand	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Coincident Peak Demand (MW)	0.07	0.07	0.08	0.09	0.09	0.09	0.11	0.12	0.11	0.09
Off Peak Demand (MW)									0.03	0.04

Demand	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Coincident Peak Demand (MW)	0.10	0.10	0.11	0.12	0.12	0.13	0.14	0.15	0.16	0.16
Off Peak Demand (MW)	0.04	0.04	0.05	0.05	0.05	0.06	0.06	0.06	0.07	0.07



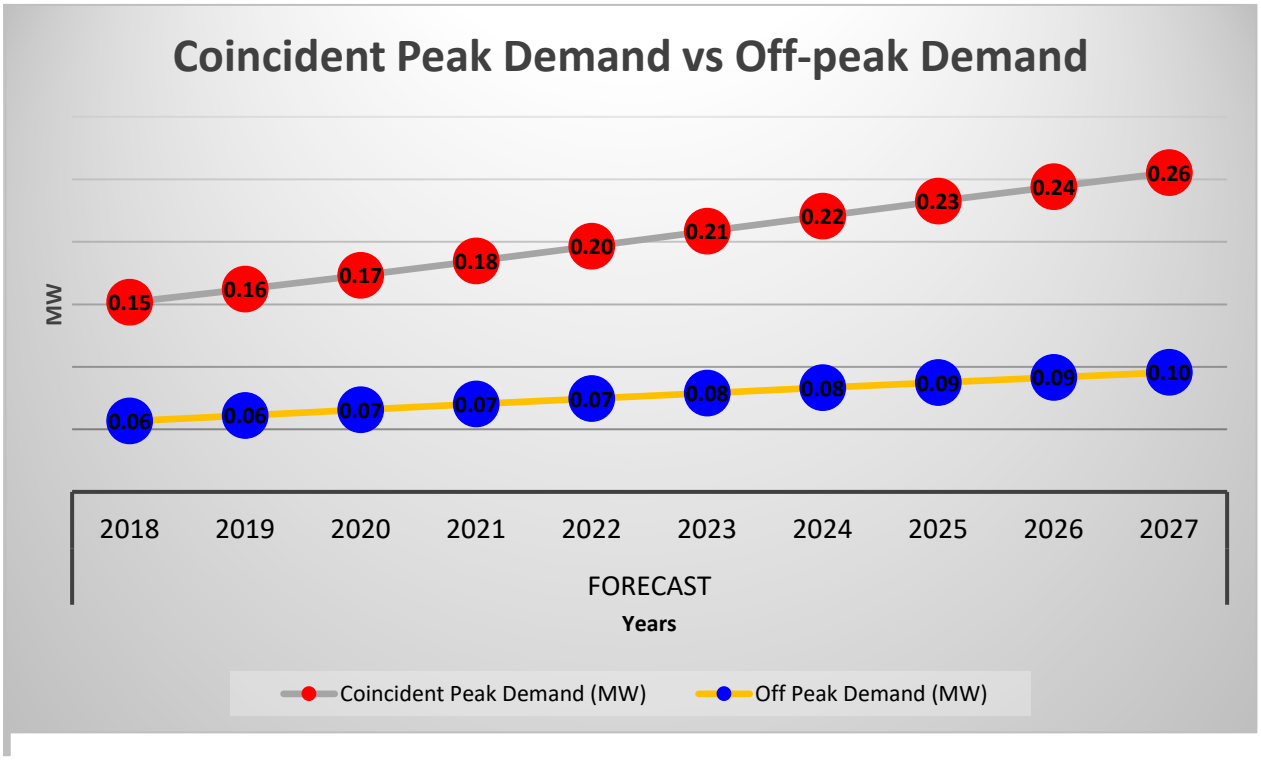
Average Annual Growth Rate- Coincident Peak Demand:

Historical	4%
Forecast	6%
Average Annual Growth Rate-Forecast Off-Peak Demand	6%

Cagayancillo System

Demand	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Coincident Peak Demand (MW)	0.08	0.08	0.08	0.08	0.08	0.09	0.11	0.12	0.14	0.14
Off Peak Demand (MW)									0.04	0.05

Demand	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Coincident Peak Demand (MW)	0.15	0.16	0.17	0.18	0.20	0.21	0.22	0.23	0.24	0.26
Off Peak Demand (MW)	0.06	0.06	0.07	0.07	0.07	0.08	0.08	0.09	0.09	0.10



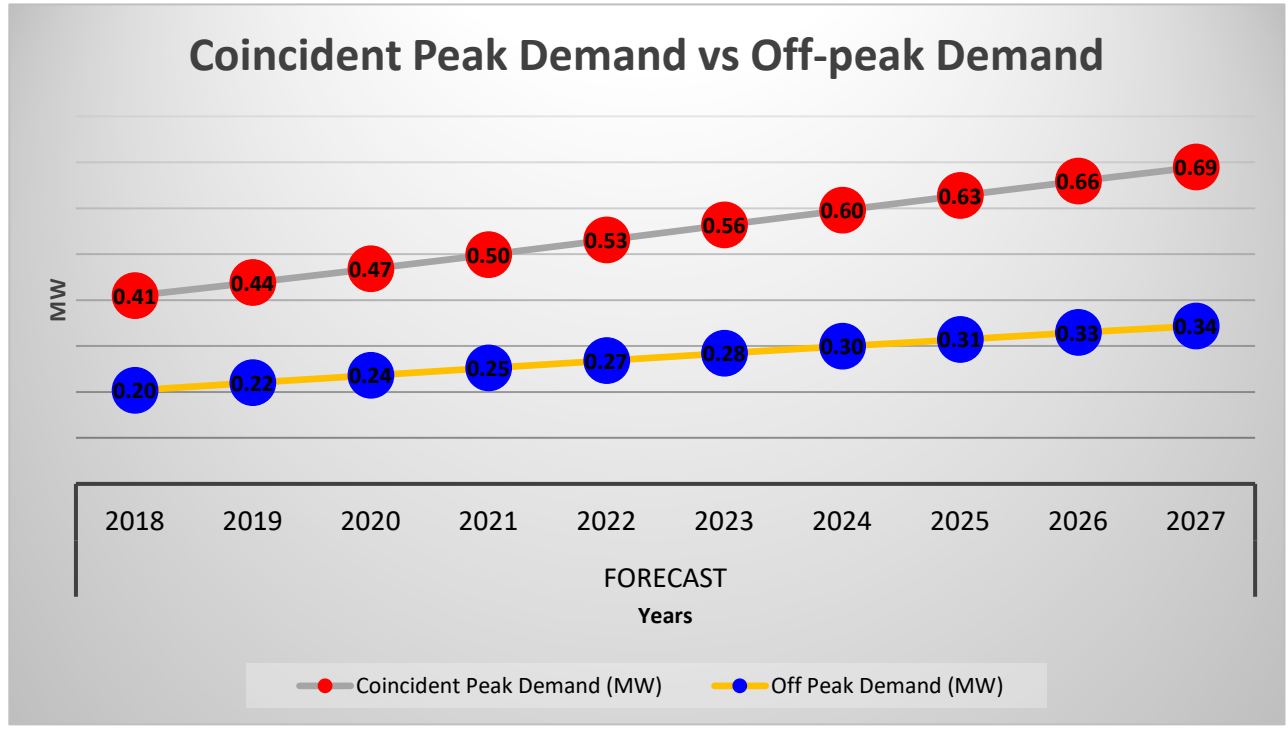
Average Annual Growth Rate- Coincident Peak Demand:

Historical	7%
Forecast	6%
Average Annual Growth Rate-Forecast Off-Peak Demanc	6%

Rizal System

Demand	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Coincident Peak Demand (MW)		0.20	0.22	0.26	0.30	0.32	0.34	0.34	0.34	0.38
Off Peak Demand (MW)									0.17	0.19

Demand	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Coincident Peak Demand (MW)	0.41	0.44	0.47	0.50	0.53	0.56	0.60	0.63	0.66	0.69
Off Peak Demand (MW)	0.20	0.22	0.24	0.25	0.27	0.28	0.30	0.31	0.33	0.34



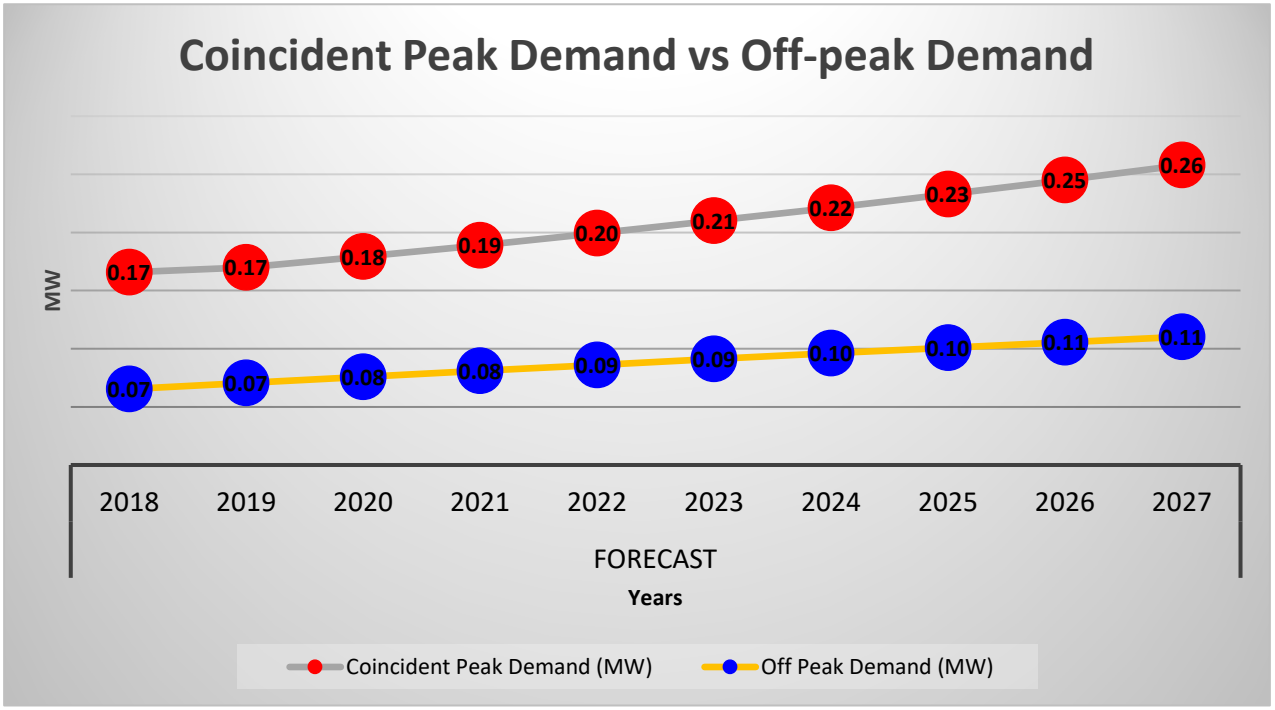
Average Annual Growth Rate- Coincident Peak Demand:

Historical	8%
Forecast	6%
Average Annual Growth Rate-Forecast Off-Peak Demand	6%

Balabac System

Demand	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Coincident Peak Demand (MW)	0.12	0.13	0.13	0.15	0.15	0.16	0.15	0.17	0.18	0.15
Off Peak Demand (MW)									0.07	0.06

Demand	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Coincident Peak Demand (MW)	0.17	0.17	0.18	0.19	0.20	0.21	0.22	0.23	0.25	0.26
Off Peak Demand (MW)	0.07	0.07	0.08	0.08	0.09	0.09	0.10	0.10	0.11	0.11



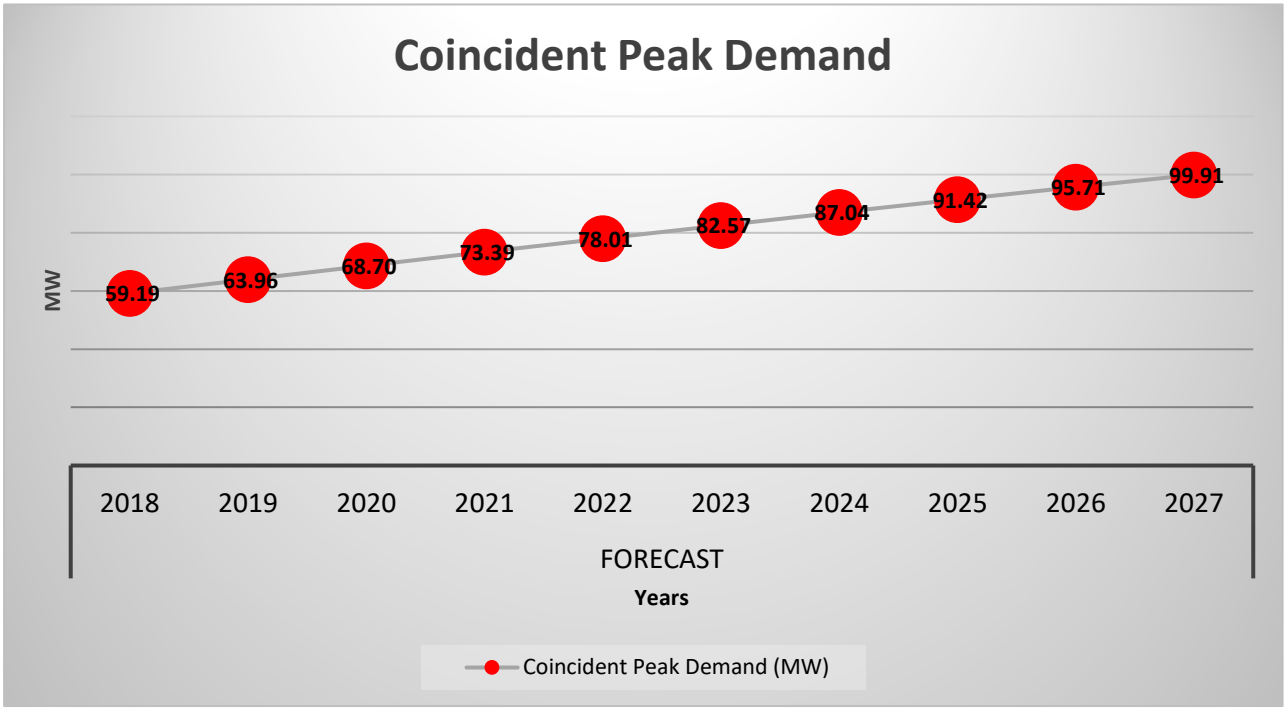
Average Annual Growth Rate- Coincident Peak Demand:

Historical	3%
Forecast	6%
Average Annual Growth Rate-Forecast Off-Peak Demand	6%

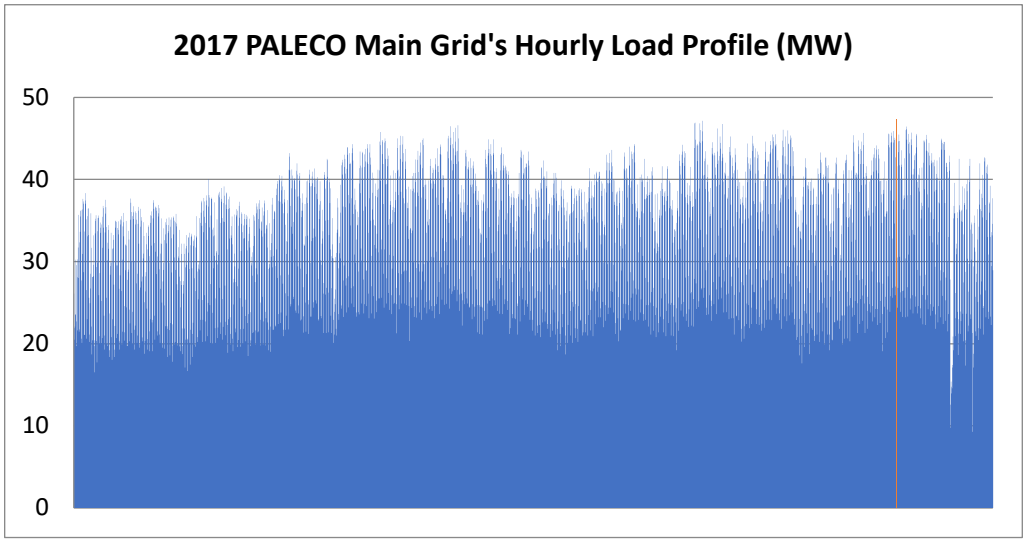
PALECO FRANCHISE AGGREGATE DEMAND

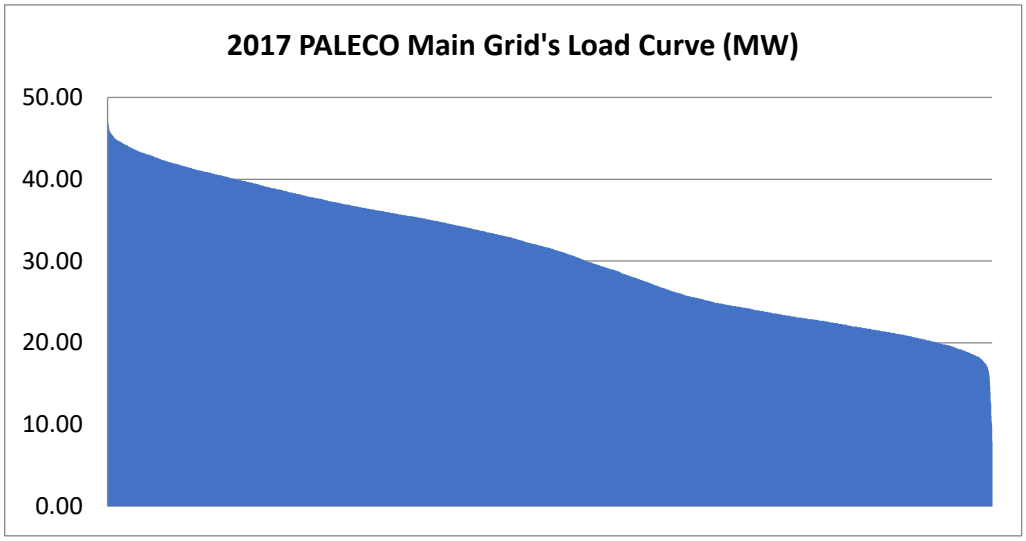
Demand	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Coincident Peak Demand (MW)	23.905	27.218	29.505	30.653	34.33	39.571	42.967	43.721	48.28	51.972
Off Peak Demand (MW)										

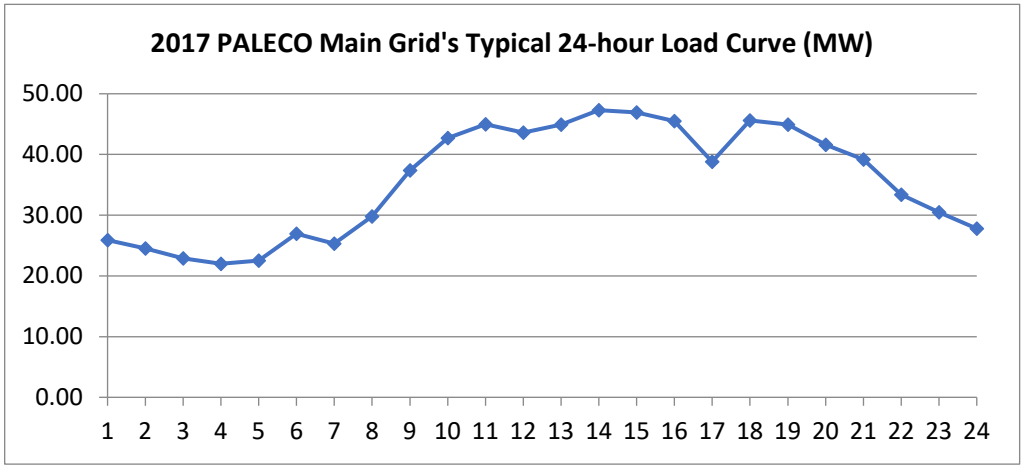
Demand	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Coincident Peak Demand (MW)	59.19	63.96	68.70	73.39	78.01	82.57	87.04	91.42	95.71	99.91
Off Peak Demand (MW)										



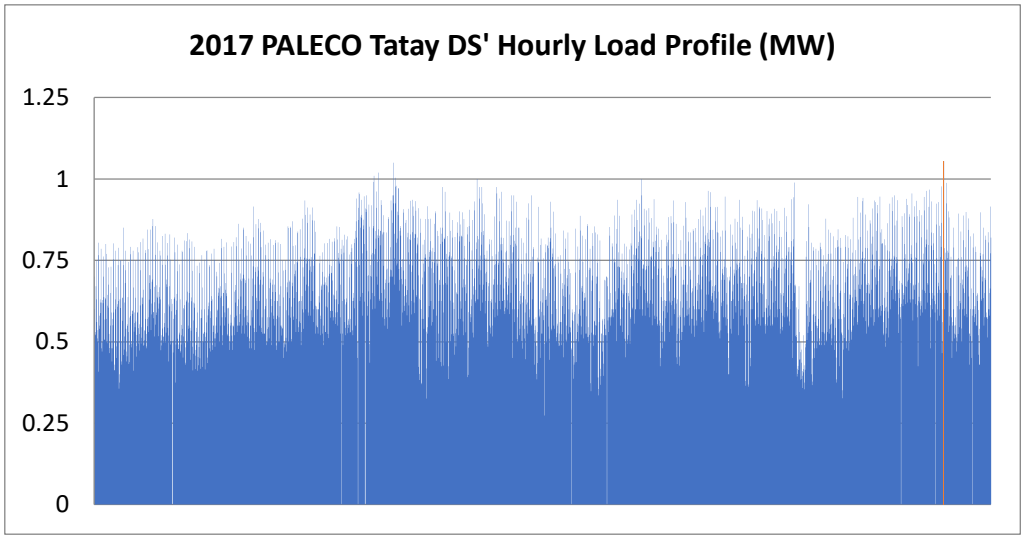
LOAD PROFILE AND LOAD DURATION CURVE

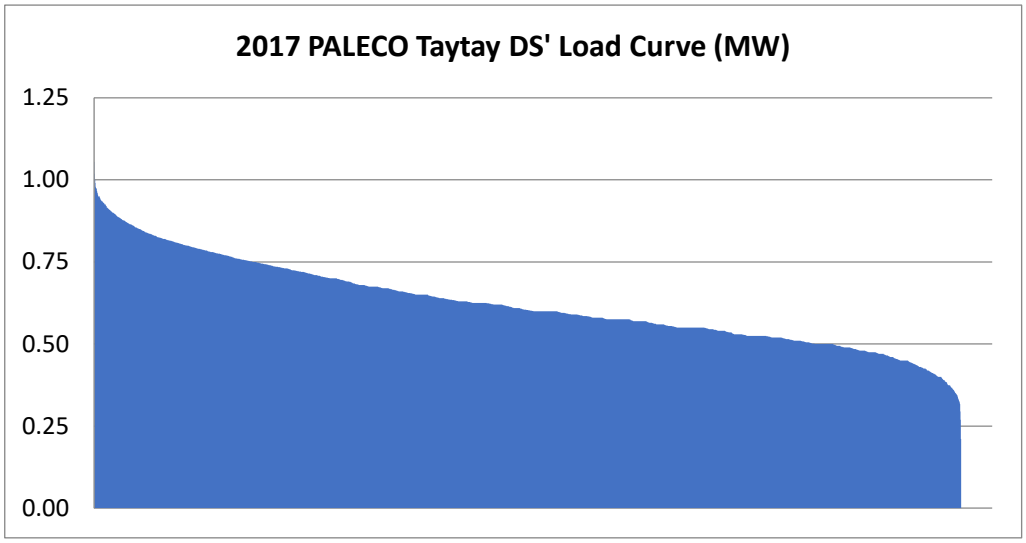


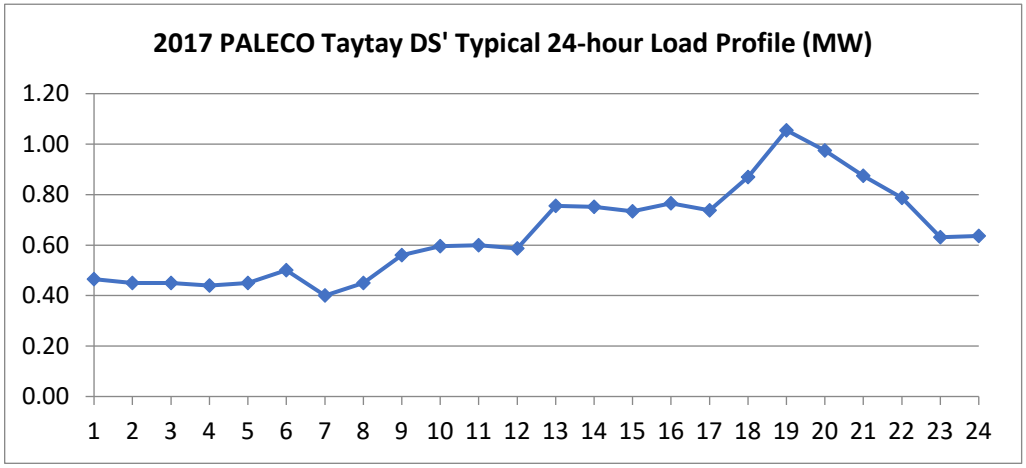




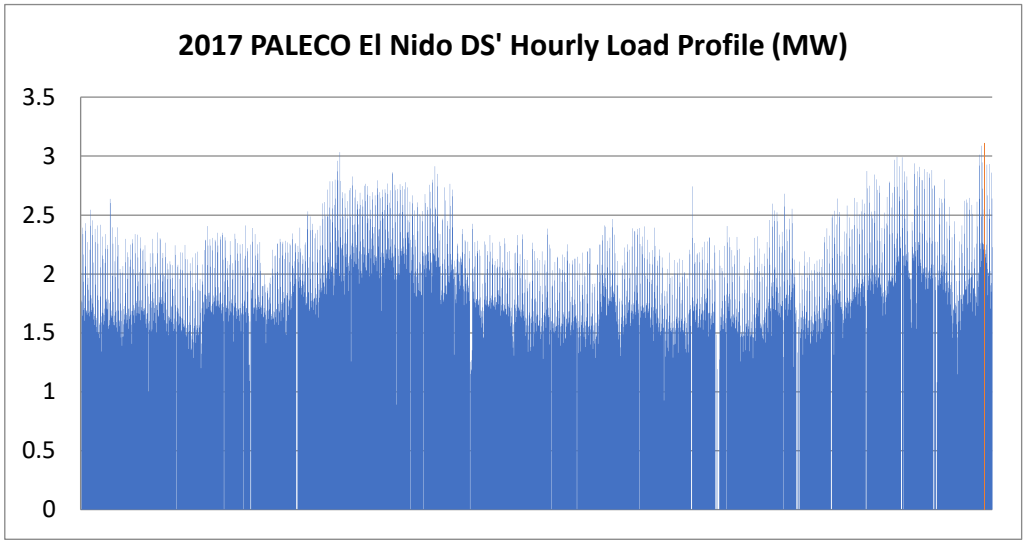
Peak Month:	November 23, 2017 @ 14:00 HOUR
Baseload	22,000 kW
Mid-merit Load	35,620 kW
Peak Load	47,300 kW

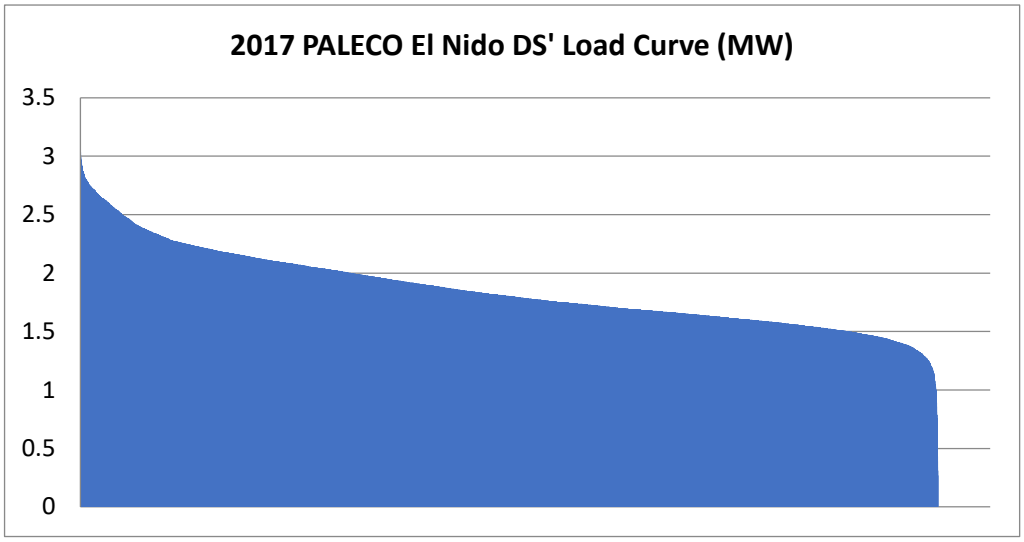


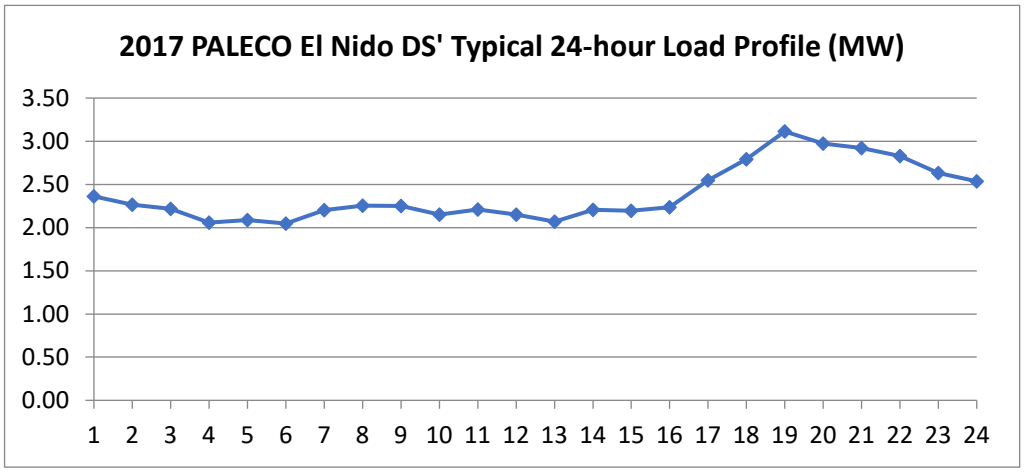




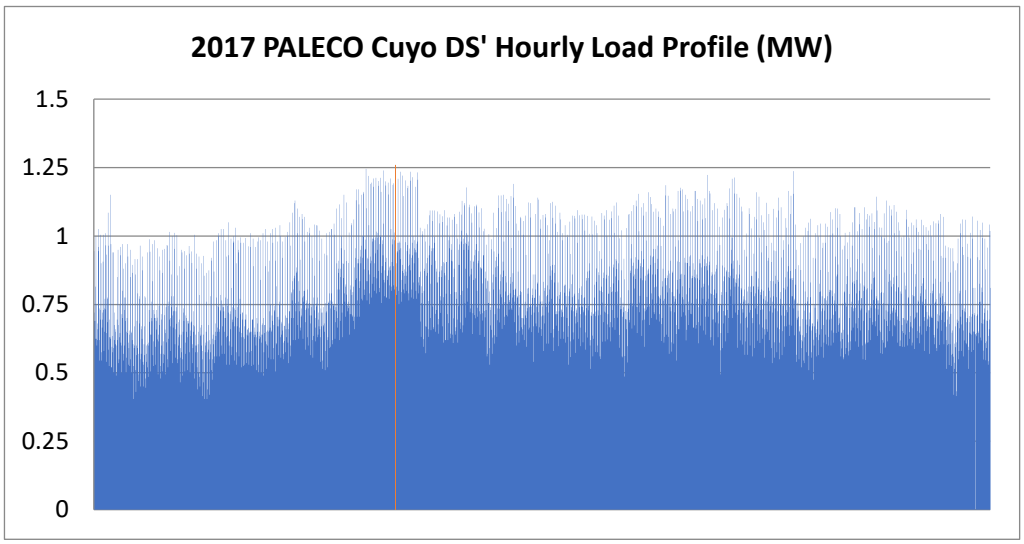
Peak Month:	December 12, 2017 @ 19:00 HOUR
Baseload	400 kW
Mid-merit Load	651 kW
Peak Load	1,055 kW

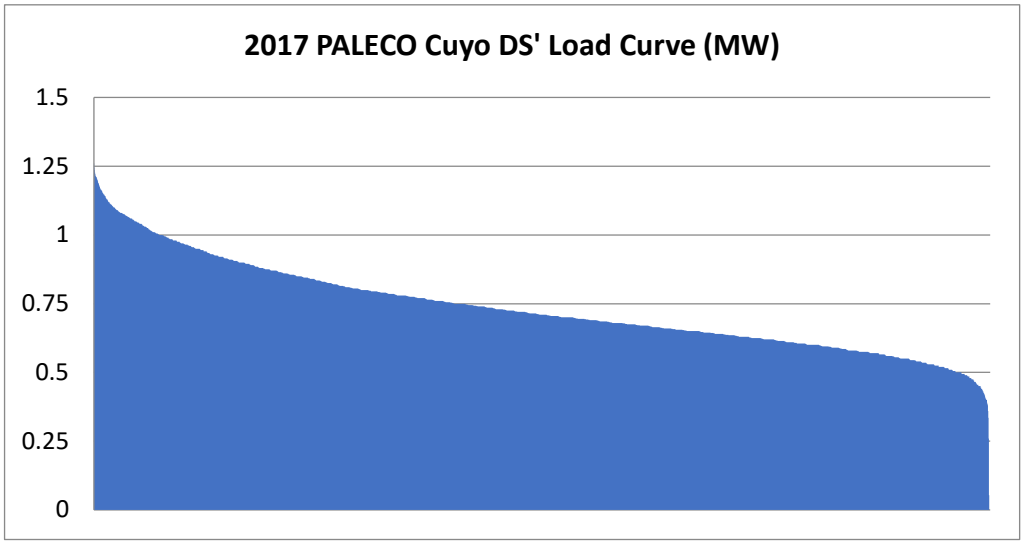


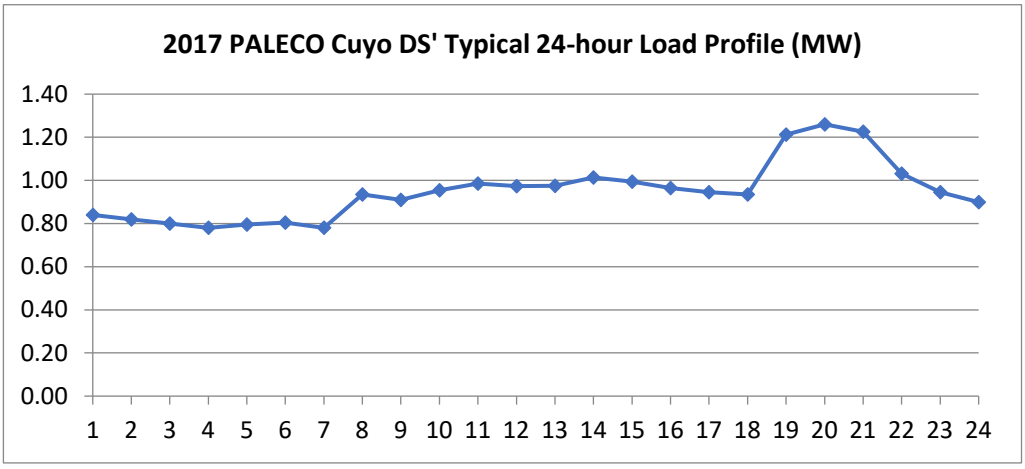




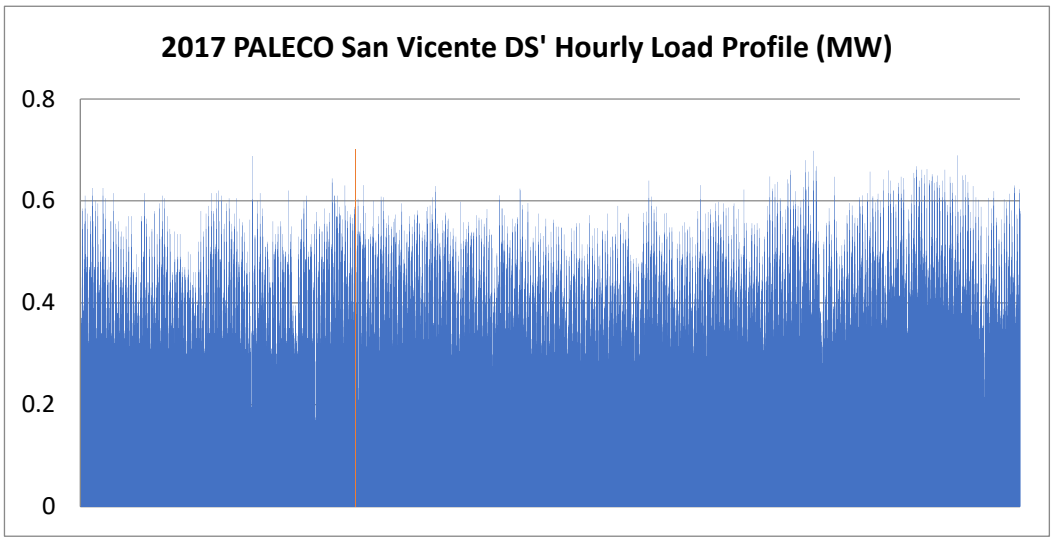
Peak Month:	December 28, 2017 @ 19:00 HOUR
Baseload	2,047 kW
Mid-merit Load	2,392 kW
Peak Load	3,133 kW

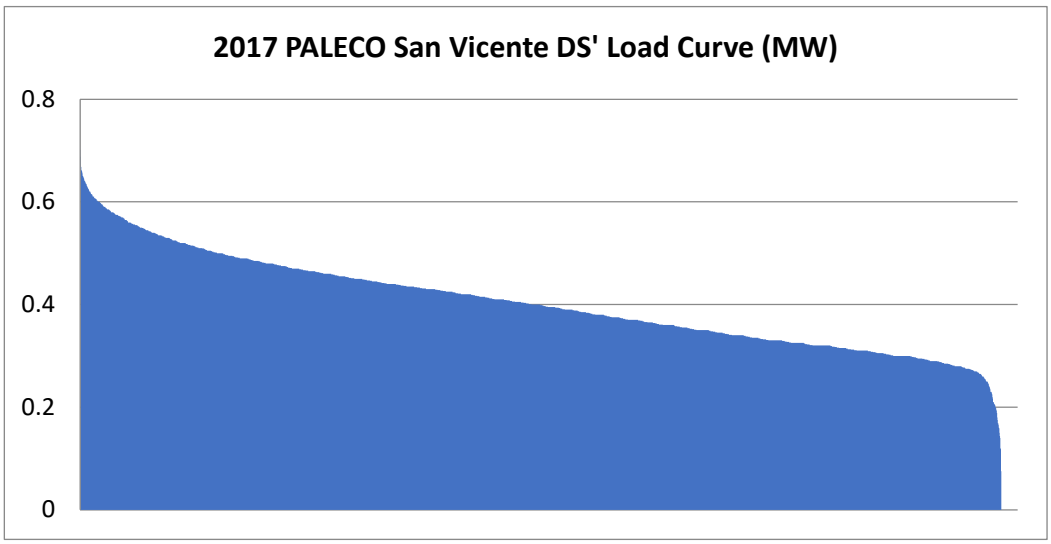


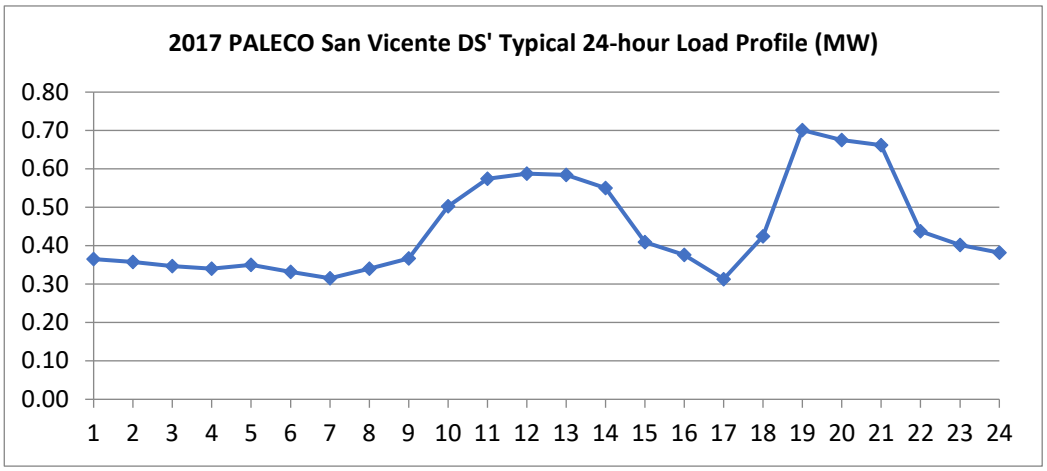




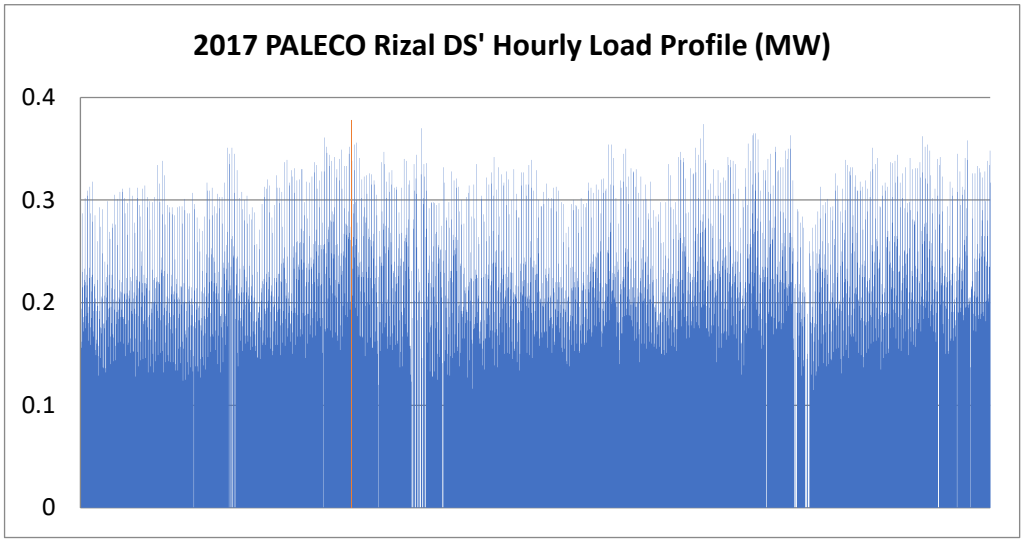
Peak Month:	May 3, 2017 @ 20:00 HOUR
Baseload	780 kW
Mid-merit Load	952 kW
Peak Load	1,260 kW

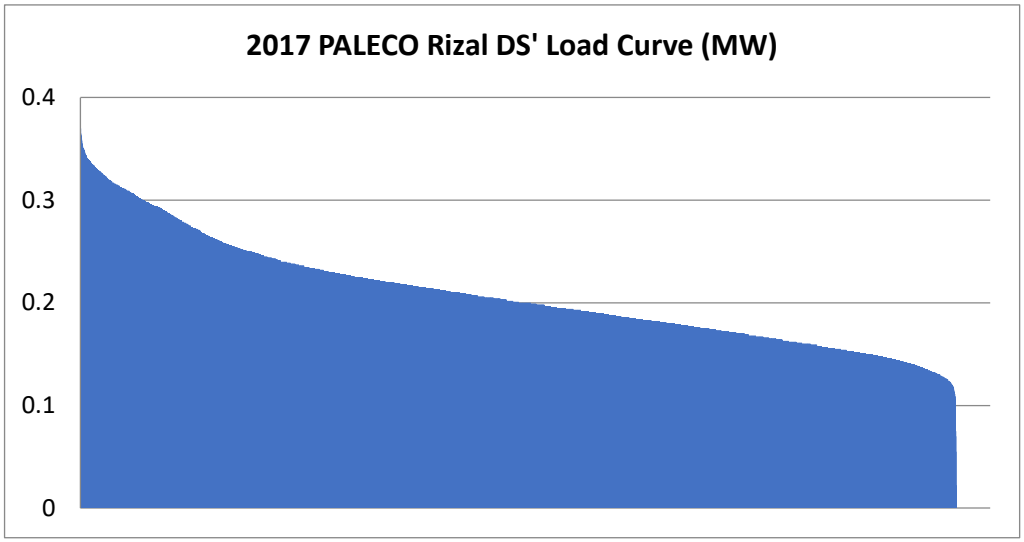


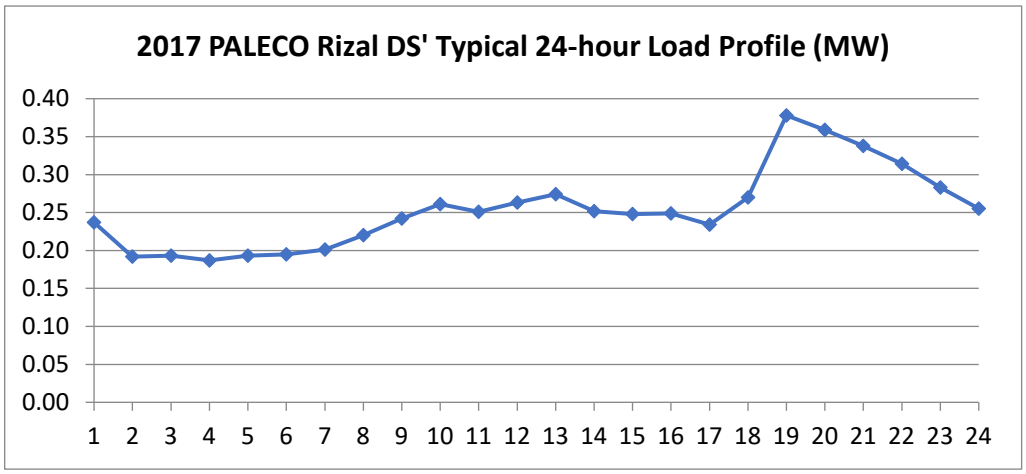




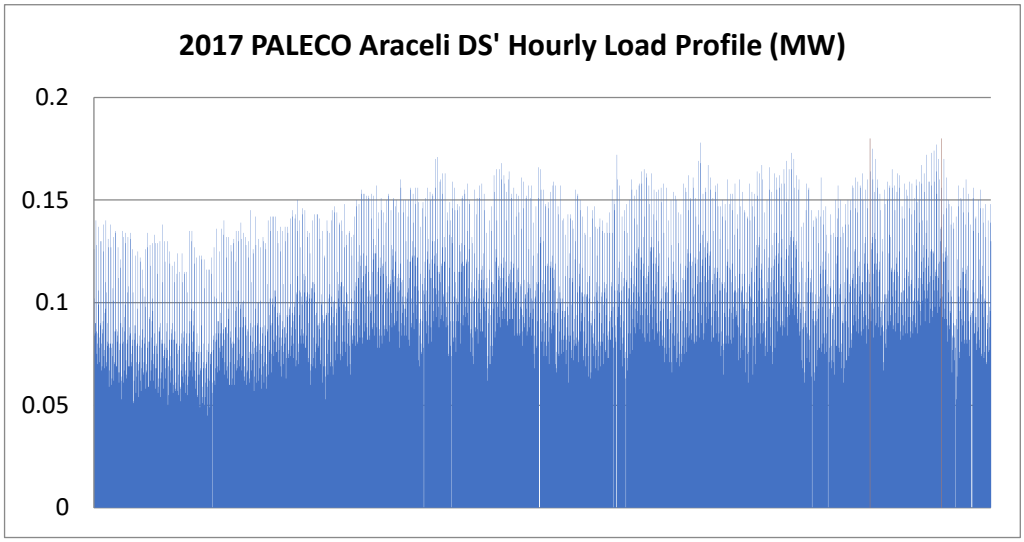
Peak Month:	April 17, 2017 @ 19:00 HOUR
Baseload	313kW
Mid-merit Load	446 kW
Peak Load	701 kW

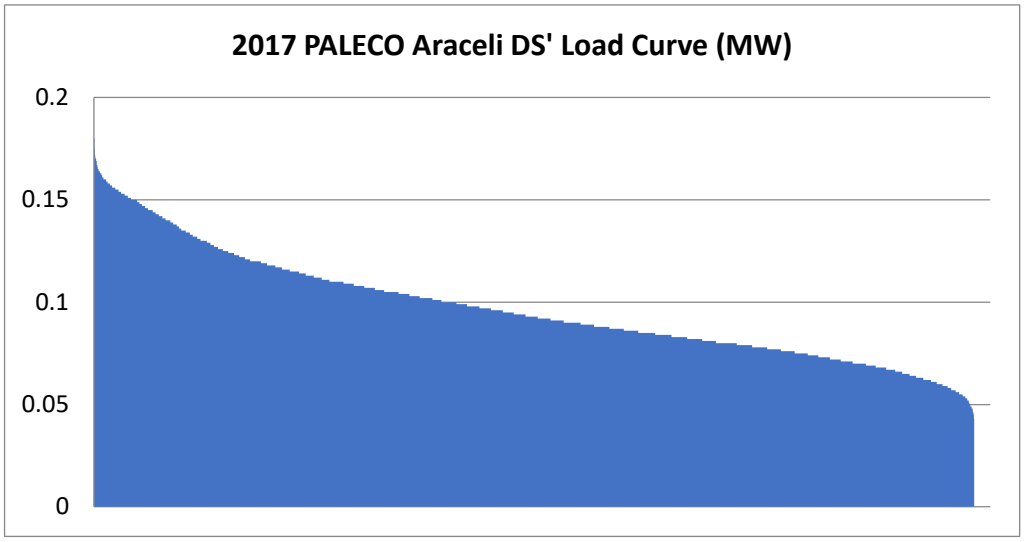


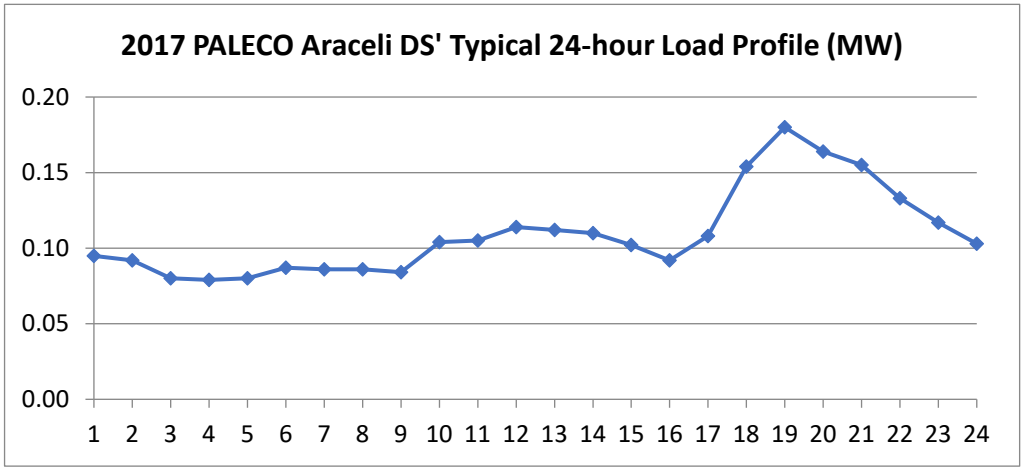




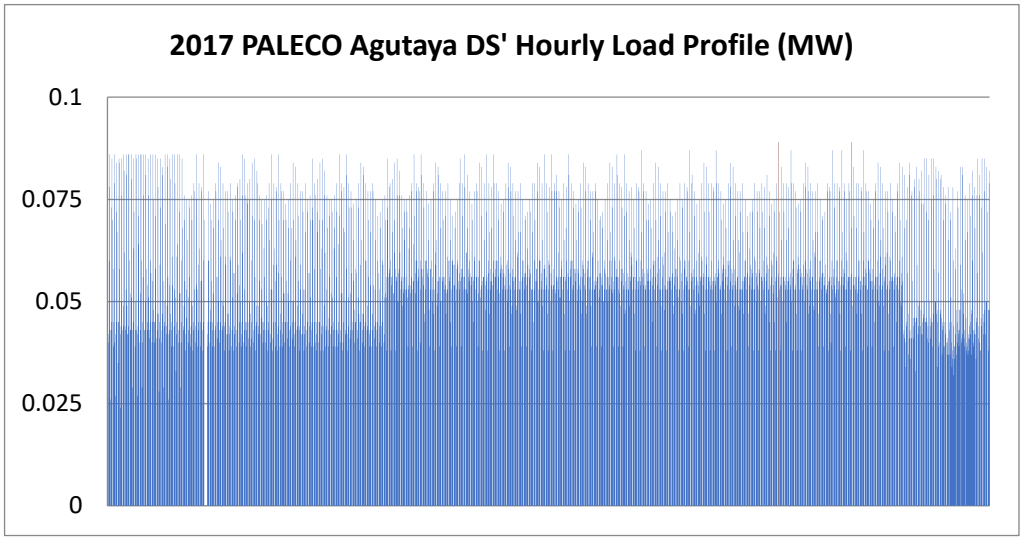
Peak Month:	April 19, 2017 @ 19:00 HOUR
Baseload	187 kW
Mid-merit Load	254 kW
Peak Load	378 kW

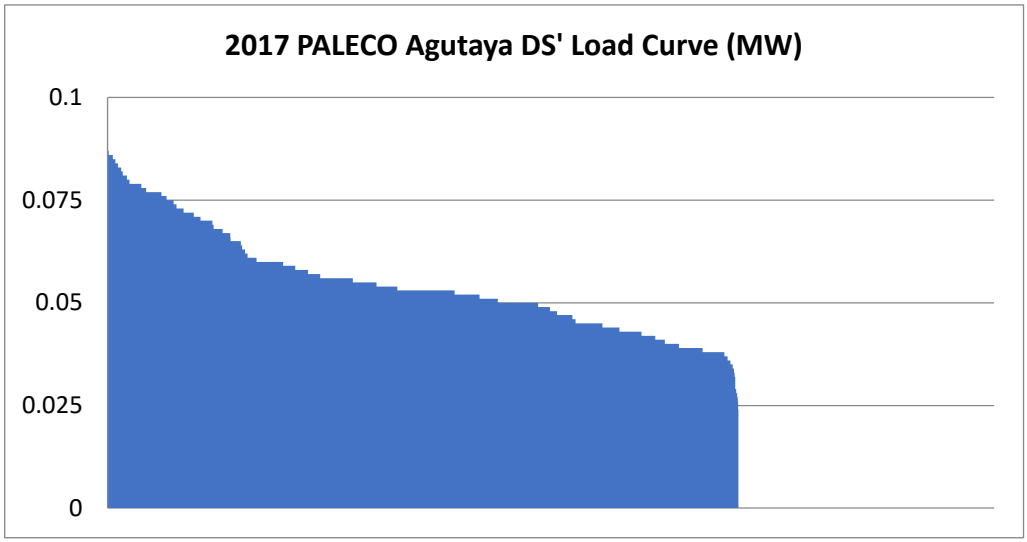


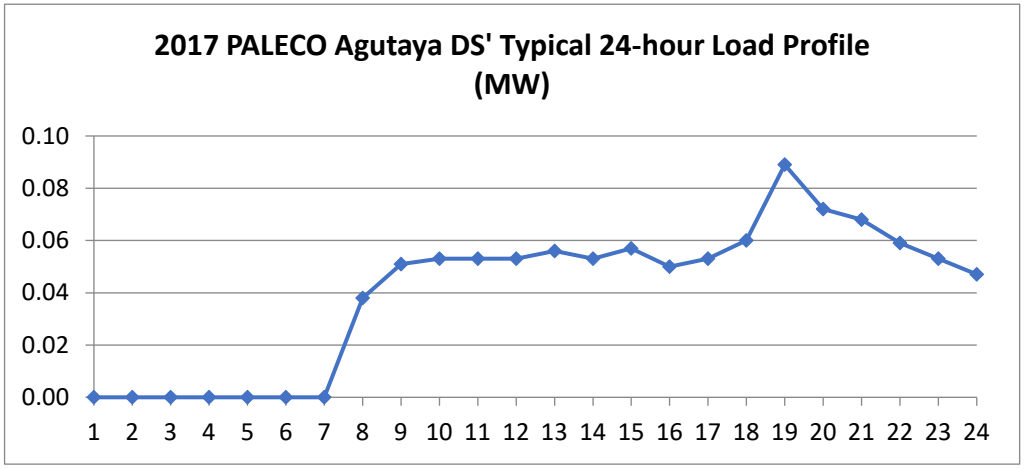




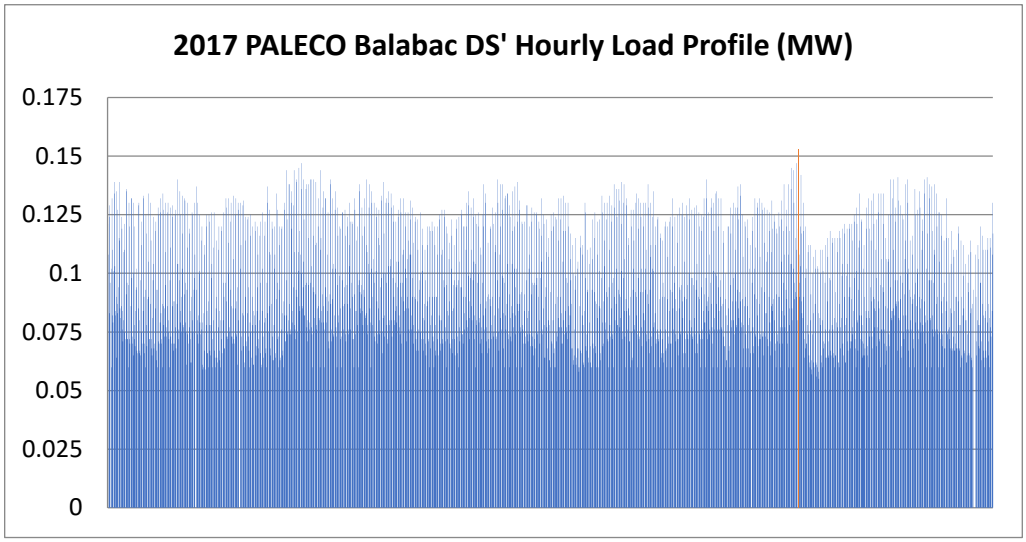
Peak Month:	November 12, 2017 @ 19:00 HOUR
Baseload	79 kW
Mid-merit Load	121 kW
Peak Load	180 kW

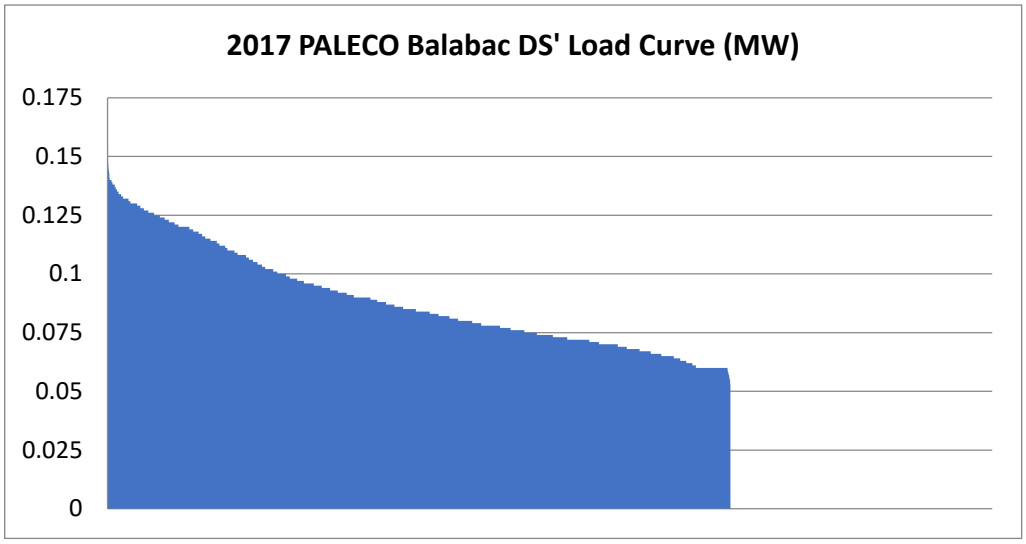


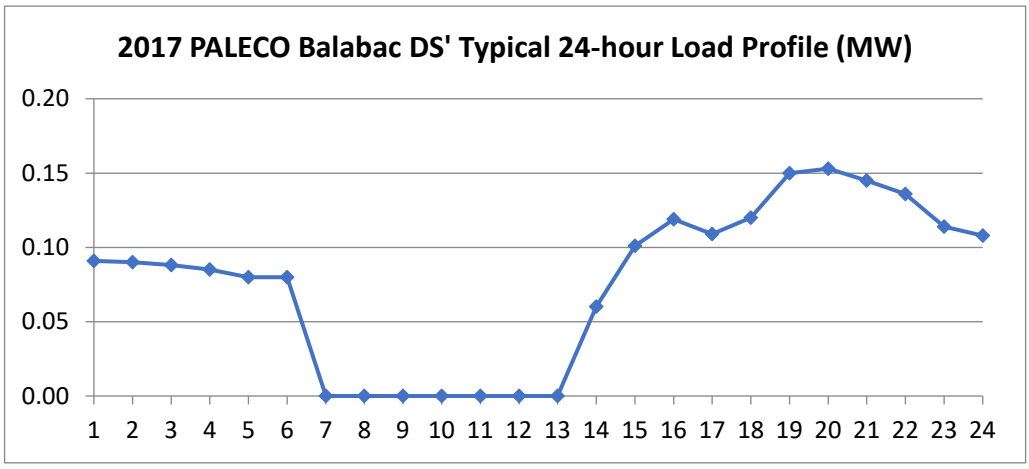




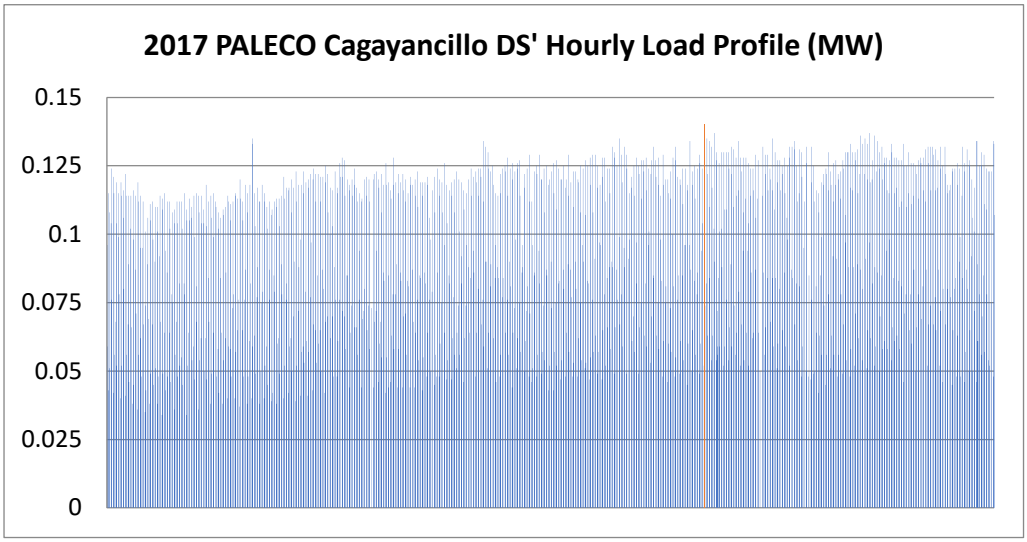
Peak Month:	October 5, 2017 @ 19:00 HOUR
Baseload	38 kW
Mid-merit Load	40 kW
Peak Load	89 kW

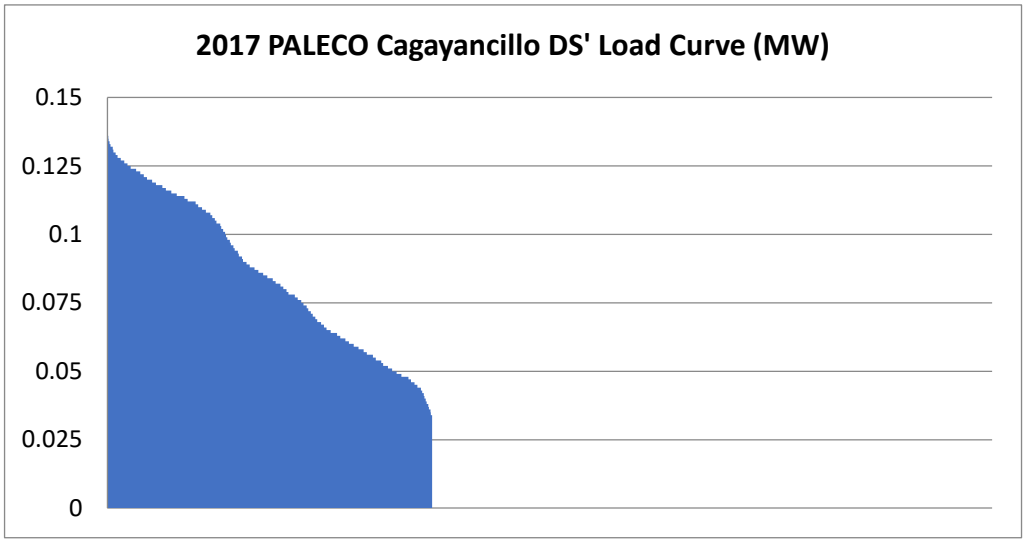


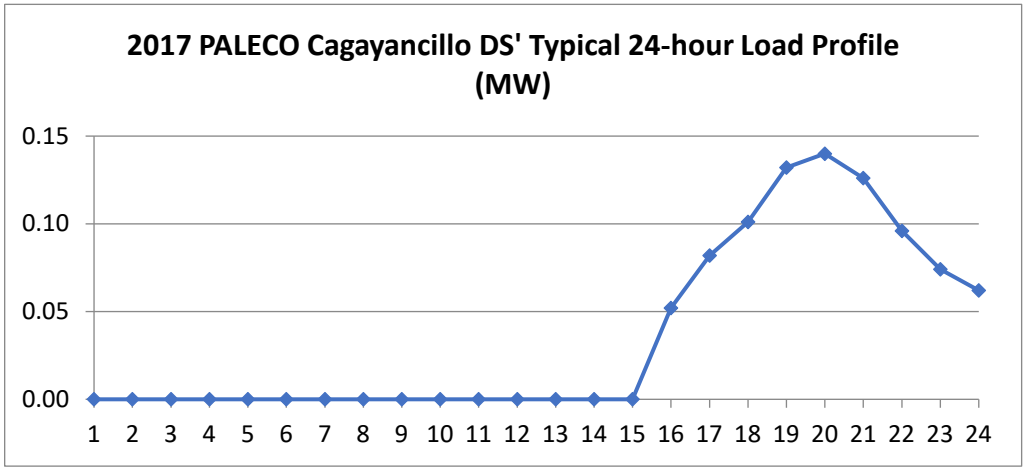




Peak Month:	October 12, 2017 @ 20:00 HOUR
Baseload	60 kW
Mid-merit Load	76 kW
Peak Load	153 kW







Peak Month:	September 3, 2017 @ 20:00 HOUR
Baseload	52 kW
Mid-merit Load	98 kW
Peak Load	140 kW

SUPPLY VS DEMAND AND THE OPTIMAL SUPPLY MIX

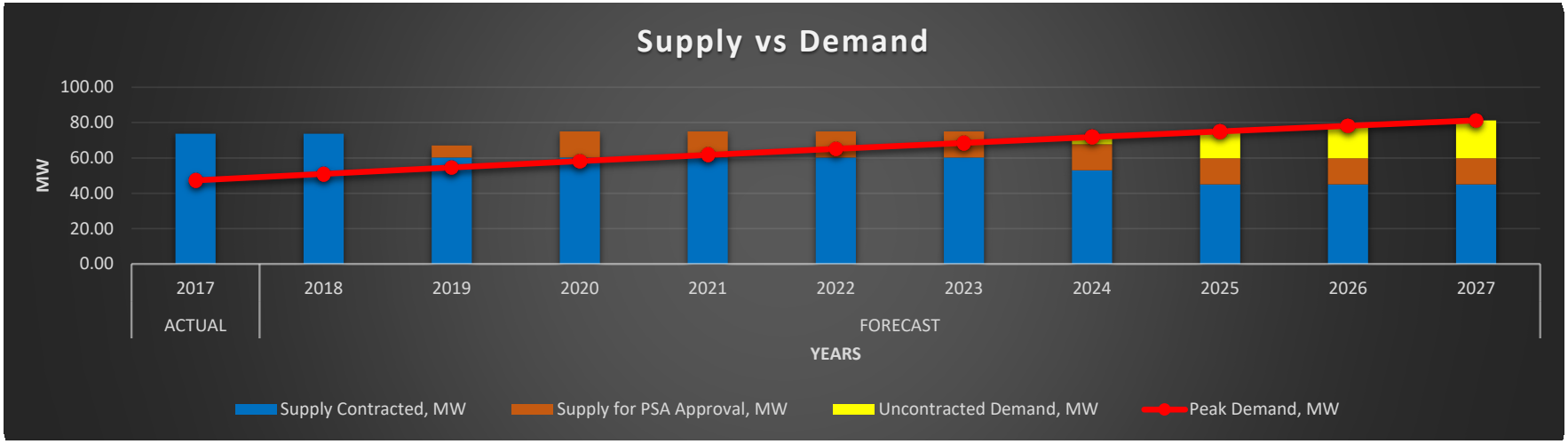
Palawan Grid (based on contract)

Supply Demand	ACTUAL	FORECAST									
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Peak Demand, MW	**47.30**	**50.97**	**54.62**	**58.22**	**61.74**	**65.19**	**68.55**	**71.84**	**75.05**	**78.18**	**81.24**
Supply Contracted, MW	**73.70**	**73.70**	**60.20**	**60.20**	**60.20**	**60.20**	**60.20**	**53.00**	**45.00**	**45.00**	**45.00**
Palawan Power Generation, Inc. (ESA1)	7.20	7.20	7.20	7.20	7.20	7.20	7.20				
Palawan Power Generation, Inc. (ESA2)	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00			
Delta P, Inc (oDeltaP)	13.50	13.50									
DMCI Power Corporation	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
Delta P, Inc (eDeltaP)	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
Supply for PSA Approval, MW	**0**	**0**	**6.8**	**14.8**	**14.8**	**14.8**	**14.8**	**14.8**	**14.8**	**14.8**	**14.8**
Langogan Power Corporation - Langogan			6.80	6.80	6.80	6.80	6.80	6.80	6.80	6.80	6.80
Langogan Power Corporation - Batangbata				8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
Uncontracted Demand, MW	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**4.04**	**15.25**	**18.38**	**21.44**

The forecasted supply assumes all units of the power plants are in good running condition and can provide its full contracted capacity based on contract. Palawan Power Generation, Inc. (PPGI) ESA1 and ESA2 will end by 25 January 2024 and February 2025. However, the peak demand occurs either April or May each year. By the time the peak demand occurs in 2024, ESA 1 is no longer available. The same situation goes with ESA 2. Hence, the table above shows ESA 1 and ESA 2 are longer available by 2024 and 2025 respectively.

Langogan Power Corporation (LPC) hydro power plants are assumed to be running in 100% capacity of 6.8MW and 8MW for Langogan and Batangbatang respectively.

If LPC power plants are commissioned by 2019 and 2020, the supply be sufficient until 2023. By 2024 there will be a supply deficit of 4.04MW. This will increase to 21.44MW by 2027.



Palawan Grid (based on actual operations and circumstances)

Supply Demand	ACTUAL	FORECAST									
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Peak Demand, MW	**47.30**	**50.97**	**54.62**	**58.22**	**61.74**	**65.19**	**68.55**	**71.84**	**75.05**	**78.18**	**81.24**
Supply Contracted, MW	**61.10**	**61.80**	**51.80**	**51.80**	**51.80**	**51.80**	**51.80**	**49.00**	**45.00**	**45.00**	**45.00**
Palawan Power Generation, Inc. (ESA1)	6.80	2.80	2.80	2.80	2.80	2.80	2.80				
Palawan Power Generation, Inc. (ESA2)	8.50	4.00	4.00	4.00	4.00	4.00	4.00	4.00			
Delta P, Inc (oDeltaP)	9.80	10.00									
DMCI Power Corporation	22.40	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
Delta P, Inc (eDeltaP)	13.60	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
Supply for PSA Approval, MW	**0**	**0**	**4.08**	**8.88**	**8.88**	**8.88**	**8.88**	**8.88**	**8.88**	**8.88**	**8.88**
Langogan Power Corporation - Langogan			4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
Langogan Power Corporation - Batangbata				4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80
Uncontracted Demand, MW	**0.00**	**0.00**	**0.00**	**0.00**	**1.06**	**4.51**	**7.87**	**13.96**	**21.17**	**24.30**	**27.36**

The contracted capacity of Palawan Power Generation, Inc. (PPGI) ESA1 is 7.2MW (2.8MW and 4.4MW gensets), while ESA2 is 8.0MW (2 x 4.0MW gensets) without n-1. In the past, due to the relatively old units, the gensets experience unforced outages. In addition, the gensets undergo scheduled preventive maintenance. These two factors, greatly affect the maximum dispatchable capacity of PPGI. Another factor that comes into play is the energy-based nature of the aforementioned ESAs. ESA1 and ESA2 are contracted to deliver 30,000 MWh and 44,000 MWh per year respectively. Both power plants can deliver their respective contracted energy without having dispatched in full capacity. There are times when PALECO needs the full contracted capacity but it is argued that they are not contractually obligated to deliver as such as their contract is energy-based. Hence, for planning perspective, it is better to adjust the capacities of ESA1 and ESA2 by considering the preventive maintenance, genset breakdown and energy nature of its contract. The capacities are 2.80MW and 4.0MW for ESA1 and ESA2 respectively.

Similarly, oDeltaP PSA is also energy-based with contracted energy of 55,000 MWh and contracted capacity of 13.5MW (1 x 3.0MW and 3 x 3.5MW gensets) without n-1. As the nature of contract is the same with PPGI's, similar situations are encountered with oDeltaP. Hence, to ensure supply security in the future, adjusted capacity is reflected for planning purposes. After considering the preventive maintenance, unforced outage and contract nature oDeltaP's capacity is reflected as 10.0MW.

Langogan Power Corporation (LPC) will supply from hydro power plant, thus power supply agreement: 6.8MW for Langogan and 8MW for Batangbatang is energy-based. However, for planning purposes it is important to consider the capacity of those power plants which were determined by applying the capacity factor of 0.6 for hydro results to 4.08 and 4.8MW respectively. This is assumming that LPC is already operational starting 2019 and 2020. As of this writing, ERC has not yet approved the rate of LPC. For planning purposes two scenarios are identified: (1) with LPC Power Plants and (2) without LPC Power Plants.

Scenario 1: With LPC

Based on the recommendation of Joint-Energy Development Advisory Group (JEDAG) PALECO should conduct CSP every five (5) years. This is to reduce the workload of having to bid every year to ensure that the supply is just enough for the demand and also to give enough time for the construction of the power plant considering the hydro will take three to four years to construct and permitting would take one year.

With the LPC getting commissioned by 2019 and 2020, the supply deficit will happen by 2021. Five years after 2019, by 2024 the supply deficit increases to 13.96MW. This further increases to 27.36MW by 2027. Hence, to fill in the gap, a CSP is scheduled by 2018 for 15MW power plant. This will ensure enough supply until 2024. Another CSP shall be scheduled by 2022 to address the gap by 2025 until 2027 for a 15MW power plant.

Scenario 2: Without LPC

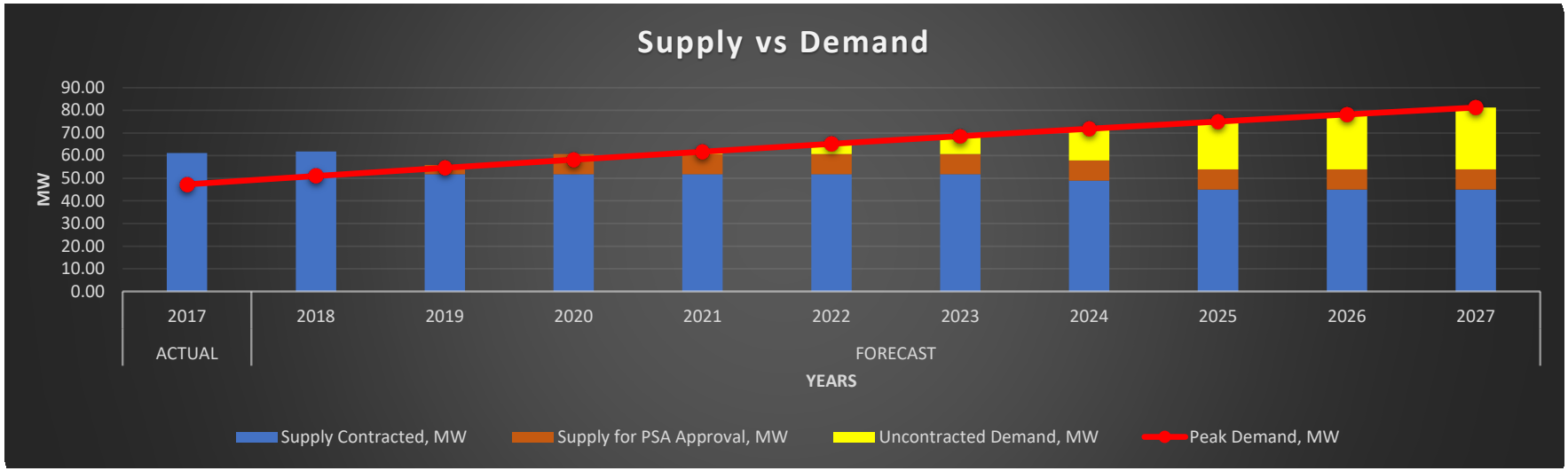
Without the LPC, the supply deficit of 2.82MW will happen as early as 2019. If a CSP will not yet be conducted by 2018 and no new PSA is awarded, PALECO may opt to extend the oDeltaP PSA by one (1) year. By 2024 the supply deficit increases to 22.84MW and by 2027 it will be at 36.24MW due to expiring ESAs of PPGI and increase in demand. Hence, the CSP for 2018 and 2022 shall be for a 25MW and 15MW power plants respectively.

PALECO Board passed a board resolution instructing LPC to start the construction before the end of 2018 otherwise the PSA will be rescinded.

Regardless of which scenario is realized, additional CSPs for Ancillary Service shall be conducted. This is to address the grid stability and security of supply which was not addressed by requiring Guaranteed Dependable Capacity (GDC) in each contract. Moving forward, in order to address cascading blackouts due to breakdown of gensets of any power provider, a centralized approach in providing n-1 genset is adapted. This is more advantageous to having an n-1 or GDC contract as it is more economical redounding to lower cost of electricity and at the same time it is more responsive approach in addressing cascading blackouts as it will cater all power providers that may lack capacity while in operation. The size of the Ancillary Service shall be based on the largest unit in the grid or 10% of the total demand whichever is higher. Thus for the period 2019 to 2024, the needed Ancillary service shall be 7.0MW. For the period 2025 to 2027, and additional 1MW for Ancillary Service is needed.

To further lower the electricity, proposals using used gensets shall be accepted with prescribed number of running hours and penalty provision for allowable downtime shall be made part of the PSA.

Regarding the compliance with RPS, NPPs may opt PALECO to conduct a CSP for all to achieve economies of scale and be able get the lowest possible offer.



List of Existing Contracts and Details-Palawan Grid

Supply Contracted	Plant Owner/ Operator	Capacity Factor	PSA Effectivity (MM/YR)	PSA Expiration (MM/YR)	Contracted Capacity, MW	Contracted Energy, MWH	Base / Mid-merit / Peaking	Embedded/ Grid Connected	Utility-owned/ NPC/ IPP/ NPC-IPP	Status	Fuel Type	Installed Capacity (MW)	Net Dependable Capacity (MW)
Energy	PPGI		01/2009	01/2024	7.2	30,000	Peaking	Embedded	IPP	operational	Bunker	9	7.2
Energy	PPGI		02/2010	02/2025	8	44,000	Base	Embedded	IPP	operational	Bunker	10	8
Energy	Delta P, Inc (oDeltaP)		04/2009	04/2019	13.5	55,000	Base /Mid-Merit /Peaking	Embedded	IPP	operational	Bunker	16	13.5
Capacity (Tariff: Energy)	DMCI Power Corporation		09/2013	08/2028	25	2017: 119,230 2018: 133,899 2019: 175,000 2020: 180,000 ... 2027: 180,000 2028: 120,000	Base /Mid-Merit /Peaking	Grid Connected	IPP	operational	Diesel & Bunker	42.27	25
Capacity	Delta P, Inc (eDeltaP)		05/2017	Interim Approval	20	0	Base /Mid-Merit /Peaking	Grid Connected	IPP	operational	Bunker	30	26.6

PPGI

PPGI has two ESAs with PALECO with an aggregate contracted energy of 74,000 MWh per year. In the past years, the gensets in ESA1 have issues, hence, the gensets in ESA2 are being utilized to meet the contracted energy. Although the total contracted capacity if 15.2MW, only 8.0MW are dispatchable at a given time. Being located at the load center, PPGI's gensets carry most of the burden the provision for reactive power and obliged to run as regulating plant.

Delta P, Inc.

DeltaP has two PSAs, those referred to as oDeltaP and eDeltaP with 13.5MW and 20MW contracted capacity. The first PSA is energy-based with 55,000 MWh of contracted energy pear year, while the second is capacity-based. The PSA for oDeltaP is to expire by April 2019, while eDeltaP just started operating last May 2017. It has been practiced for a long time that DeltaP provide a black start for the Main Grid. They provide the largest units in the grid and are so far providing reliable service. The relatively new gensets of Delta P are capable of running as regulating power plant in the Main Grid and provides necessary reactive power when needed.

DMCI Power Corporation

The main technology of DMCI is Coal, however, due to permitting constraints the said technology has not yet been built. As of this writing, the secondary technology is being utilized. DMCI has several power plants scattered within the Main Grid. In particular, those power plants are located in Irawan, Puerto Princesa; Aborlan; Brooke's Point and Quezon. The presence of their power plants in Brooke's Point and Quezon provides power to those location especially when there is an issue in the NAPOCOR's transmission line or a total black out occurs. However, there is an issue with voltage regulation with the aforementioned power plants. The PSA of DMCI is capacity-based while their tariff structure is energy-based, with increasing NEE from its COD until the 7th year. This year, it is pegged at 133,000 MWh and will increase up to 180,000 MWh by 2020. The same is expected from 2021 until 2027. While in 2028, PSA expires on August 30, the NEE is at 120,000 MWh. They are currently adding more stable gensets to be able to provide the 25MW guaranteed dependable capacity (GDC) and meet the target NEE.

The SAGR for the Main Grid is PhP 5.6404 per kWh.

Based on the screening curve for the Main Grid, the optimal combination is Diesel-Hydro with Diesel operating at peaking and hydro as base. There are many hydro resources near the Palawan Main Grid that are waiting to be developed.

Puerto Princesa: seven (7) sites; aggregate capacity of 27.86MW
Aborlan: six (6) sites; aggregate capacity of 8.14MW
Narra: six (6) sites; aggregate capacity of 37.72MW
Brooke's Point: 12 sites; aggregate capacity of 23.25MW
Quezon: four (4) sites; aggregate capacity of 2.86MW
Roxas: two (2) sites; aggregate capacity of 15.50MW

This is followed by the Diesel - Bunker - Biomass combination as peaking, mid-merit and baseload power plants respectively. As for biomass, source of feedstock needs to be identified. To enumerate a few, there are agricultural wastes which are seasonal, farming of napier grass must be looked into, another is tying up with the City or municipality for the municipal wastes. Third is Diesel - Biomass for peaking and baseload. Fourth is Biomass only and at Fifth is Diesel - Bunker combination as peaking and baseload respectively. Introduction of Solar as fuel replacement during day time will further reduce the cost of electricity.

Shown in the next table are the Capacity and Energy shares of each technology that will result to an optimal supply mix for the Palawan Main Grid.

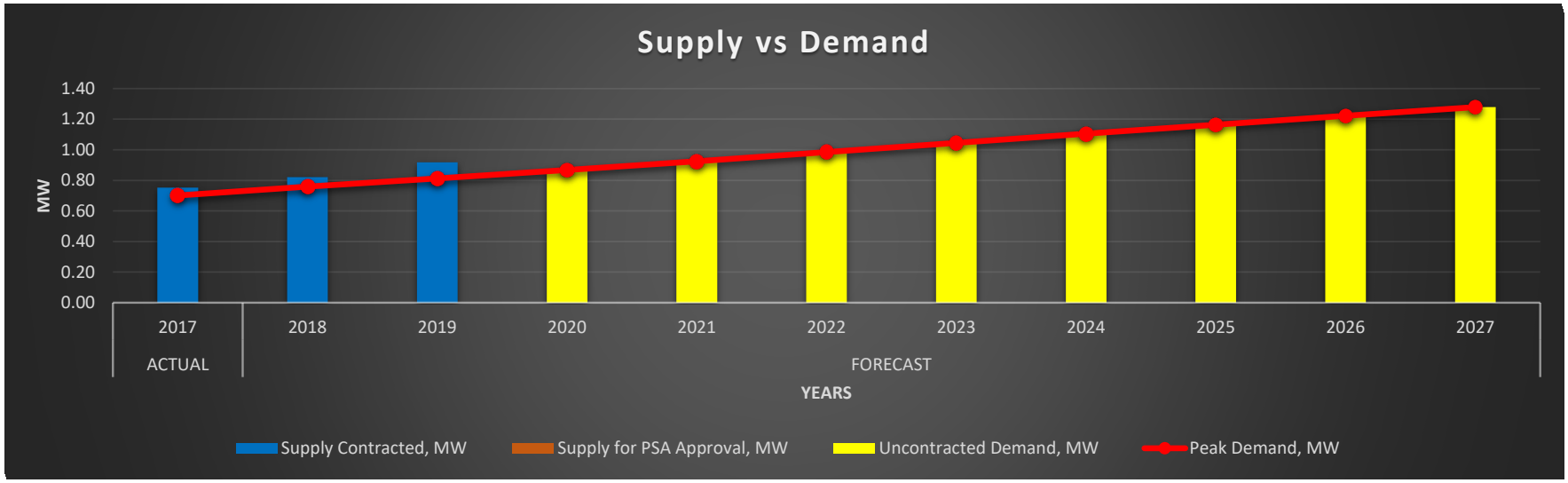
The following were assumptions used in the simulations:
1. ERC approved rate of CIPC Bunker-fed power plant for BISELCO
2. ERC approved rate of KEGI Diesel-fed power plant for SUKELCO

3. ERC approved rate of SE1 Solar PV power plant for SOCOTECO
4. ERC approved rate of CHPC Hydro power plant for ROMELCO
5. ERC approved rate of EMS Biomass power plant for AURELCO
6. Fuel were adjusted to reflect current cost
7. Forex reflected current exchange
8. Discount Rate: 12%
9. Levelizing Period: 20 years

Optimal Supply Mix	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Capacity Peak Demand, MW	**50.97**	**54.62**	**58.22**	**61.74**	**65.19**	**68.55**	**71.84**	**75.05**	**78.18**	**0.00**
Supply, MW	**50.97**	**54.62**	**58.22**	**61.74**	**65.19**	**68.55**	**71.84**	**75.05**	**78.18**	**81.24**
Diesel (Peaking)	4.26	4.56	4.86	5.16	5.44	5.72	6.00	6.27	6.53	6.78
Hydro (Baseload)	46.72	50.06	53.36	56.58	59.74	62.83	65.84	68.78	71.65	74.46
Energy Demand, MWh	**291867.32**	**312773.92**	**333346.03**	**353514.26**	**373244.03**	**392521.70**	**411346.38**	**429724.87**	**447668.53**	**465191.32**
Supply, MWh	**291867.3223**	**312773.9154**	**333346.0293**	**353514.2633**	**373244.026**	**392521.6967**	**411346.378**	**429724.8658**	**447668.5251**	**465191.3204**
Diesel (Peaking)	355.48	380.94	405.99	430.56	454.59	478.07	500.99	523.38	545.23	566.57
Hydro (Baseload)	291511.85	312392.98	332940.04	353083.71	372789.44	392043.63	410845.38	429201.49	447123.29	464624.75

San Vicente Microgrid

Supply Demand	ACTUAL	FORECAST								
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Peak Demand, MW	**0.70**	**0.76**	**0.81**	**0.87**	**0.93**	**0.98**	**1.04**	**1.10**	**1.16**	**1.22**	**1.28**
Supply Contracted, MW	**0.75**	**0.82**	**0.92**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
NPC-SPUG	0.75	0.82	0.92								
Supply for PSA Approval, MW	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Uncontracted Demand, MW	**0**	**0**	**0.00**	**0.87**	**0.93**	**0.98**	**1.04**	**1.10**	**1.16**	**1.22**	**1.28**



List of Existing Contract and Details-San Vicente Microgrid

Supply Contracted	Plant Owner/ Operator	Capacity Factor	PSA Effectivity (MM/YR)	PSA Expiration (MM/YR)	Contracted Capacity, MW	Contracted Energy, MWH	Base / Mid-merit / Peaking	Embedded/ Grid Connected	Utility-owned/ NPC/ IPP/ NPC-IPP	Status	Fuel Type	Installed Capacity (MW)	Net Dependable Capacity (MW)
Energy & Capacity	NPC-SPUG	52.93%	9/2012	07/2019	0.918	4458.375	Base/Mid-Merit/Peaking	Embedded	NPC-SPUG	operational	Diesel		

NPC is the power supply provider for San Vicente. The current SAGR is PhP 5.6404 per kWh.

Based on the screening curve for San Vicente, the optimal combination is Diesel-Hydro with Diesel operating at peaking and hydro as base. There is only one hydro resource near the San Vicente microgrid that is waiting to be developed.

San Vicente: one (1) site; capacity of 0.800MW

This is followed by the Diesel - Bunker - Biomass combination as peaking, mid-merit and baseload power plants respectively. As for biomass, source of feedstock needs to be identified. To enumerate a few, there are agricultural wastes which are seasonal, farming of napier grass must be looked into, another is tying up with the municipality for the municipal wastes. Third is Diesel - Biomass for peaking and baseload. Fourth is Biomass only and at Fifth is Diesel - Bunker combination as peaking and baseload respectively. Introduction of Solar as fuel replacement during day time will further reduce the cost of electricity.

Shown in the next table are the Capacity and Energy shares of each technology that will result to an optimal supply mix for the San Vicente Microgrid. Due to limited hydro resource in the area, the presented optimal mix is the Diesel - Bunker - Biomass.

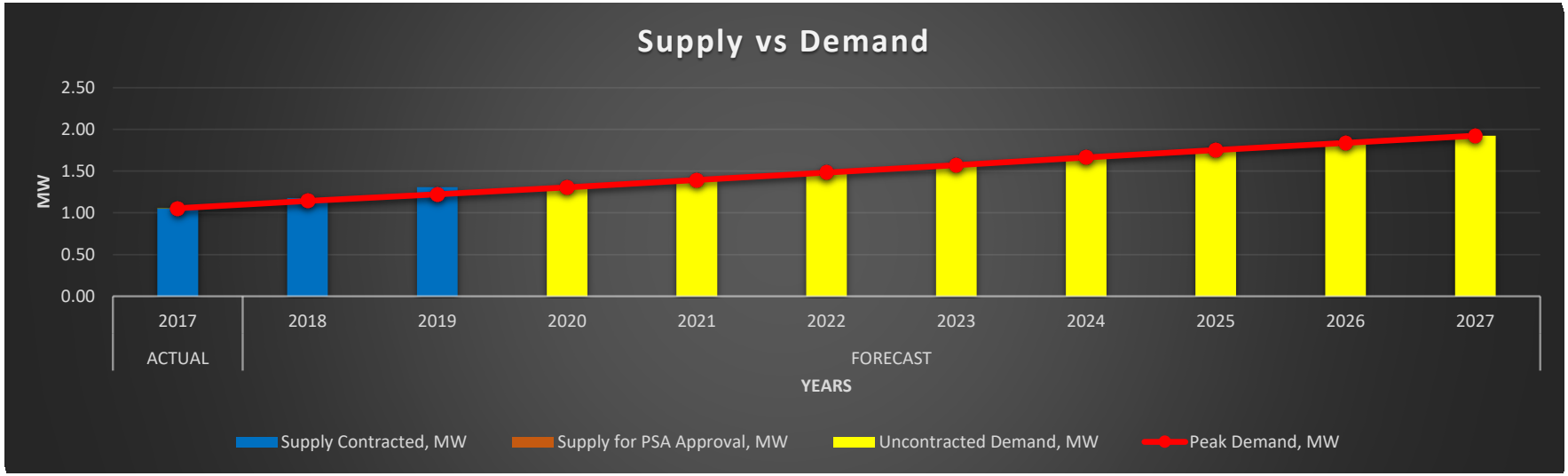
The following were assumptions used in the simulations:

1. ERC approved rate of CIPC Bunker-fed power plant for BISELCO
2. ERC approved rate of KEGI Diesel-fed power plant for SUKELCO
3. ERC approved rate of SE1 Solar PV power plant for SOCOTECO
4. ERC approved rate of CHPC Hydro power plant for ROMELCO
5. ERC approved rate of EMS Biomass power plant for AURELCO
6. Fuel were adjusted to reflect current cost
7. Forex reflected current exchange
8. Discount Rate: 12%
9. Levelizing Period: 20 years

Optimal Supply Mix	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Capacity Peak Demand, MW	**0.76**	**0.81**	**0.87**	**0.93**	**0.98**	**1.04**	**1.10**	**1.16**	**1.22**	**1.28**
Supply, MW	**0.76**	**0.81**	**0.87**	**0.93**	**0.98**	**1.04**	**1.10**	**1.16**	**1.22**	**1.28**
Diesel (Peaking)	0.24	0.25	0.27	0.29	0.30	0.32	0.34	0.36	0.38	0.40
Bunker (Mid-merit)	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.05	0.05
Biomass (Baseload)	0.50	0.53	0.57	0.60	0.64	0.68	0.72	0.76	0.80	0.84
Energy Demand, MWh	**3857.74**	**4125.22**	**4407.39**	**4700.72**	**5001.67**	**5306.71**	**5612.30**	**5914.90**	**6210.99**	**6497.03**
Supply, MWh	**3857.74**	**4125.22**	**4407.39**	**4700.72**	**5001.67**	**5306.71**	**5612.30**	**5914.90**	**6210.99**	**6497.03**
Diesel (Peaking)	105.39	112.70	120.41	128.43	136.65	144.98	153.33	161.60	169.69	177.50
Bunker (Mid-merit)	59.24	63.34	67.68	72.18	76.80	81.49	86.18	90.83	95.37	99.76
Biomass (Baseload)	3693.11	3949.17	4219.30	4500.11	4788.22	5080.24	5372.79	5662.48	5945.93	6219.76

Taytay Microgrid

Supply Demand	ACTUAL	FORECAST								
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Peak Demand, MW	**1.06**	**1.14**	**1.22**	**1.31**	**1.39**	**1.48**	**1.57**	**1.66**	**1.75**	**1.84**	**1.92**
Supply Contracted, MW	**1.05**	**1.18**	**1.31**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
NPC-SPUG	1.05	1.18	1.31								
Supply for PSA Approval, MW	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Uncontracted Demand, MW	**0.01**	**0.00**	**0.00**	**1.31**	**1.39**	**1.48**	**1.57**	**1.66**	**1.75**	**1.84**	**1.92**



List of Existing Contract and Details-Taytay Microgrid

Supply Contracted	Plant Owner/ Operator	Capacity Factor	PSA Effectivity (MM/YR)	PSA Expiration (MM/YR)	Contracted Capacity, MW	Contracted Energy, MWH	Base / Mid-merit / Peaking	Embedded/ Grid Connected	Utility-owned/ NPC/ IPP/ NPC-IPP	Status	Fuel Type	Installed Capacity (MW)	Net Dependable Capacity (MW)
Energy & Capacity	NPC-SPUG	57.88%	9/2012	07/2019	1.309	6882.999	Base/Mid-Merit/Peaking	Embedded	NPC-SPUG	operational	Diesel		

NPC is the power supply provider for Taytay. The current SAGR is PhP 5.6404 per kWh.

Based on the screening curve for Taytay, the optimal combination is Diesel-Hydro with Diesel operating at peaking and hydro as base. However, there is no hydro resource near the Taytay microgrid. This is followed by the Diesel - Bunker - Biomass combination as peaking, mid-merit and baseload power plants respectively. As for biomass, source of feedstock needs to be identified. To enumerate a few, there are agricultural wastes which are seasonal, farming of napier grass must be looked into, another is tying up with the municipality for the municipal wastes. Third is Diesel - Biomass for peaking and baseload. Fourth is Biomass only and at Fifth is Diesel - Bunker combination as peaking and baseload respectively. Introduction of Solar as fuel replacement during day time will further reduce the cost of electricity.

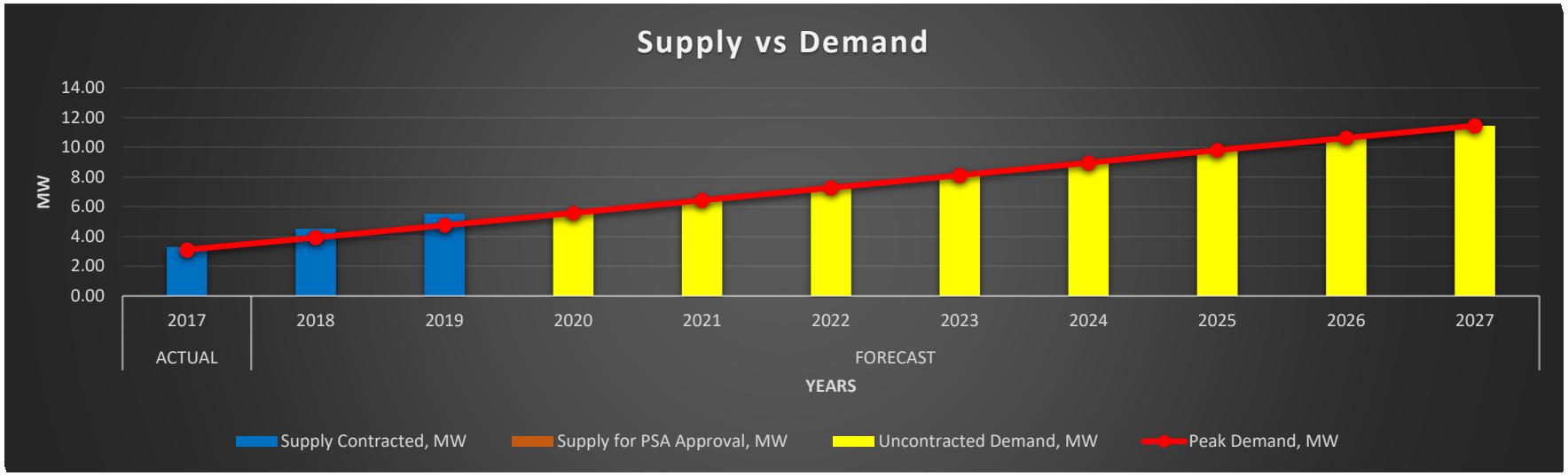
Shown in the next table are the Capacity and Energy shares of each technology that will result to an optimal supply mix for the Taytay Microgrid. Due to the absence of hydro resource in the area, the presented optimal mix is the Diesel - Bunker - Biomass.

The following were assumptions used in the simulations:
1. ERC approved rate of CIPC Bunker-fed power plant for BISELCO
2. ERC approved rate of KEGI Diesel-fed power plant for SUKELCO
3. ERC approved rate of SE1 Solar PV power plant for SOCOTECO
4. ERC approved rate of CHPC Hydro power plant for ROMELCO
5. ERC approved rate of EMS Biomass power plant for AURELCO
6. Fuel were adjusted to reflect current cost
7. Forex reflected current exchange
8. Discount Rate: 12%
9. Levelizing Period: 20 years

Optimal Supply Mix	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Capacity Peak Demand, MW	**1.14**	**1.22**	**1.31**	**1.39**	**1.48**	**1.57**	**1.66**	**1.75**	**1.84**	**1.92**
Supply, MW	**1.14**	**1.22**	**1.31**	**1.39**	**1.48**	**1.57**	**1.66**	**1.75**	**1.84**	**1.92**
Diesel (Peaking)	0.35	0.37	0.40	0.42	0.45	0.48	0.50	0.53	0.56	0.58
Bunker (Mid-merit)	0.05	0.05	0.06	0.06	0.06	0.07	0.07	0.07	0.08	0.08
Biomass (Baseload)	0.75	0.80	0.85	0.91	0.97	1.03	1.09	1.15	1.20	1.26
Energy Demand, MWh	**5840.73**	**6245.70**	**6672.91**	**7117.01**	**7572.66**	**8034.50**	**8497.17**	**8955.32**	**9403.61**	**9836.67**
Supply, MWh	**5840.73**	**6245.70**	**6672.91**	**7117.01**	**7572.66**	**8034.50**	**8497.17**	**8955.32**	**9403.61**	**9836.67**
Diesel (Peaking)	150.98	161.45	172.50	183.98	195.76	207.69	219.65	231.50	243.09	254.28
Bunker (Mid-merit)	103.83	111.03	118.62	126.52	134.62	142.83	151.05	159.20	167.17	174.86
Biomass (Baseload)	5585.91	5973.21	6381.79	6806.52	7242.29	7683.97	8126.46	8564.63	8993.35	9407.52

El Nido Microgrid

Supply Demand	ACTUAL	FORECAST								
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Peak Demand, MW	**3.11**	**3.94**	**4.75**	**5.59**	**6.43**	**7.27**	**8.12**	**8.96**	**9.80**	**10.63**	**11.45**
Supply Contracted, MW	**3.29**	**4.53**	**5.54**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
NPC-SPUG	3.29	4.53	5.54								
Supply for PSA Approval, MW	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Uncontracted Demand, MW	**0.00**	**0.00**	**0.00**	**5.59**	**6.43**	**7.27**	**8.12**	**8.96**	**9.80**	**10.63**	**11.45**



List of Existing Contract and Details-El Nido Microgrid

Supply Contracted	Plant Owner/ Operator	Capacity Factor	PSA Effectivity (MM/YR)	PSA Expiration (MM/YR)	Contracted Capacity, MW	Contracted Energy, MWH	Base / Mid-merit / Peaking	Embedded/ Grid Connected	Utility-owned/ NPC/ IPP/ NPC-IPP	Status	Fuel Type	Installed Capacity (MW)	Net Dependable Capacity (MW)
Energy & Capacity	NPC-SPUG	56.11%	9/2012	07/2019	5.554	23493.914	Base/Mid-Merit/Peaking	Embedded	NPC-SPUG	operational	Diesel		

NPC is the power supply provider for El Nido. The current SAGR is PhP 5.6404 per kWh.

Based on the screening curve for El Nido, the optimal combination is Diesel-Hydro with Diesel operating at peaking and hydro as base. There are only two (2) hydro resources near the El Nido microgrid that is waiting to be developed.

El Nido: two (2) sites; capacity of 0.780MW

This is followed by the Diesel - Bunker - Biomass combination as peaking, mid-merit and baseload power plants respectively. As for biomass, source of feedstock needs to be identified. To enumerate a few, there are agricultural wastes which are seasonal, farming of napier grass must be looked into, another is tying up with the municipality for the municipal wastes. Third is Diesel - Biomass for peaking and baseload. Fourth is Biomass only and at Fifth is Diesel - Bunker combination as peaking and baseload respectively. Introduction of Solar as fuel replacement during day time will further reduce the cost of electricity.

Shown in the next table are the Capacity and Energy shares of each technology that will result to an optimal supply mix for the El Nido Microgrid. Due to limited hydro resource in the area, the presented optimal mix is the Diesel - Bunker - Biomass.

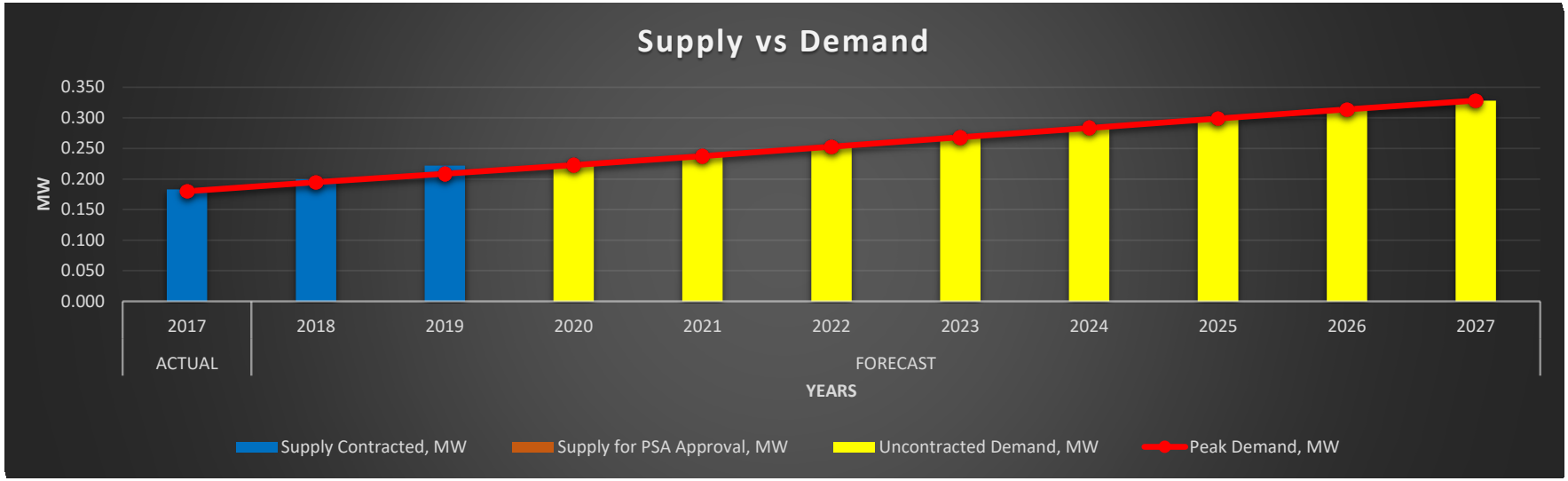
The following were assumptions used in the simulations:

1. ERC approved rate of CIPC Bunker-fed power plant for BISELCO
2. ERC approved rate of KEGI Diesel-fed power plant for SUKELCO
3. ERC approved rate of SE1 Solar PV power plant for SOCOTECO
4. ERC approved rate of CHPC Hydro power plant for ROMELCO
5. ERC approved rate of EMS Biomass power plant for AURELCO
6. Fuel were adjusted to reflect current cost
7. Forex reflected current exchange
8. Discount Rate: 12%
9. Levelizing Period: 20 years

Optimal Supply Mix	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Capacity Peak Demand, MW	**3.94**	**4.75**	**5.59**	**6.43**	**7.27**	**8.12**	**8.96**	**9.80**	**10.63**	**11.45**
Supply, MW	**3.94**	**4.75**	**5.59**	**6.43**	**7.27**	**8.12**	**8.96**	**9.80**	**10.63**	**11.45**
Diesel (Peaking)	1.19	1.44	1.70	1.95	2.21	2.46	2.72	2.97	3.23	3.48
Bunker (Mid-merit)	0.13	0.16	0.18	0.21	0.24	0.27	0.30	0.32	0.35	0.38
Biomass (Baseload)	2.61	3.15	3.71	4.26	4.83	5.39	5.94	6.50	7.05	7.60
Energy Demand, MWh	**20856.11**	**25183.88**	**29599.90**	**34062.78**	**38543.92**	**43023.25**	**47486.59**	**51923.84**	**56327.85**	**60693.59**
Supply, MWh	**20856.11**	**25183.88**	**29599.90**	**34062.78**	**38543.92**	**43023.25**	**47486.59**	**51923.84**	**56327.85**	**60693.59**
Diesel (Peaking)	569.08	687.16	807.66	929.43	1051.70	1173.93	1295.71	1416.79	1536.96	1656.08
Bunker (Mid-merit)	275.12	332.22	390.47	449.34	508.46	567.54	626.42	684.96	743.05	800.64
Biomass (Baseload)	20011.90	24164.50	28401.77	32684.01	36983.76	41281.78	45564.45	49822.09	54047.84	58236.87

Araceli Microgrid

Supply Demand	ACTUAL	FORECAST								
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Peak Demand, MW	**0.180**	**0.195**	**0.208**	**0.223**	**0.238**	**0.253**	**0.268**	**0.284**	**0.299**	**0.314**	**0.328**
Supply Contracted, MW	**0.183**	**0.200**	**0.222**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
NPC-SPUG	0.183	0.200	0.222								
Supply for PSA Approval, MW	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
Uncontracted Demand, MW	**0.000**	**0.000**	**0.000**	**0.223**	**0.238**	**0.253**	**0.268**	**0.284**	**0.299**	**0.314**	**0.328**



List of Existing Contract and Details-Araceli Microgrid

Supply Contracted	Plant Owner/ Operator	Capacity Factor	PSA Effectivity (MM/YR)	PSA Expiration (MM/YR)	Contracted Capacity, MW	Contracted Energy, MWH	Base / Mid-merit / Peaking	Embedded/ Grid Connected	Utility-owned/ NPC/ IPP/ NPC-IPP	Status	Fuel Type	Installed Capacity (MW)	Net Dependable Capacity (MW)
Energy & Capacity	NPC-SPUG	46.67%	9/2012	07/2019	0.222	935	Base/Mid-Merit/Peaking	Embedded	NPC-SPUG	operational	Diesel		

NPC is the power supply provider for Araceli. The current SAGR is PhP 4.8024 per kWh.

Based on the screening curve for Araceli, the optimal combination is Diesel - Bunker followed by Diesel only. This is given that there are no hydro and few feedstock for biomass in Araceli. However, the required bunker capacity is very small. Hence the recommended mix is Diesel only. Introduction of Solar as fuel replacement during day time will further reduce the cost of electricity.

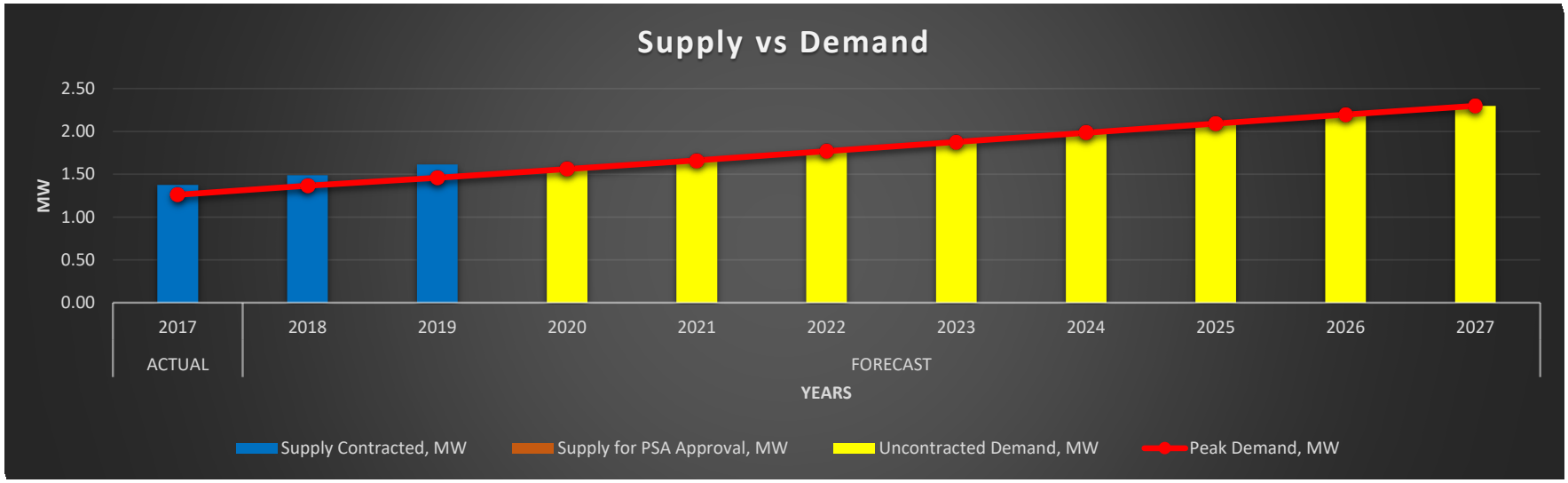
Shown in the next table are the Capacity and Energy shares of each technology that will result to an optimal supply mix for the Araceli Microgrid.

The following were assumptions used in the simulations:
1. ERC approved rate of CIPC Bunker-fed power plant for BISELCO
2. ERC approved rate of KEGI Diesel-fed power plant for SUKELCO
3. ERC approved rate of SE1 Solar PV power plant for SOCOTECO
4. ERC approved rate of CHPC Hydro power plant for ROMELCO
5. ERC approved rate of EMS Biomass power plant for AURELCO
6. Fuel were adjusted to reflect current cost
7. Forex reflected current exchange
8. Discount Rate: 12%
9. Levelizing Period: 20 years

Optimal Supply Mix	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Capacity Peak Demand, MW	**0.19**	**0.21**	**0.22**	**0.24**	**0.25**	**0.27**	**0.28**	**0.30**	**0.31**	**0.33**
Supply, MW	**0.19**	**0.21**	**0.22**	**0.24**	**0.25**	**0.27**	**0.28**	**0.30**	**0.31**	**0.33**
Diesel	0.19	0.21	0.22	0.24	0.25	0.27	0.28	0.30	0.31	0.33
Energy Demand, MWh	**266.16**	**284.62**	**304.08**	**324.32**	**345.09**	**366.13**	**387.22**	**408.09**	**428.52**	**448.26**
Supply, MWh	**266.16**	**284.62**	**304.08**	**324.32**	**345.09**	**366.13**	**387.22**	**408.09**	**428.52**	**448.26**
Diesel	266.16	284.62	304.08	324.32	345.09	366.13	387.22	408.09	428.52	448.26

Cuyo Microgrid

Supply Demand	ACTUAL	FORECAST								
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Peak Demand, MW	**1.26**	**1.36**	**1.46**	**1.56**	**1.66**	**1.77**	**1.88**	**1.99**	**2.09**	**2.20**	**2.30**
Supply Contracted, MW	**1.37**	**1.49**	**1.62**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
NPC-SPUG	1.37	1.49	1.62								
Supply for PSA Approval, MW	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Uncontracted Demand, MW	**0.00**	**0.00**	**0.00**	**1.56**	**1.66**	**1.77**	**1.88**	**1.99**	**2.09**	**2.20**	**2.30**



List of Existing Contract and Details-Cuyo Microgrid

Supply Contracted	Plant Owner/ Operator	Capacity Factor	PSA Effectivity (MM/YR)	PSA Expiration (MM/YR)	Contracted Capacity, MW	Contracted Energy, MWH	Base / Mid-merit / Peaking	Embedded/ Grid Connected	Utility-owned/ NPC/ IPP/ NPC-IPP	Status	Fuel Type	Installed Capacity (MW)	Net Dependable Capacity (MW)
Energy & Capacity	NPC-SPUG	53.76%	9/2012	07/2019	1.615	8465	Base/Mid-Merit/Peaking	Embedded	NPC-SPUG	operational	Diesel		

NPC is the power supply provider for Cuyo. The current SAGR is PhP 5.6404 per kWh.

Based on the screening curve for Cuyo, the optimal combination is Diesel - Bunker followed by Bunker only. This is given that there are no hydro and few feedstock for biomass in Cuyo. Introduction of Solar as fuel replacement during day time will further reduce the cost of electricity.

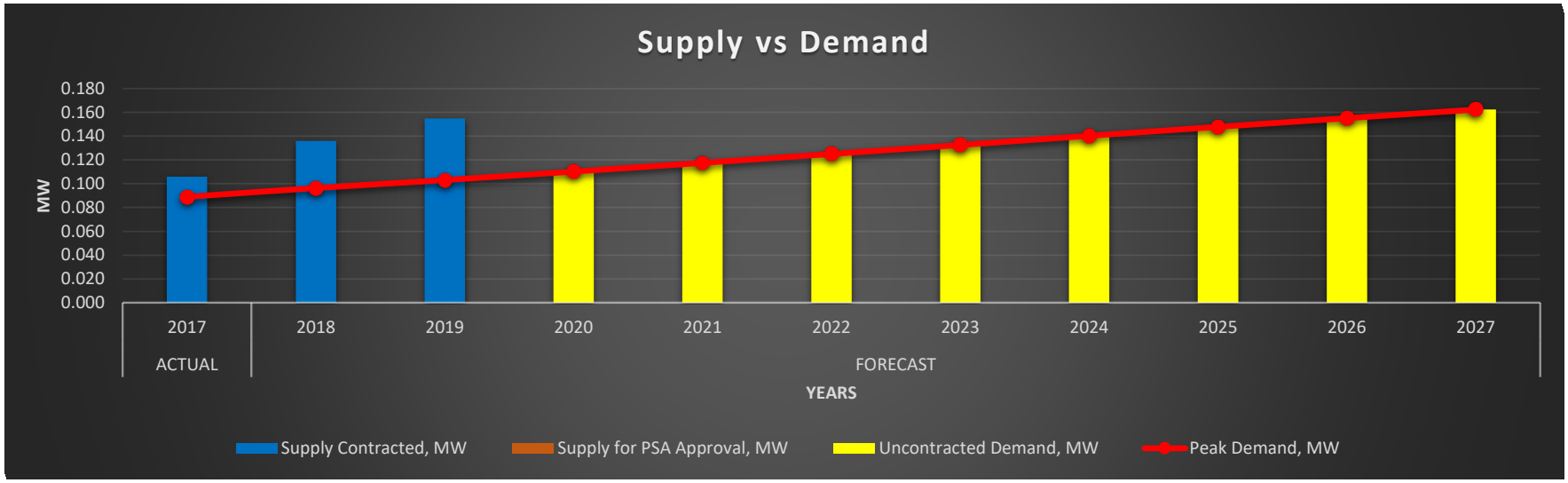
Shown in the next table are the Capacity and Energy shares of each technology that will result to an optimal supply mix for the Cuyo Microgrid.

The following were assumptions used in the simulations:
1. ERC approved rate of CIPC Bunker-fed power plant for BISELCO
2. ERC approved rate of KEGI Diesel-fed power plant for SUKELCO
3. ERC approved rate of SE1 Solar PV power plant for SOCOTECO
4. ERC approved rate of CHPC Hydro power plant for ROMELCO
5. ERC approved rate of EMS Biomass power plant for AURELCO
6. Fuel were adjusted to reflect current cost
7. Forex reflected current exchange
8. Discount Rate: 12%
9. Levelizing Period: 20 years

Optimal Supply Mix	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Capacity Peak Demand, MW	**1.36**	**1.46**	**1.56**	**1.66**	**1.77**	**1.88**	**1.99**	**2.09**	**2.20**	**2.30**
Supply, MW	**1.26**	**1.36**	**1.46**	**1.56**	**1.66**	**1.77**	**1.88**	**1.99**	**2.09**	**2.20**
Diesel (Peaking)	0.39	0.42	0.45	0.48	0.51	0.55	0.58	0.61	0.65	0.68
Bunker (Baseload)	0.87	0.94	1.01	1.08	1.15	1.22	1.30	1.37	1.44	1.52
Energy Demand, MWh	**7002.36**	**7487.87**	**8000.05**	**8532.49**	**9078.76**	**9632.44**	**10187.13**	**10736.41**	**11273.85**	**11793.04**
Supply, MWh	**7002.36**	**7487.87**	**8000.05**	**8532.49**	**9078.76**	**9632.44**	**10187.13**	**10736.41**	**11273.85**	**11793.04**
Diesel (Peaking)	217.24	232.31	248.20	264.72	281.66	298.84	316.05	333.09	349.76	365.87
Bunker (Baseload)	6785.12	7255.57	7751.86	8267.77	8797.09	9333.60	9871.08	10403.32	10924.08	11427.17

Agutaya Microgrid

Supply Demand	ACTUAL	FORECAST								
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Peak Demand, MW	**0.089**	**0.096**	**0.103**	**0.110**	**0.117**	**0.125**	**0.133**	**0.140**	**0.148**	**0.155**	**0.162**
Supply Contracted, MW	**0.106**	**0.136**	**0.155**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
NPC-SPUG	0.106	0.136	0.155								
Supply for PSA Approval, MW	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
Uncontracted Demand, MW	**0.000**	**0.000**	**0.000**	**0.110**	**0.117**	**0.125**	**0.133**	**0.140**	**0.148**	**0.155**	**0.162**



List of Existing Contract and Details-Agutaya Microgrid

Supply Contracted	Plant Owner/ Operator	Capacity Factor	PSA Effectivity (MM/YR)	PSA Expiration (MM/YR)	Contracted Capacity, MW	Contracted Energy, MWH	Base / Mid-merit / Peaking	Embedded/ Grid Connected	Utility-owned/ NPC/ IPP/ NPC-IPP	Status	Fuel Type	Installed Capacity (MW)	Net Dependable Capacity (MW)
Energy & Capacity	NPC-SPUG	42.91%	9/2012	07/2019	0.155	333	Base/Mid-Merit/Peaking	Embedded	NPC-SPUG	operational	Diesel		

NPC is the power supply provider for Agutaya. The current SAGR is PhP 4.8024 per kWh.

Based on the screening curve for Agutaya, the optimal combination is Diesel - Bunker followed by Diesel only. This is given that there are no hydro and few feedstock for biomass in Agutaya. However, the required bunker capacity is very small. Hence the recommended mix is Diesel only. Introduction of Solar as fuel replacement during day time will further reduce the cost of electricity.

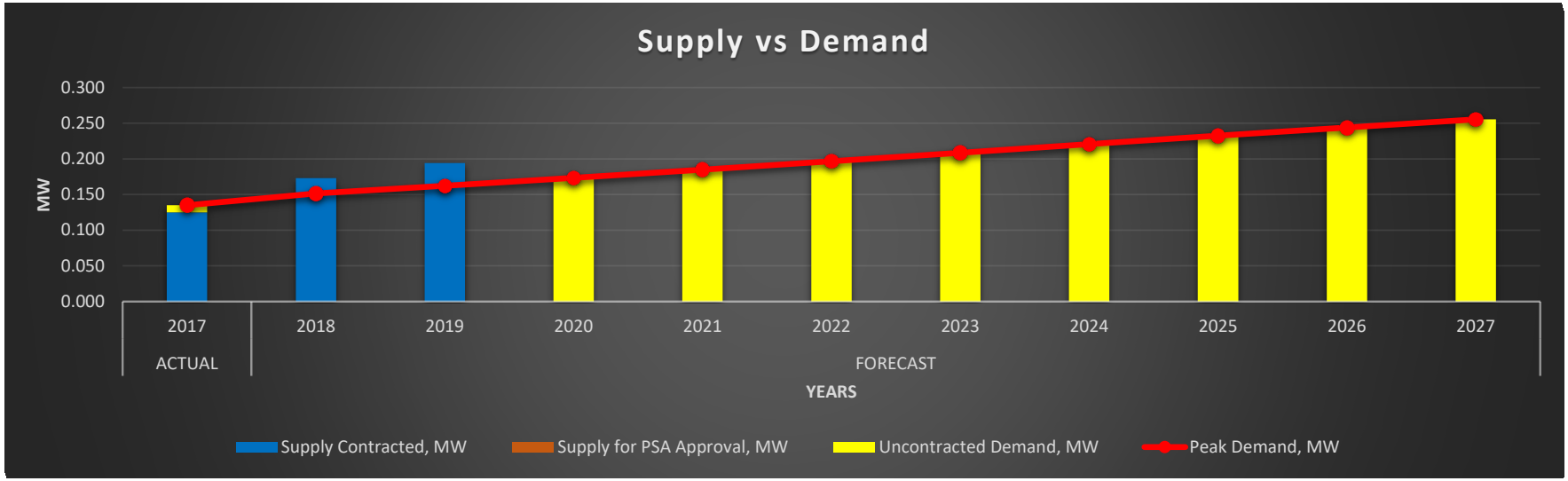
Shown in the next table are the Capacity and Energy shares of each technology that will result to an optimal supply mix for the Agutaya Microgrid.

The following were assumptions used in the simulations:
1. ERC approved rate of CIPC Bunker-fed power plant for BISELCO
2. ERC approved rate of KEGI Diesel-fed power plant for SUKELCO
3. ERC approved rate of SE1 Solar PV power plant for SOCOTECO
4. ERC approved rate of CHPC Hydro power plant for ROMELCO
5. ERC approved rate of EMS Biomass power plant for AURELCO
6. Fuel were adjusted to reflect current cost
7. Forex reflected current exchange
8. Discount Rate: 12%
9. Levelizing Period: 20 years

Optimal Supply Mix	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Capacity Peak Demand, MW	**0.10**	**0.10**	**0.11**	**0.12**	**0.12**	**0.13**	**0.14**	**0.15**	**0.16**	**0.16**
Supply, MW	**0.10**	**0.10**	**0.11**	**0.12**	**0.12**	**0.13**	**0.14**	**0.15**	**0.16**	**0.16**
Diesel	0.10	0.10	0.11	0.12	0.12	0.13	0.14	0.15	0.16	0.16
Energy Demand, MWh	**120.19**	**128.53**	**137.32**	**146.46**	**155.83**	**165.34**	**174.86**	**184.28**	**193.51**	**202.42**
Supply, MWh	**120.19**	**128.53**	**137.32**	**146.46**	**155.83**	**165.34**	**174.86**	**184.28**	**193.51**	**202.42**
Diesel	120.19	128.53	137.32	146.46	155.83	165.34	174.86	184.28	193.51	202.42

Cagayancillo Microgrid

Supply Demand	ACTUAL	FORECAST								
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Peak Demand, MW	**0.135**	**0.152**	**0.162**	**0.173**	**0.185**	**0.197**	**0.209**	**0.221**	**0.232**	**0.244**	**0.255**
Supply Contracted, MW	**0.125**	**0.173**	**0.194**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
NPC-SPUG	0.125	0.173	0.194								
Supply for PSA Approval, MW	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
Uncontracted Demand, MW	**0.010**	**0.000**	**0.000**	**0.173**	**0.185**	**0.197**	**0.209**	**0.221**	**0.232**	**0.244**	**0.255**



List of Existing Contract and Details-Cagayancillo System

Supply Contracted	Plant Owner/ Operator	Capacity Factor	PSA Effectivity (MM/YR)	PSA Expiration (MM/YR)	Contracted Capacity, MW	Contracted Energy, MWH	Base / Mid-merit / Peaking	Embedded/ Grid Connected	Utility-owned/ NPC/ IPP/ NPC-IPP	Status	Fuel Type	Installed Capacity (MW)	Net Dependable Capacity (MW)
Energy & Capacity	NPC-SPUG	47.75%	9/2012	07/2019	0.194	339	Base/Mid-Merit/Peaking	Embedded	NPC-SPUG	operational	Diesel		

NPC is the power supply provider for Cagayancillo. The current SAGR is PhP 4.8024 per kWh.

Based on the screening curve for Cagayancillo, the optimal combination is Diesel - Bunker followed by Diesel only. This is given that there are no hydro and few feedstock for biomass in Cagayancillo. However, the required bunker capacity is very small. Hence the recommended mix is Diesel only. Introduction of Solar as fuel replacement during day time will further reduce the cost of electricity.

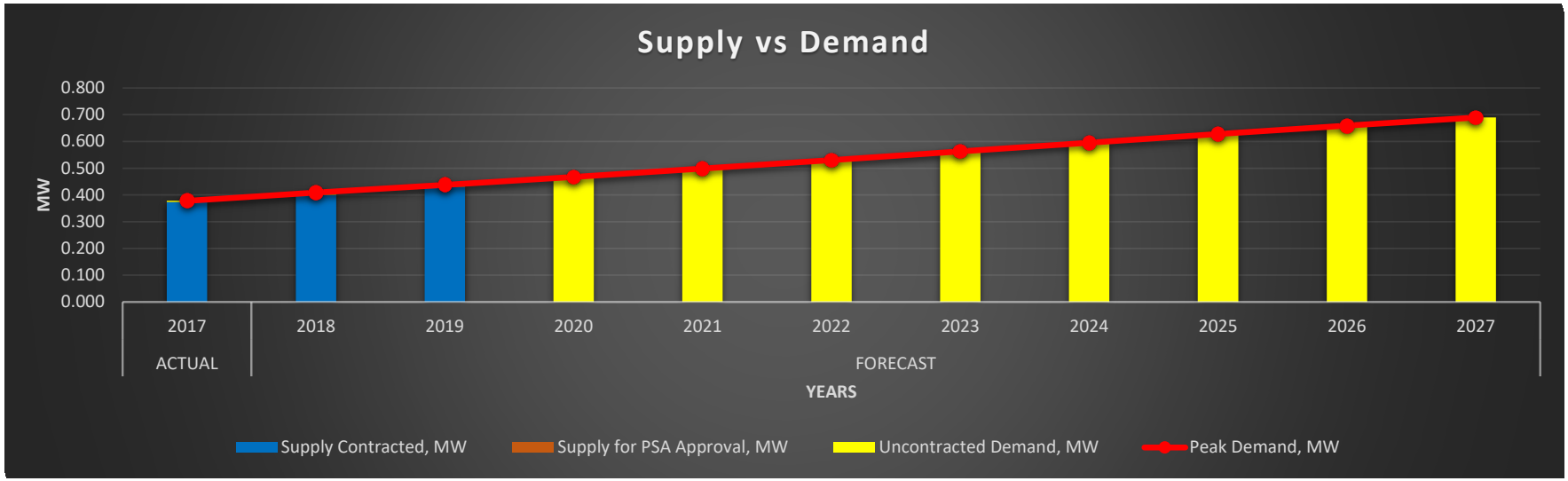
Shown in the next table are the Capacity and Energy shares of each technology that will result to an optimal supply mix for the Cagayancillo Microgrid.

The following were assumptions used in the simulations:
1. ERC approved rate of CIPC Bunker-fed power plant for BISELCO
2. ERC approved rate of KEGI Diesel-fed power plant for SUKELCO
3. ERC approved rate of SE1 Solar PV power plant for SOCOTECO
4. ERC approved rate of CHPC Hydro power plant for ROMELCO
5. ERC approved rate of EMS Biomass power plant for AURELCO
6. Fuel were adjusted to reflect current cost
7. Forex reflected current exchange
8. Discount Rate: 12%
9. Levelizing Period: 20 years

Optimal Supply Mix	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Capacity Peak Demand, MW	**0.14**	**0.15**	**0.16**	**0.17**	**0.18**	**0.20**	**0.21**	**0.22**	**0.23**	**0.24**
Supply, MW	**0.14**	**0.15**	**0.16**	**0.17**	**0.18**	**0.20**	**0.21**	**0.22**	**0.23**	**0.24**
Diesel	0.14	0.15	0.16	0.17	0.18	0.20	0.21	0.22	0.23	0.24
Energy Demand, MWh	**327.43**	**350.13**	**374.08**	**398.98**	**424.52**	**450.41**	**476.35**	**502.03**	**527.16**	**551.44**
Supply, MWh	**327.43**	**350.13**	**374.08**	**398.98**	**424.52**	**450.41**	**476.35**	**502.03**	**527.16**	**551.44**
Diesel	327.43	350.13	374.08	398.98	424.52	450.41	476.35	502.03	527.16	551.44

Rizal Microgrid

Supply Demand	ACTUAL	FORECAST								
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Peak Demand, MW	**0.378**	**0.409**	**0.438**	**0.468**	**0.499**	**0.531**	**0.563**	**0.596**	**0.628**	**0.659**	**0.690**
Supply Contracted, MW	**0.374**	**0.400**	**0.431**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
NPC-SPUG	0.374	0.400	0.431								
Supply for PSA Approval, MW	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
Uncontracted Demand, MW	**0.004**	**0.009**	**0.007**	**0.468**	**0.499**	**0.531**	**0.563**	**0.596**	**0.628**	**0.659**	**0.690**



List of Existing Contract and Details-Rizal Microgrid

Supply Contracted	Plant Owner/ Operator	Capacity Factor	PSA Effectivity (MM/YR)	PSA Expiration (MM/YR)	Contracted Capacity, MW	Contracted Energy, MWH	Base / Mid-merit / Peaking	Embedded/ Grid Connected	Utility-owned/ NPC/ IPP/ NPC-IPP	Status	Fuel Type	Installed Capacity (MW)	Net Dependable Capacity (MW)
Energy & Capacity	NPC-SPUG	51.38%	9/2012	07/2019	0.194	339	Base/Mid-Merit/Peaking	Embedded	NPC-SPUG	operational	Diesel		

NPC is the power supply provider for Rizal. The current SAGR is PhP 5.6404 per kWh.

Based on the screening curve for the Rizal, the optimal combination is Diesel-Hydro with Diesel operating at peaking and hydro as base. There are three (3) hydro resources near the Rizal Microgrid that are waiting to be developed.

Rizal: three (3) sites; aggregate capacity of 12.723MW

This is followed by the Diesel - Bunker - Biomass combination as peaking, mid-merit and baseload power plants respectively. As for biomass, source of feedstock needs to be identified. To enumerate a few, there are agricultural wastes which are seasonal, farming of napier grass must be looked into, another is tying up with the municipality for the municipal wastes. Third is Diesel - Biomass for peaking and baseload. Fourth is Biomass only and at Fifth is Diesel - Bunker combination as peaking and baseload respectively. Introduction of Solar as fuel replacement during day time will further reduce the cost of electricity.

Shown in the next table are the Capacity and Energy shares of each technology that will result to an optimal supply mix for the Rizal Microgrid.

The following were assumptions used in the simulations:

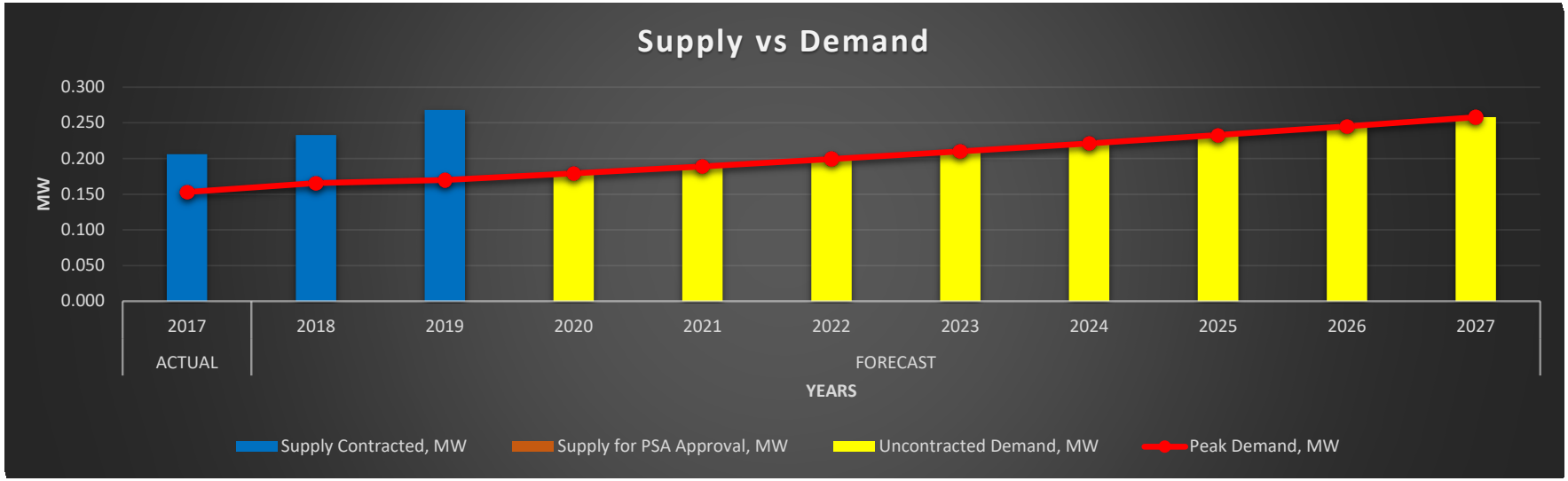
1. ERC approved rate of CIPC Bunker-fed power plant for BISELCO
2. ERC approved rate of KEGI Diesel-fed power plant for SUKELCO
3. ERC approved rate of SE1 Solar PV power plant for SOCOTECO
4. ERC approved rate of CHPC Hydro power plant for ROMELCO
5. ERC approved rate of EMS Biomass power plant for AURELCO
6. Fuel were adjusted to reflect current cost
7. Forex reflected current exchange
8. Discount Rate: 12%
9. Levelizing Period: 20 years

Optimal Supply Mix	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Capacity Peak Demand, MW	**0.41**	**0.44**	**0.47**	**0.50**	**0.53**	**0.56**	**0.60**	**0.63**	**0.66**	**0.69**
Supply, MW	**0.41**	**0.44**	**0.47**	**0.50**	**0.53**	**0.56**	**0.60**	**0.63**	**0.66**	**0.69**
Diesel (Peaking)	0.21	0.22	0.24	0.25	0.27	0.29	0.30	0.32	0.33	0.35
Hydro (Baseload)	0.20	0.22	0.23	0.25	0.26	0.28	0.29	0.31	0.32	0.34
Energy Demand, MWh	**1165.48**	**1246.29**	**1331.54**	**1420.16**	**1511.08**	**1603.23**	**1695.56**	**1786.98**	**1876.43**	**1962.85**
Supply, MWh	**1165.48**	**1246.29**	**1331.54**	**1420.16**	**1511.08**	**1603.23**	**1695.56**	**1786.98**	**1876.43**	**1962.85**
Diesel (Peaking)	5.04	5.39	5.75	6.14	6.53	6.93	7.33	7.72	8.11	8.48
Hydro (Baseload)	1160.44	1240.90	1325.78	1414.02	1504.55	1596.31	1688.23	1779.26	1868.32	1954.36

Balabac Microgrid

Supply Demand	ACTUAL	FORECAST

Supply Demand	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Peak Demand, MW	**0.153**	**0.166**	**0.170**	**0.179**	**0.189**	**0.199**	**0.210**	**0.221**	**0.233**	**0.245**	**0.258**
Supply Contracted, MW	**0.206**	**0.233**	**0.268**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
NPC-SPUG	0.206	0.233	0.268								
Supply for PSA Approval, MW	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
Uncontracted Demand, MW	**0.000**	**0.000**	**0.000**	**0.179**	**0.189**	**0.199**	**0.210**	**0.221**	**0.233**	**0.245**	**0.258**



List of Existing Contract and Details-Balabac System

Supply Contracted	Plant Owner/ Operator	Capacity Factor	PSA Effectivity (MM/YR)	PSA Expiration (MM/YR)	Contracted Capacity, MW	Contracted Energy, MWH	Base / Mid-merit / Peaking	Embedded/ Grid Connected	Utility-owned/ NPC/ IPP/ NPC-IPP	Status	Fuel Type	Installed Capacity (MW)	Net Dependable Capacity (MW)
Energy & Capacity	NPC-SPUG	38.57%	9/2012	07/2019	0.194	339	Base/Mid-Merit/Peaking	Embedded	NPC-SPUG	operational	Diesel		

NPC is the power supply provider for Balabac. The current SAGR is PhP 4.8024 per kWh.

Based on the screening curve for Balabac, the optimal combination is Diesel - Bunker followed by Diesel only. This is given that there are no hydro and

few feedstock for biomass in Balabac. However, the required bunker capacity is very small. Hence the recommended mix is Diesel only. Introduction of Solar as fuel replacement during day time will further reduce the cost of electricity.

Shown in the next table are the Capacity and Energy shares of each technology that will result to an optimal supply mix for the Balabac Microgrid.

The following were assumptions used in the simulations:
1. ERC approved rate of CIPC Bunker-fed power plant for BISELCO
2. ERC approved rate of KEGI Diesel-fed power plant for SUKELCO
3. ERC approved rate of SE1 Solar PV power plant for SOCOTECO
4. ERC approved rate of CHPC Hydro power plant for ROMELCO
5. ERC approved rate of EMS Biomass power plant for AURELCO
6. Fuel were adjusted to reflect current cost
7. Forex reflected current exchange
8. Discount Rate: 12%
9. Levelizing Period: 20 years

Optimal Supply Mix	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Capacity Peak Demand, MW	**0.17**	**0.17**	**0.18**	**0.19**	**0.20**	**0.21**	**0.22**	**0.23**	**0.25**	**0.26**
Supply, MW	**0.17**	**0.17**	**0.18**	**0.19**	**0.20**	**0.21**	**0.22**	**0.23**	**0.25**	**0.26**
Diesel	0.17	0.17	0.18	0.19	0.20	0.21	0.22	0.23	0.25	0.26
Energy Demand, MWh	**284.28**	**291.49**	**307.41**	**324.16**	**341.76**	**360.21**	**379.49**	**399.62**	**420.59**	**442.40**
Supply, MWh	**284.28**	**291.49**	**307.41**	**324.16**	**341.76**	**360.21**	**379.49**	**399.62**	**420.59**	**442.40**
Diesel	284.28	291.49	307.41	324.16	341.76	360.21	379.49	399.62	420.59	442.40

DISTRIBUTION IMPACT STUDY (Per System)

To be provided as attachment to the Terms of Reference (TOR) for approval before launching of CSP or shall require all the bidders to provide a DIS which will include the specific location of the proposed power plants and connection facilities such as substation and tie-line necessary to convey electricty.

SCHEDULE OF CSP (per System)

Base / mid-merit / peaking	For CSP		Proposed contract		Proposed schedule (MM/YYYY)						
	Demand (MW)	Energy (MWh)	Start Month and Year	End Month and Year	Publication of Invitation to Bid	Pre-bid Conference	Submission and Opening of Bids	Bid Evaluation	Awarding	PSA Signing	Joint Application to ERC
Palawan Grid											
Base, Mid -Merit & Peaking	25.00		04/2019	04/2034	09/2018	11/2018	12/2018	01/2019	02/2019	02/2019	03/2019
Base, Mid -Merit & Peaking	15.00		01/2025	01/2040	01/2022	02/2022	03/2022	04/2022	05/2022	05/2022	06/2022
Ancillary	7.00		04/2019	04/2034	09/2018	11/2018	12/2018	01/2019	02/2019	02/2019	03/2019
Ancillary	1.00		01/2025	01/2040	01/2022	02/2022	03/2022	04/2022	05/2022	05/2022	06/2022
San Vicente											
Base, Mid -Merit & Peaking	1.20		01/2020	01/2035	09/2018	11/2018	12/2018	01/2019	02/2019	02/2019	03/2019
Taytay											
Base, Mid -Merit & Peaking	2.00		01/2020	01/2035	09/2018	11/2018	12/2018	01/2019	02/2019	02/2019	03/2019
El Nido											
Base, Mid -Merit & Peaking	10.00		01/2020	01/2035	09/2018	11/2018	12/2018	01/2019	02/2019	02/2019	03/2019
Araceli											
Base, Mid -Merit & Peaking	0.25		01/2020	01/2035	09/2018	11/2018	12/2018	01/2019	02/2019	02/2019	03/2019
Cuyo											
Base, Mid -Merit & Peaking	2.00		01/2020	01/2035	09/2018	11/2018	12/2018	01/2019	02/2019	02/2019	03/2019
Agutaya											
Base, Mid -Merit & Peaking	0.125		01/2020	01/2035	09/2018	11/2018	12/2018	01/2019	02/2019	02/2019	03/2019
Cagayancillo											
Base, Mid -Merit & Peaking	0.200		01/2020	01/2035	09/2018	11/2018	12/2018	01/2019	02/2019	02/2019	03/2019
Rizal											
Base, Mid -Merit & Peaking	0.550		01/2020	01/2035	09/2018	11/2018	12/2018	01/2019	02/2019	02/2019	03/2019
Balabac											
Base, Mid -Merit & Peaking	0.200		01/2020	01/2035	09/2018	11/2018	12/2018	01/2019	02/2019	02/2019	03/2019

10 Year Monthly Data of GRID

Year	Forecast			Contracted and For PSA Approval Demand and Energy		Uncontracted Demand and Energy		Committed for CSP	
	Coincident Peak Demand (MW)	Off Peak Demand (MW)	Energy Requirement (MWh)	Demand (MW)	Energy (MWh)	Uncontracted Demand (MW)	Uncontracted Energy (MWh)	Demand (MW)	Energy (MWh)
2018									
Jan	42.78	17.24	21,664	66.50	21,916.67	(23.72)	(252.97)		
Feb	44.46	17.03	21,573	66.50	21,916.67	(22.04)	(343.75)		
Mar	46.57	18.20	20,180	66.50	21,916.67	(19.93)	(1,736.84)		
Apr	47.74	21.01	23,873	66.50	21,916.67	(18.76)	1,956.42		
May	50.11	21.03	23,848	66.50	21,916.67	(16.39)	1,930.88		
Jun	50.22	21.45	24,599	66.50	21,916.67	(16.28)	2,681.98		
Jul	46.34	19.07	21,656	66.50	21,916.67	(20.16)	(261.07)		
Aug	47.74	20.37	23,673	66.50	21,916.67	(18.76)	1,756.70		
Sep	50.81	19.94	24,437	66.50	21,916.67	(15.69)	2,520.24		
Oct	49.63	17.78	23,444	66.50	21,916.67	(16.87)	1,527.72		
Nov	50.97	23.71	24,297	66.50	21,916.67	(15.53)	2,380.80		
Dec	49.10	24.34	23,458	66.50	21,916.67	(17.40)	1,541.56		
2019									
Jan	45.41	18.30	23,215	66.50	25,333.33	(21.09)	(2,117.86)	5.00	
Feb	44.63	17.09	23,118	66.50	25,333.33	(21.87)	(2,215.14)	5.00	
Mar	48.36	18.90	21,625	66.50	25,333.33	(18.14)	(3,708.02)	5.00	
Apr	52.76	23.22	25,583	53.00	20,750.00	(0.24)	4,833.12	5.00	
May	54.37	22.81	25,556	53.00	20,750.00	1.37	4,805.75	5.00	
Jun	51.78	22.11	26,361	53.00	20,750.00	(1.22)	5,610.66	5.00	
Jul	48.15	19.82	23,207	53.00	20,750.00	(4.85)	2,456.79	5.00	
Aug	51.78	22.09	25,369	53.00	20,750.00	(1.22)	4,619.10	5.00	
Sep	49.86	19.56	26,187	53.00	20,750.00	(3.14)	5,437.34	5.00	
Oct	51.21	18.35	25,124	53.00	20,750.00	(1.79)	4,373.72	5.00	
Nov	49.45	23.00	26,038	53.00	20,750.00	(3.55)	5,287.90	5.00	
Dec	54.62	27.08	25,139	53.00	20,750.00	1.62	4,388.55	5.00	
2020									
Jan	48.39	19.50	24,742	57.08	21,166.67	(8.69)	3,575.76	5.00	
Feb	47.57	18.22	24,639	57.08	21,166.67	(9.51)	3,472.08	5.00	
Mar	51.54	20.15	23,048	57.08	21,166.67	(5.54)	1,881.01	5.00	
Apr	56.23	24.75	27,266	57.08	21,166.67	(0.85)	6,099.14	5.00	
May	57.94	24.31	27,237	57.08	21,166.67	0.86	6,069.97	5.00	
Jun	55.18	23.57	28,094	57.08	21,166.67	(1.90)	6,927.81	5.00	
Jul	51.32	21.12	24,733	57.08	21,166.67	(5.76)	3,566.51	5.00	
Aug	55.18	23.54	27,038	57.08	21,166.67	(1.90)	5,871.04	5.00	
Sep	53.14	20.85	27,910	57.08	21,166.67	(3.94)	6,743.09	5.00	
Oct	54.58	19.55	26,776	57.08	21,166.67	(2.50)	5,609.52	5.00	
Nov	52.70	24.51	27,750	57.08	21,166.67	(4.38)	6,583.83	5.00	

Dec	58.22	28.87	26,792	57.08	21,166.67	1.14	5,625.32	5.00	
2021									
Jan	51.32	20.68	26,239	61.88	21,166.67	(10.56)	5,072.74	5.00	
Feb	50.45	19.32	26,129	61.88	21,166.67	(11.43)	4,962.78	5.00	
Mar	54.66	21.37	24,442	61.88	21,166.67	(7.22)	3,275.45	5.00	
Apr	59.63	26.25	28,915	61.88	21,166.67	(2.25)	7,748.79	5.00	
May	61.45	25.78	28,885	61.88	21,166.67	(0.43)	7,717.85	5.00	
Jun	58.52	24.99	29,794	61.88	21,166.67	(3.36)	8,627.60	5.00	
Jul	54.42	22.40	26,230	61.88	21,166.67	(7.46)	5,062.93	5.00	
Aug	58.52	24.97	28,674	61.88	21,166.67	(3.36)	7,506.89	5.00	
Sep	56.36	22.11	29,598	61.88	21,166.67	(5.52)	8,431.70	5.00	
Oct	57.88	20.74	28,396	61.88	21,166.67	(4.00)	7,229.54	5.00	
Nov	55.89	25.99	29,429	61.88	21,166.67	(5.99)	8,262.80	5.00	
Dec	61.74	30.61	28,413	61.88	21,166.67	(0.14)	7,246.30	5.00	
2022									
Jan	54.19	21.84	27,704	61.88	21,166.67	(7.69)	6,537.17	5.00	
Feb	53.26	20.40	27,588	61.88	21,166.67	(8.62)	6,421.08	5.00	
Mar	57.71	22.56	25,806	61.88	21,166.67	(4.17)	4,639.58	5.00	
Apr	62.96	27.71	30,529	61.88	21,166.67	1.08	9,362.57	5.00	
May	64.88	27.22	30,497	61.88	21,166.67	3.00	9,329.91	5.00	
Jun	61.79	26.39	31,457	61.88	21,166.67	(0.09)	10,290.43	5.00	
Jul	57.46	23.65	27,693	61.88	21,166.67	(4.42)	6,526.81	5.00	
Aug	61.79	26.36	30,274	61.88	21,166.67	(0.09)	9,107.17	5.00	
Sep	59.50	23.35	31,250	61.88	21,166.67	(2.38)	10,083.60	5.00	
Oct	61.11	21.90	29,981	61.88	21,166.67	(0.77)	8,814.35	5.00	
Nov	59.01	27.44	31,072	61.88	21,166.67	(2.87)	9,905.27	5.00	
Dec	65.19	32.32	29,999	61.88	21,166.67	3.31	8,832.04	5.00	
2023									
Jan	56.99	22.97	29,135	61.88	21,166.67	(4.89)	7,968.04	10.00	
Feb	56.01	21.45	29,013	61.88	21,166.67	(5.87)	7,845.96	10.00	
Mar	60.69	23.72	27,139	61.88	21,166.67	(1.19)	5,972.44	10.00	
Apr	66.21	29.15	32,106	61.88	21,166.67	4.33	10,939.37	10.00	
May	68.23	28.63	32,072	61.88	21,166.67	6.35	10,905.02	10.00	
Jun	64.98	27.75	33,082	61.88	21,166.67	3.10	11,915.15	10.00	
Jul	60.43	24.87	29,124	61.88	21,166.67	(1.45)	7,957.15	10.00	
Aug	64.98	27.72	31,837	61.88	21,166.67	3.10	10,670.78	10.00	
Sep	62.57	24.55	32,864	61.88	21,166.67	0.69	11,697.64	10.00	
Oct	64.26	23.03	31,530	61.88	21,166.67	2.38	10,362.84	10.00	
Nov	62.05	28.86	32,677	61.88	21,166.67	0.17	11,510.11	10.00	
Dec	68.55	33.99	31,548	61.88	21,166.67	6.67	10,381.44	10.00	
2024									
Jan	59.72	24.07	30,532	61.88	21,166.67	(2.16)	9,365.29	15.00	
Feb	58.70	22.48	30,404	57.88	18,666.67	0.82	11,737.35	15.00	
Mar	63.60	24.86	28,441	57.88	21,166.67	5.72	7,273.99	15.00	
Apr	69.39	30.54	33,646	57.88	21,166.67	11.51	12,479.12	15.00	
May	71.50	30.00	33,610	57.88	21,166.67	13.62	12,443.13	15.00	
Jun	68.09	29.08	34,668	57.88	21,166.67	10.21	13,501.70	15.00	
Jul	63.33	26.07	30,521	57.88	21,166.67	5.45	9,353.88	15.00	
Aug	68.09	29.05	33,364	57.88	21,166.67	10.21	12,197.65	15.00	

Sep	65.58	25.73	34,440	57.88	21,166.67	7.70	13,273.76	15.00	
Oct	67.35	24.13	33,042	57.88	21,166.67	9.47	11,874.94	15.00	
Nov	65.03	30.25	34,244	57.88	21,166.67	7.15	13,077.23	15.00	
Dec	71.84	35.62	33,061	57.88	21,166.67	13.96	11,894.44	15.00	
2025									
Jan	62.39	25.14	31,896	57.88	18,666.67	4.51	13,229.43	25.00	
Feb	61.32	23.48	31,762	57.88	18,666.67	3.44	13,095.77	25.00	
Mar	66.44	25.97	29,711	53.88	15,000.00	12.56	14,711.35	25.00	
Apr	72.49	31.91	35,149	53.88	15,000.00	18.61	20,149.05	25.00	
May	74.69	31.34	35,111	53.88	15,000.00	20.81	20,111.44	25.00	
Jun	71.14	30.38	36,217	53.88	15,000.00	17.26	21,217.31	25.00	
Jul	66.16	27.23	31,884	53.88	15,000.00	12.28	16,884.17	25.00	
Aug	71.14	30.35	34,855	53.88	15,000.00	17.26	19,855.00	25.00	
Sep	68.50	26.88	35,979	53.88	15,000.00	14.62	20,979.18	25.00	
Oct	70.35	25.21	34,518	53.88	15,000.00	16.47	19,517.87	25.00	
Nov	67.94	31.60	35,774	53.88	15,000.00	14.06	20,773.87	25.00	
Dec	75.05	37.21	34,538	53.88	15,000.00	21.17	19,538.23	25.00	
2026									
Jan	64.99	26.19	33,228	53.88	15,000.00	11.11	18,227.95	25.00	
Feb	63.88	24.46	33,089	53.88	15,000.00	10.00	18,088.72	25.00	
Mar	69.22	27.06	30,952	53.88	15,000.00	15.34	15,951.98	25.00	
Apr	75.52	33.24	36,617	53.88	15,000.00	21.64	21,616.74	25.00	
May	77.81	32.65	36,578	53.88	15,000.00	23.93	21,577.56	25.00	
Jun	74.11	31.65	37,730	53.88	15,000.00	20.23	22,729.61	25.00	
Jul	68.92	28.37	33,216	53.88	15,000.00	15.04	18,215.53	25.00	
Aug	74.11	31.62	36,310	53.88	15,000.00	20.23	21,310.41	25.00	
Sep	71.37	28.00	37,482	53.88	15,000.00	17.49	22,481.54	25.00	
Oct	73.29	26.26	35,959	53.88	15,000.00	19.41	20,959.20	25.00	
Nov	70.77	32.92	37,268	53.88	15,000.00	16.89	22,267.65	25.00	
Dec	78.18	38.77	35,980	53.88	15,000.00	24.30	20,980.42	25.00	
2027									
Jan	67.54	27.22	34,529	53.88	15,000.00	13.66	19,528.57	30.00	
Feb	66.38	25.42	34,384	53.88	15,000.00	12.50	19,383.89	30.00	
Mar	71.93	28.11	32,164	53.88	15,000.00	18.05	17,163.52	30.00	
Apr	78.47	34.54	38,050	53.88	15,000.00	24.59	23,050.00	30.00	
May	80.86	33.93	38,009	53.88	15,000.00	26.98	23,009.29	30.00	
Jun	77.01	32.89	39,206	53.88	15,000.00	23.13	24,206.43	30.00	
Jul	71.62	29.48	34,516	53.88	15,000.00	17.74	19,515.66	30.00	
Aug	77.01	32.85	37,732	53.88	15,000.00	23.13	22,731.68	30.00	
Sep	74.16	29.10	38,949	53.88	15,000.00	20.28	23,948.65	30.00	
Oct	76.16	27.29	37,367	53.88	15,000.00	22.28	22,366.73	30.00	
Nov	73.54	34.21	38,726	53.88	15,000.00	19.66	23,726.40	30.00	
Dec	81.24	40.28	37,389	53.88	15,000.00	27.36	22,388.78	30.00	

10 Year Monthly Data of TAYTAY

Year	Forecast			Contracted and For PSA Approval Demand and Energy		Uncontracted Demand and Energy		Committed for CSP	
	Coincident Peak Demand (MW)	Off Peak Demand (MW)	Energy Requirement (MWh)	Demand (MW)	Energy (MWh)	Uncontracted Demand (MW)	Uncontracted Energy (MWh)	Demand (MW)	Energy (MWh)
2018									
Jan	0.95	0.36	433	1.18		(0.23)	432.99		
Feb	0.93	0.41	420	1.18		(0.25)	420.46		
Mar	1.01	0.42	404	1.18		(0.17)	403.71		
Apr	1.10	0.42	491	1.18		(0.08)	490.68		
May	1.14	0.29	506	1.18		(0.04)	506.15		
Jun	1.08	0.25	499	1.18		(0.10)	498.96		
Jul	1.01	0.23	417	1.18		(0.17)	416.70		
Aug	1.08	0.38	483	1.18		(0.10)	482.74		
Sep	1.04	0.59	482	1.18		(0.14)	482.26		
Oct	1.07	0.35	452	1.18		(0.11)	451.57		
Nov	1.03	0.33	489	1.18		(0.15)	488.97		
Dec	1.14	0.43	482	1.18		(0.04)	482.23		
2019									
Jan	1.02	0.38	463	1.31		(0.29)	463.01		
Feb	1.00	0.43	450	1.31		(0.31)	449.61		
Mar	1.08	0.45	432	1.31		(0.23)	431.70		
Apr	1.18	0.45	525	1.31		(0.13)	524.70		
May	1.22	0.31	541	1.31		(0.09)	541.24		
Jun	1.16	0.27	534	1.31		(0.15)	533.56		
Jul	1.08	0.24	446			1.08	445.59	2.00	
Aug	1.16	0.41	516			1.16	516.21	2.00	
Sep	1.12	0.63	516			1.12	515.69	2.00	
Oct	1.15	0.38	483			1.15	482.88	2.00	
Nov	1.11	0.36	523			1.11	522.87	2.00	
Dec	1.22	0.46	516			1.22	515.66	2.00	
2020									
Jan	1.09	0.41	495			1.09	494.68	2.00	
Feb	1.07	0.46	480			1.07	480.37	2.00	
Mar	1.16	0.48	461			1.16	461.23	2.00	
Apr	1.26	0.48	561			1.26	560.59	2.00	
May	1.30	0.33	578			1.30	578.26	2.00	
Jun	1.24	0.29	570			1.24	570.05	2.00	
Jul	1.15	0.26	476			1.15	476.07	2.00	
Aug	1.24	0.43	552			1.24	551.51	2.00	
Sep	1.19	0.67	551			1.19	550.97	2.00	
Oct	1.22	0.40	516			1.22	515.91	2.00	
Nov	1.18	0.38	559			1.18	558.63	2.00	

Dec	1.31	0.49	551			1.31	550.93	2.00	
2021									
Jan	1.16	0.44	528			1.16	527.61	2.00	
Feb	1.14	0.49	512			1.14	512.34	2.00	
Mar	1.23	0.51	492			1.23	491.93	2.00	
Apr	1.34	0.51	598			1.34	597.90	2.00	
May	1.39	0.36	617			1.39	616.75	2.00	
Jun	1.32	0.30	608			1.32	607.99	2.00	
Jul	1.23	0.28	508			1.23	507.75	2.00	
Aug	1.32	0.46	588			1.32	588.22	2.00	
Sep	1.27	0.72	588			1.27	587.64	2.00	
Oct	1.31	0.43	550			1.31	550.24	2.00	
Nov	1.26	0.41	596			1.26	595.81	2.00	
Dec	1.39	0.53	588			1.39	587.60	2.00	
2022									
Jan	1.23	0.46	561			1.23	561.39	2.00	
Feb	1.21	0.53	545			1.21	545.14	2.00	
Mar	1.31	0.54	523			1.31	523.42	2.00	
Apr	1.43	0.54	636			1.43	636.18	2.00	
May	1.47	0.38	656			1.47	656.23	2.00	
Jun	1.40	0.32	647			1.40	646.92	2.00	
Jul	1.31	0.30	540			1.31	540.26	2.00	
Aug	1.40	0.49	626			1.40	625.88	2.00	
Sep	1.35	0.77	625			1.35	625.26	2.00	
Oct	1.39	0.46	585			1.39	585.47	2.00	
Nov	1.34	0.43	634			1.34	633.96	2.00	
Dec	1.48	0.56	625			1.48	625.22	2.00	
2023									
Jan	1.31	0.49	596			1.31	595.62	2.00	
Feb	1.28	0.56	578			1.28	578.38	2.00	
Mar	1.39	0.57	555			1.39	555.34	2.00	
Apr	1.52	0.57	675			1.52	674.98	2.00	
May	1.56	0.40	696			1.56	696.26	2.00	
Jun	1.49	0.34	686			1.49	686.37	2.00	
Jul	1.39	0.31	573			1.39	573.21	2.00	
Aug	1.49	0.52	664			1.49	664.05	2.00	
Sep	1.43	0.81	663			1.43	663.39	2.00	
Oct	1.47	0.48	621			1.47	621.17	2.00	
Nov	1.42	0.46	673			1.42	672.62	2.00	
Dec	1.57	0.60	663			1.57	663.35	2.00	
2024									
Jan	1.38	0.52	630			1.38	629.92	2.00	
Feb	1.36	0.59	612			1.36	611.69	2.00	
Mar	1.47	0.61	587			1.47	587.32	2.00	
Apr	1.61	0.61	714			1.61	713.85	2.00	
May	1.65	0.42	736			1.65	736.35	2.00	
Jun	1.58	0.36	726			1.58	725.89	2.00	
Jul	1.47	0.33	606			1.47	606.22	2.00	
Aug	1.58	0.55	702			1.58	702.29	2.00	

Sep	1.52	0.86	702			1.52	701.59	2.00	
Oct	1.56	0.51	657			1.56	656.95	2.00	
Nov	1.50	0.48	711			1.50	711.36	2.00	
Dec	1.66	0.63	702			1.66	701.55	2.00	
2025									
Jan	1.46	0.55	664			1.46	663.89	2.00	
Feb	1.43	0.62	645			1.43	644.67	2.00	
Mar	1.55	0.64	619			1.55	618.99	2.00	
Apr	1.69	0.64	752			1.69	752.34	2.00	
May	1.74	0.45	776			1.74	776.05	2.00	
Jun	1.66	0.38	765			1.66	765.03	2.00	
Jul	1.54	0.35	639			1.54	638.90	2.00	
Aug	1.66	0.58	740			1.66	740.16	2.00	
Sep	1.60	0.91	739			1.60	739.42	2.00	
Oct	1.64	0.54	692			1.64	692.37	2.00	
Nov	1.59	0.51	750			1.59	749.71	2.00	
Dec	1.75	0.66	739			1.75	739.38	2.00	
2026									
Jan	1.53	0.58	697			1.53	697.12	2.00	
Feb	1.50	0.65	677			1.50	676.94	2.00	
Mar	1.63	0.67	650			1.63	649.98	2.00	
Apr	1.78	0.67	790			1.78	790.00	2.00	
May	1.83	0.47	815			1.83	814.90	2.00	
Jun	1.74	0.40	803			1.74	803.33	2.00	
Jul	1.62	0.37	671			1.62	670.89	2.00	
Aug	1.74	0.61	777			1.74	777.21	2.00	
Sep	1.68	0.95	776			1.68	776.44	2.00	
Oct	1.72	0.57	727			1.72	727.02	2.00	
Nov	1.67	0.54	787			1.67	787.24	2.00	
Dec	1.84	0.70	776			1.84	776.39	2.00	
2027									
Jan	1.60	0.60	729			1.60	729.22	2.00	
Feb	1.57	0.68	708			1.57	708.12	2.00	
Mar	1.70	0.70	680			1.70	679.91	2.00	
Apr	1.86	0.70	826			1.86	826.38	2.00	
May	1.92	0.49	852			1.92	852.43	2.00	
Jun	1.82	0.42	840			1.82	840.32	2.00	
Jul	1.70	0.38	702			1.70	701.78	2.00	
Aug	1.82	0.64	813			1.82	813.00	2.00	
Sep	1.76	0.99	812			1.76	812.19	2.00	
Oct	1.80	0.59	761			1.80	760.51	2.00	
Nov	1.74	0.56	823			1.74	823.49	2.00	
Dec	1.92	0.73	812			1.92	812.14	2.00	

10 Year Monthly Data of EL NIDO

Year	Forecast			Contracted and For PSA Approval Demand and Energy		Uncontracted Demand and Energy		Committed for CSP	
	Coincident Peak Demand (MW)	Off Peak Demand (MW)	Energy Requirement (MWh)	Demand (MW)	Energy (MWh)	Uncontracted Demand (MW)	Uncontracted Energy (MWh)	Demand (MW)	Energy (MWh)
2018									
Jan	3.33	0.96	1,527	4.53		(1.20)	1,527.40		
Feb	3.04	1.00	1,491	4.53		(1.49)	1,491.24		
Mar	3.05	1.36	1,386	4.53		(1.48)	1,386.45		
Apr	3.84	1.41	1,814	4.53		(0.69)	1,813.85		
May	3.69	0.83	1,780	4.53		(0.84)	1,780.26		
Jun	3.07	1.30	1,557	4.53		(1.46)	1,556.75		
Jul	3.05	1.09	1,377	4.53		(1.48)	1,376.88		
Aug	3.12	0.99	1,511	4.53		(1.41)	1,511.24		
Sep	3.47	0.39	1,340	4.53		(1.06)	1,340.19		
Oct	3.39	0.34	1,376	4.53		(1.14)	1,375.72		
Nov	3.78	1.72	1,706	4.53		(0.75)	1,706.05		
Dec	3.94	2.59	1,616	4.53		(0.59)	1,616.49		
2019									
Jan	4.03	1.16	1,844	5.54		(1.51)	1,844.34		
Feb	3.67	1.21	1,801	5.54		(1.87)	1,800.68		
Mar	3.68	1.65	1,674	5.54		(1.86)	1,674.15		
Apr	4.63	1.70	2,190	5.54		(0.91)	2,190.24		
May	4.45	1.01	2,150	5.54		(1.09)	2,149.68		
Jun	3.70	1.57	1,880	5.54		(1.84)	1,879.78		
Jul	3.68	1.31	1,663			3.68	1,662.60	6.00	
Aug	3.76	1.20	1,825			3.76	1,824.83	6.00	
Sep	4.19	0.47	1,618			4.19	1,618.29	6.00	
Oct	4.09	0.41	1,661			4.09	1,661.19	6.00	
Nov	4.57	2.07	2,060			4.57	2,060.07	6.00	
Dec	4.75	3.13	1,952			4.75	1,951.92	6.00	
2020									
Jan	4.73	1.36	2,168			4.73	2,167.75	6.00	
Feb	4.32	1.42	2,116			4.32	2,116.43	6.00	
Mar	4.33	1.94	1,968			4.33	1,967.71	6.00	
Apr	5.44	2.00	2,574			5.44	2,574.30	6.00	
May	5.23	1.18	2,527			5.23	2,526.63	6.00	
Jun	4.35	1.84	2,209			4.35	2,209.41	6.00	
Jul	4.33	1.54	1,954			4.33	1,954.13	6.00	
Aug	4.42	1.41	2,145			4.42	2,144.82	6.00	
Sep	4.92	0.56	1,902			4.92	1,902.06	6.00	
Oct	4.81	0.48	1,952			4.81	1,952.48	6.00	
Nov	5.37	2.44	2,421			5.37	2,421.30	6.00	

Dec	5.59	3.67	2,294			5.59	2,294.19	6.00	
2021									
Jan	5.45	1.56	2,495			5.45	2,494.59	10.00	
Feb	4.97	1.63	2,436			4.97	2,435.53	10.00	
Mar	4.98	2.23	2,264			4.98	2,264.39	10.00	
Apr	6.27	2.30	2,962			6.27	2,962.43	10.00	
May	6.02	1.36	2,908			6.02	2,907.58	10.00	
Jun	5.01	2.12	2,543			5.01	2,542.53	10.00	
Jul	4.98	1.77	2,249			4.98	2,248.77	10.00	
Aug	5.09	1.62	2,468			5.09	2,468.20	10.00	
Sep	5.66	0.64	2,189			5.66	2,188.84	10.00	
Oct	5.54	0.56	2,247			5.54	2,246.86	10.00	
Nov	6.18	2.80	2,786			6.18	2,786.37	10.00	
Dec	6.43	4.23	2,640			6.43	2,640.10	10.00	
2022									
Jan	6.16	1.77	2,823			6.16	2,822.77	10.00	
Feb	5.62	1.85	2,756			5.62	2,755.93	10.00	
Mar	5.63	2.52	2,562			5.63	2,562.29	10.00	
Apr	7.09	2.61	3,352			7.09	3,352.16	10.00	
May	6.81	1.54	3,290			6.81	3,290.08	10.00	
Jun	5.67	2.40	2,877			5.67	2,877.01	10.00	
Jul	5.64	2.01	2,545			5.64	2,544.60	10.00	
Aug	5.76	1.84	2,793			5.76	2,792.90	10.00	
Sep	6.41	0.72	2,477			6.41	2,476.79	10.00	
Oct	6.26	0.63	2,542			6.26	2,542.45	10.00	
Nov	6.99	3.17	3,153			6.99	3,152.93	10.00	
Dec	7.27	4.78	2,987			7.27	2,987.42	10.00	
2023									
Jan	6.88	1.97	3,151			6.88	3,150.81	10.00	
Feb	6.28	2.06	3,076			6.28	3,076.21	10.00	
Mar	6.29	2.81	2,860			6.29	2,860.06	10.00	
Apr	7.91	2.91	3,742			7.91	3,741.73	10.00	
May	7.60	1.72	3,672			7.60	3,672.44	10.00	
Jun	6.33	2.68	3,211			6.33	3,211.36	10.00	
Jul	6.29	2.24	2,840			6.29	2,840.32	10.00	
Aug	6.43	2.05	3,117			6.43	3,117.47	10.00	
Sep	7.15	0.81	2,765			7.15	2,764.63	10.00	
Oct	6.99	0.70	2,838			6.99	2,837.91	10.00	
Nov	7.80	3.54	3,519			7.80	3,519.35	10.00	
Dec	8.12	5.34	3,335			8.12	3,334.60	10.00	
2024									
Jan	7.59	2.18	3,478			7.59	3,477.69	10.00	
Feb	6.93	2.27	3,395			6.93	3,395.35	10.00	
Mar	6.94	3.11	3,157			6.94	3,156.77	10.00	
Apr	8.73	3.21	4,130			8.73	4,129.90	10.00	
May	8.39	1.90	4,053			8.39	4,053.42	10.00	
Jun	6.98	2.96	3,545			6.98	3,544.51	10.00	
Jul	6.95	2.47	3,135			6.95	3,134.98	10.00	
Aug	7.10	2.26	3,441			7.10	3,440.89	10.00	

Sep	7.90	0.89	3,051			7.90	3,051.43	10.00	
Oct	7.72	0.77	3,132			7.72	3,132.32	10.00	
Nov	8.61	3.91	3,884			8.61	3,884.45	10.00	
Dec	8.96	5.89	3,681			8.96	3,680.53	10.00	
2025									
Jan	8.30	2.38	3,803			8.30	3,802.65	10.00	
Feb	7.57	2.49	3,713			7.57	3,712.61	10.00	
Mar	7.59	3.40	3,452			7.59	3,451.74	10.00	
Apr	9.55	3.51	4,516			9.55	4,515.81	10.00	
May	9.18	2.08	4,432			9.18	4,432.19	10.00	
Jun	7.63	3.24	3,876			7.63	3,875.72	10.00	
Jul	7.60	2.70	3,428			7.60	3,427.92	10.00	
Aug	7.76	2.47	3,762			7.76	3,762.41	10.00	
Sep	8.63	0.98	3,337			8.63	3,336.57	10.00	
Oct	8.44	0.85	3,425			8.44	3,425.01	10.00	
Nov	9.42	4.27	4,247			9.42	4,247.42	10.00	
Dec	9.80	6.44	4,024			9.80	4,024.45	10.00	
2026									
Jan	9.00	2.59	4,125			9.00	4,125.18	12.00	
Feb	8.22	2.70	4,028			8.22	4,027.51	12.00	
Mar	8.23	3.68	3,745			8.23	3,744.51	12.00	
Apr	10.36	3.81	4,899			10.36	4,898.82	12.00	
May	9.95	2.25	4,808			9.95	4,808.11	12.00	
Jun	8.28	3.51	4,204			8.28	4,204.44	12.00	
Jul	8.24	2.93	3,719			8.24	3,718.67	12.00	
Aug	8.42	2.68	4,082			8.42	4,081.53	12.00	
Sep	9.37	1.06	3,620			9.37	3,619.56	12.00	
Oct	9.16	0.92	3,716			9.16	3,715.51	12.00	
Nov	10.22	4.64	4,608			10.22	4,607.68	12.00	
Dec	10.63	6.99	4,366			10.63	4,365.79	12.00	
2027									
Jan	9.70	2.79	4,445			9.70	4,444.90	12.00	
Feb	8.85	2.91	4,340			8.85	4,339.66	12.00	
Mar	8.87	3.97	4,035			8.87	4,034.73	12.00	
Apr	11.16	4.10	5,279			11.16	5,278.51	12.00	
May	10.73	2.43	5,181			10.73	5,180.77	12.00	
Jun	8.92	3.78	4,530			8.92	4,530.31	12.00	
Jul	8.88	3.16	4,007			8.88	4,006.89	12.00	
Aug	9.07	2.89	4,398			9.07	4,397.87	12.00	
Sep	10.09	1.14	3,900			10.09	3,900.10	12.00	
Oct	9.86	0.99	4,003			9.86	4,003.49	12.00	
Nov	11.01	5.00	4,965			11.01	4,964.80	12.00	
Dec	11.45	7.53	4,704			11.45	4,704.17	12.00	

10 Year Monthly Data of CUYO

Year	Forecast			Contracted and For PSA Approval Demand and Energy		Uncontracted Demand and Energy		Committed for CSP	
	Coincident Peak Demand (MW)	Off Peak Demand (MW)	Energy Requirement (MWh)	Demand (MW)	Energy (MWh)	Uncontracted Demand (MW)	Uncontracted Energy (MWh)	Demand (MW)	Energy (MWh)
2018									
Jan	1.25	0.42	464	1.49		(0.24)	464.12		
Feb	1.14	0.41	446	1.49		(0.35)	446.30		
Mar	1.22	0.30	432	1.49		(0.27)	432.26		
Apr	1.35	0.75	552	1.49		(0.14)	552.28		
May	1.36	0.84	602	1.49		(0.13)	602.25		
Jun	1.29	0.56	595	1.49		(0.20)	595.35		
Jul	1.22	0.52	530	1.49		(0.27)	529.55		
Aug	1.28	0.49	569	1.49		(0.21)	568.86		
Sep	1.32	0.41	581	1.49		(0.17)	580.53		
Oct	1.34	0.49	514	1.49		(0.15)	513.74		
Nov	1.24	0.47	539	1.49		(0.25)	539.24		
Dec	1.17	0.39	510	1.49		(0.32)	509.85		
2019									
Jan	1.33	0.45	496	1.62		(0.29)	496.30		
Feb	1.22	0.44	477	1.62		(0.40)	477.25		
Mar	1.31	0.32	462	1.62		(0.31)	462.23		
Apr	1.44	0.80	591	1.62		(0.18)	590.57		
May	1.46	0.90	644	1.62		(0.16)	644.00		
Jun	1.38	0.60	637	1.62		(0.24)	636.62		
Jul	1.30	0.56	566			1.30	566.27	2.00	
Aug	1.37	0.52	608			1.37	608.30	2.00	
Sep	1.42	0.44	621			1.42	620.78	2.00	
Oct	1.43	0.52	549			1.43	549.36	2.00	
Nov	1.32	0.50	577			1.32	576.63	2.00	
Dec	1.25	0.42	545			1.25	545.21	2.00	
2020									
Jan	1.42	0.48	530			1.42	530.25	2.00	
Feb	1.30	0.47	510			1.30	509.89	2.00	
Mar	1.40	0.34	494			1.40	493.85	2.00	
Apr	1.54	0.86	631			1.54	630.97	2.00	
May	1.56	0.97	688			1.56	688.05	2.00	
Jun	1.47	0.64	680			1.47	680.17	2.00	
Jul	1.39	0.59	605			1.39	605.00	2.00	
Aug	1.47	0.56	650			1.47	649.91	2.00	
Sep	1.51	0.47	663			1.51	663.25	2.00	
Oct	1.53	0.56	587			1.53	586.93	2.00	
Nov	1.42	0.54	616			1.42	616.07	2.00	

Dec	1.34	0.45	582			1.34	582.50	2.00	
2021									
Jan	1.52	0.51	566			1.52	565.54	2.00	
Feb	1.39	0.50	544			1.39	543.83	2.00	
Mar	1.49	0.36	527			1.49	526.71	2.00	
Apr	1.64	0.91	673			1.64	672.96	2.00	
May	1.66	1.03	734			1.66	733.85	2.00	
Jun	1.57	0.68	725			1.57	725.44	2.00	
Jul	1.48	0.63	645			1.48	645.27	2.00	
Aug	1.57	0.59	693			1.57	693.16	2.00	
Sep	1.61	0.50	707			1.61	707.39	2.00	
Oct	1.63	0.59	626			1.63	626.00	2.00	
Nov	1.51	0.57	657			1.51	657.07	2.00	
Dec	1.43	0.48	621			1.43	621.27	2.00	
2022									
Jan	1.61	0.55	602			1.61	601.75	2.00	
Feb	1.47	0.53	579			1.47	578.65	2.00	
Mar	1.59	0.39	560			1.59	560.44	2.00	
Apr	1.75	0.97	716			1.75	716.05	2.00	
May	1.77	1.10	781			1.77	780.83	2.00	
Jun	1.67	0.72	772			1.67	771.88	2.00	
Jul	1.58	0.67	687			1.58	686.58	2.00	
Aug	1.67	0.63	738			1.67	737.54	2.00	
Sep	1.72	0.53	753			1.72	752.67	2.00	
Oct	1.74	0.63	666			1.74	666.07	2.00	
Nov	1.61	0.61	699			1.61	699.14	2.00	
Dec	1.52	0.51	661			1.52	661.04	2.00	
2023									
Jan	1.71	0.58	638			1.71	638.45	2.00	
Feb	1.56	0.57	614			1.56	613.94	2.00	
Mar	1.68	0.41	595			1.68	594.62	2.00	
Apr	1.85	1.03	760			1.85	759.72	2.00	
May	1.88	1.16	828			1.88	828.45	2.00	
Jun	1.77	0.77	819			1.77	818.96	2.00	
Jul	1.68	0.72	728			1.68	728.45	2.00	
Aug	1.77	0.67	783			1.77	782.52	2.00	
Sep	1.82	0.57	799			1.82	798.58	2.00	
Oct	1.84	0.67	707			1.84	706.70	2.00	
Nov	1.70	0.65	742			1.70	741.78	2.00	
Dec	1.61	0.54	701			1.61	701.36	2.00	
2024									
Jan	1.81	0.61	675			1.81	675.21	2.00	
Feb	1.65	0.60	649			1.65	649.29	2.00	
Mar	1.78	0.43	629			1.78	628.86	2.00	
Apr	1.96	1.09	803			1.96	803.47	2.00	
May	1.99	1.23	876			1.99	876.15	2.00	
Jun	1.88	0.81	866			1.88	866.12	2.00	
Jul	1.77	0.76	770			1.77	770.40	2.00	
Aug	1.87	0.71	828			1.87	827.58	2.00	

Sep	1.93	0.60	845			1.93	844.56	2.00	
Oct	1.95	0.71	747			1.95	747.39	2.00	
Nov	1.80	0.69	784			1.80	784.50	2.00	
Dec	1.70	0.57	742			1.70	741.74	2.00	
2025									
Jan	1.91	0.65	712			1.91	711.62	2.50	
Feb	1.74	0.63	684			1.74	684.30	2.50	
Mar	1.88	0.46	663			1.88	662.76	2.50	
Apr	2.07	1.15	847			2.07	846.79	2.50	
May	2.09	1.30	923			2.09	923.40	2.50	
Jun	1.98	0.86	913			1.98	912.82	2.50	
Jul	1.87	0.80	812			1.87	811.94	2.50	
Aug	1.97	0.75	872			1.97	872.20	2.50	
Sep	2.03	0.63	890			2.03	890.10	2.50	
Oct	2.05	0.75	788			2.05	787.69	2.50	
Nov	1.90	0.72	827			1.90	826.79	2.50	
Dec	1.79	0.60	782			1.79	781.74	2.50	
2026									
Jan	2.01	0.68	747			2.01	747.24	2.50	
Feb	1.83	0.66	719			1.83	718.55	2.50	
Mar	1.97	0.48	696			1.97	695.94	2.50	
Apr	2.17	1.20	889			2.17	889.18	2.50	
May	2.20	1.36	970			2.20	969.62	2.50	
Jun	2.08	0.90	959			2.08	958.51	2.50	
Jul	1.96	0.84	853			1.96	852.58	2.50	
Aug	2.07	0.78	916			2.07	915.86	2.50	
Sep	2.13	0.66	935			2.13	934.66	2.50	
Oct	2.16	0.78	827			2.16	827.12	2.50	
Nov	1.99	0.76	868			1.99	868.18	2.50	
Dec	1.88	0.63	821			1.88	820.87	2.50	
2027									
Jan	2.10	0.71	782			2.10	781.65	2.50	
Feb	1.92	0.69	752			1.92	751.65	2.50	
Mar	2.06	0.50	728			2.06	727.99	2.50	
Apr	2.27	1.26	930			2.27	930.13	2.50	
May	2.30	1.42	1,014			2.30	1,014.27	2.50	
Jun	2.17	0.94	1,003			2.17	1,002.65	2.50	
Jul	2.05	0.88	892			2.05	891.85	2.50	
Aug	2.16	0.82	958			2.16	958.04	2.50	
Sep	2.23	0.69	978			2.23	977.70	2.50	
Oct	2.26	0.82	865			2.26	865.21	2.50	
Nov	2.09	0.79	908			2.09	908.16	2.50	
Dec	1.97	0.66	859			1.97	858.67	2.50	

10 Year Monthly Data of SAN VICENTE

Year	Forecast			Contracted and For PSA Approval Demand and Energy		Uncontracted Demand and Energy		Committed for CSP	
	Coincident Peak Demand (MW)	Off Peak Demand (MW)	Energy Requirement (MWh)	Demand (MW)	Energy (MWh)	Uncontracted Demand (MW)	Uncontracted Energy (MWh)	Demand (MW)	Energy (MWh)
2018									
Jan	0.68	0.24	294	0.82		(0.14)	294.02		
Feb	0.67	0.18	278	0.82		(0.15)	277.76		
Mar	0.75	0.11	240	0.82		(0.07)	240.24		
Apr	0.76	0.34	304	0.82		(0.06)	303.87		
May	0.68	0.15	308	0.82		(0.14)	307.99		
Jun	0.68	0.22	307	0.82		(0.14)	307.16		
Jul	0.64	0.31	280	0.82		(0.18)	280.30		
Aug	0.69	0.27	299	0.82		(0.13)	299.39		
Sep	0.70	0.26	308	0.82		(0.12)	307.98		
Oct	0.76	0.13	315	0.82		(0.06)	314.64		
Nov	0.72	0.17	341	0.82		(0.10)	340.81		
Dec	0.75	0.16	319	0.82		(0.07)	318.86		
2019									
Jan	0.72	0.25	314	0.92		(0.20)	314.41		
Feb	0.72	0.19	297	0.92		(0.20)	297.02		
Mar	0.80	0.12	257	0.92		(0.12)	256.90		
Apr	0.81	0.36	325	0.92		(0.11)	324.94		
May	0.73	0.16	329	0.92		(0.19)	329.34		
Jun	0.72	0.23	328	0.92		(0.20)	328.46		
Jul	0.68	0.33	300			0.68	299.73	1.00	
Aug	0.74	0.29	320			0.74	320.14	1.00	
Sep	0.75	0.27	329			0.75	329.33	1.00	
Oct	0.81	0.14	336			0.81	336.46	1.00	
Nov	0.77	0.18	364			0.77	364.44	1.00	
Dec	0.80	0.17	341			0.80	340.97	1.00	
2020									
Jan	0.77	0.27	336			0.77	335.92	1.00	
Feb	0.77	0.20	317			0.77	317.33	1.00	
Mar	0.85	0.12	274			0.85	274.47	1.00	
Apr	0.87	0.39	347			0.87	347.17	1.00	
May	0.78	0.18	352			0.78	351.87	1.00	
Jun	0.77	0.25	351			0.77	350.93	1.00	
Jul	0.73	0.35	320			0.73	320.24	1.00	
Aug	0.79	0.31	342			0.79	342.04	1.00	
Sep	0.80	0.29	352			0.80	351.86	1.00	
Oct	0.86	0.15	359			0.86	359.47	1.00	
Nov	0.83	0.19	389			0.83	389.37	1.00	

Dec	0.85	0.18	364			0.85	364.29	1.00	
2021									
Jan	0.82	0.29	358			0.82	358.27	1.00	
Feb	0.82	0.22	338			0.82	338.45	1.00	
Mar	0.91	0.13	293			0.91	292.74	1.00	
Apr	0.93	0.41	370			0.93	370.28	1.00	
May	0.83	0.19	375			0.83	375.29	1.00	
Jun	0.82	0.27	374			0.82	374.28	1.00	
Jul	0.78	0.37	342			0.78	341.55	1.00	
Aug	0.84	0.33	365			0.84	364.81	1.00	
Sep	0.86	0.31	375			0.86	375.27	1.00	
Oct	0.92	0.16	383			0.92	383.39	1.00	
Nov	0.88	0.20	415			0.88	415.29	1.00	
Dec	0.91	0.19	389			0.91	388.54	1.00	
2022									
Jan	0.88	0.31	381			0.88	381.21	1.00	
Feb	0.87	0.23	360			0.87	360.12	1.00	
Mar	0.97	0.14	311			0.97	311.48	1.00	
Apr	0.98	0.44	394			0.98	393.98	1.00	
May	0.88	0.20	399			0.88	399.31	1.00	
Jun	0.88	0.28	398			0.88	398.24	1.00	
Jul	0.83	0.40	363			0.83	363.42	1.00	
Aug	0.90	0.35	388			0.90	388.16	1.00	
Sep	0.91	0.33	399			0.91	399.30	1.00	
Oct	0.98	0.17	408			0.98	407.94	1.00	
Nov	0.94	0.22	442			0.94	441.87	1.00	
Dec	0.97	0.20	413			0.97	413.41	1.00	
2023									
Jan	0.93	0.33	404			0.93	404.46	1.50	
Feb	0.92	0.25	382			0.92	382.08	1.50	
Mar	1.03	0.15	330			1.03	330.48	1.50	
Apr	1.04	0.47	418			1.04	418.01	1.50	
May	0.94	0.21	424			0.94	423.67	1.50	
Jun	0.93	0.30	423			0.93	422.53	1.50	
Jul	0.88	0.42	386			0.88	385.58	1.50	
Aug	0.95	0.37	412			0.95	411.84	1.50	
Sep	0.97	0.35	424			0.97	423.65	1.50	
Oct	1.04	0.18	433			1.04	432.82	1.50	
Nov	1.00	0.23	469			1.00	468.82	1.50	
Dec	1.03	0.21	439			1.03	438.63	1.50	
2024									
Jan	0.98	0.35	428			0.98	427.75	1.50	
Feb	0.98	0.26	404			0.98	404.09	1.50	
Mar	1.08	0.16	350			1.08	349.51	1.50	
Apr	1.10	0.49	442			1.10	442.08	1.50	
May	0.99	0.22	448			0.99	448.06	1.50	
Jun	0.98	0.32	447			0.98	446.86	1.50	
Jul	0.93	0.44	408			0.93	407.78	1.50	
Aug	1.01	0.39	436			1.01	435.55	1.50	

Sep	1.02	0.37	448			1.02	448.05	1.50	
Oct	1.10	0.19	458			1.10	457.74	1.50	
Nov	1.05	0.24	496			1.05	495.82	1.50	
Dec	1.09	0.23	464			1.09	463.89	1.50	
2025									
Jan	1.04	0.37	451			1.04	450.81	1.50	
Feb	1.03	0.27	426			1.03	425.87	1.50	
Mar	1.14	0.17	368			1.14	368.35	1.50	
Apr	1.16	0.52	466			1.16	465.92	1.50	
May	1.04	0.24	472			1.04	472.22	1.50	
Jun	1.04	0.33	471			1.04	470.96	1.50	
Jul	0.98	0.47	430			0.98	429.77	1.50	
Aug	1.06	0.42	459			1.06	459.04	1.50	
Sep	1.08	0.39	472			1.08	472.20	1.50	
Oct	1.16	0.20	482			1.16	482.42	1.50	
Nov	1.11	0.26	523			1.11	522.55	1.50	
Dec	1.14	0.24	489			1.14	488.90	1.50	
2026									
Jan	1.09	0.38	473			1.09	473.38	1.50	
Feb	1.08	0.29	447			1.08	447.19	1.50	
Mar	1.20	0.17	387			1.20	386.79	1.50	
Apr	1.22	0.55	489			1.22	489.24	1.50	
May	1.10	0.25	496			1.10	495.86	1.50	
Jun	1.09	0.35	495			1.09	494.53	1.50	
Jul	1.03	0.49	451			1.03	451.28	1.50	
Aug	1.12	0.44	482			1.12	482.01	1.50	
Sep	1.13	0.41	496			1.13	495.84	1.50	
Oct	1.22	0.21	507			1.22	506.57	1.50	
Nov	1.16	0.27	549			1.16	548.71	1.50	
Dec	1.20	0.25	513			1.20	513.37	1.50	
2027									
Jan	1.14	0.40	495			1.14	495.18	1.50	
Feb	1.13	0.30	468			1.13	467.79	1.50	
Mar	1.25	0.18	405			1.25	404.61	1.50	
Apr	1.28	0.57	512			1.28	511.77	1.50	
May	1.15	0.26	519			1.15	518.70	1.50	
Jun	1.14	0.37	517			1.14	517.31	1.50	
Jul	1.08	0.51	472			1.08	472.07	1.50	
Aug	1.17	0.46	504			1.17	504.21	1.50	
Sep	1.18	0.43	519			1.18	518.68	1.50	
Oct	1.27	0.22	530			1.27	529.90	1.50	
Nov	1.22	0.28	574			1.22	573.98	1.50	
Dec	1.26	0.26	537			1.26	537.01	1.50	

10 Year Monthly Data of RIZAL

Year	Forecast			Contracted and For PSA Approval Demand and Energy		Uncontracted Demand and Energy		Committed for CSP	
	Coincident Peak Demand (MW)	Off Peak Demand (MW)	Energy Requirement (MWh)	Demand (MW)	Energy (MWh)	Uncontracted Demand (MW)	Uncontracted Energy (MWh)	Demand (MW)	Energy (MWh)
2018									
Jan	0.36	0.12	142	0.40		(0.04)	142.43		
Feb	0.38	0.12	150	0.40		(0.02)	149.68		
Mar	0.38	0.12	150	0.40		(0.02)	149.68		
Apr	0.41	0.20	161	0.40		0.01	161.19		
May	0.40	0.14	158	0.40		0.00	157.78		
Jun	0.37	0.15	146	0.40		(0.03)	145.84		
Jul	0.38	0.18	151	0.40		(0.02)	150.96		
Aug	0.38	0.18	151	0.40		(0.02)	150.96		
Sep	0.41	0.13	159	0.40		0.01	159.49		
Oct	0.39	0.20	155	0.40		(0.01)	154.80		
Nov	0.38	0.11	150	0.40		(0.02)	149.68		
Dec	0.39	0.13	154	0.40		(0.01)	154.37		
2019									
Jan	0.39	0.13	152	0.43		(0.04)	152.31		
Feb	0.41	0.13	160	0.43		(0.02)	160.06		
Mar	0.41	0.13	160	0.43		(0.02)	160.06		
Apr	0.44	0.22	172	0.43		0.01	172.37		
May	0.43	0.15	169	0.43		(0.00)	168.72		
Jun	0.40	0.16	156	0.43		(0.03)	155.95		
Jul	0.41	0.19	161			0.41	161.43	0.50	
Aug	0.41	0.19	161			0.41	161.43	0.50	
Sep	0.43	0.14	171			0.43	170.55	0.50	
Oct	0.42	0.21	166			0.42	165.53	0.50	
Nov	0.41	0.12	160			0.41	160.06	0.50	
Dec	0.42	0.14	165			0.42	165.07	0.50	
2020									
Jan	0.41	0.14	163			0.41	162.72	0.50	
Feb	0.43	0.13	171			0.43	171.01	0.50	
Mar	0.43	0.14	171			0.43	171.01	0.50	
Apr	0.47	0.23	184			0.47	184.16	0.50	
May	0.46	0.16	180			0.46	180.26	0.50	
Jun	0.42	0.17	167			0.42	166.62	0.50	
Jul	0.44	0.21	172			0.44	172.47	0.50	
Aug	0.44	0.21	172			0.44	172.47	0.50	
Sep	0.46	0.15	182			0.46	182.21	0.50	
Oct	0.45	0.23	177			0.45	176.85	0.50	
Nov	0.43	0.13	171			0.43	171.01	0.50	

Dec	0.45	0.15	176			0.45	176.36	0.50	
2021									
Jan	0.44	0.15	174			0.44	173.55	0.50	
Feb	0.46	0.14	182			0.46	182.39	0.50	
Mar	0.46	0.15	182			0.46	182.39	0.50	
Apr	0.50	0.25	196			0.50	196.42	0.50	
May	0.49	0.17	192			0.49	192.26	0.50	
Jun	0.45	0.19	178			0.45	177.71	0.50	
Jul	0.47	0.22	184			0.47	183.95	0.50	
Aug	0.47	0.22	184			0.47	183.95	0.50	
Sep	0.49	0.16	194			0.49	194.34	0.50	
Oct	0.48	0.24	189			0.48	188.62	0.50	
Nov	0.46	0.14	182			0.46	182.39	0.50	
Dec	0.48	0.16	188			0.48	188.10	0.50	
2022									
Jan	0.47	0.16	185			0.47	184.66	0.75	
Feb	0.49	0.15	194			0.49	194.06	0.75	
Mar	0.49	0.16	194			0.49	194.06	0.75	
Apr	0.53	0.26	209			0.53	208.99	0.75	
May	0.52	0.18	205			0.52	204.57	0.75	
Jun	0.48	0.20	189			0.48	189.09	0.75	
Jul	0.50	0.24	196			0.50	195.72	0.75	
Aug	0.50	0.23	196			0.50	195.72	0.75	
Sep	0.53	0.17	207			0.53	206.78	0.75	
Oct	0.51	0.26	201			0.51	200.70	0.75	
Nov	0.49	0.15	194			0.49	194.06	0.75	
Dec	0.51	0.17	200			0.51	200.15	0.75	
2023									
Jan	0.50	0.17	196			0.50	195.93	0.75	
Feb	0.52	0.16	206			0.52	205.90	0.75	
Mar	0.52	0.17	206			0.52	205.90	0.75	
Apr	0.56	0.28	222			0.56	221.74	0.75	
May	0.55	0.20	217			0.55	217.04	0.75	
Jun	0.51	0.21	201			0.51	200.62	0.75	
Jul	0.53	0.25	208			0.53	207.66	0.75	
Aug	0.53	0.25	208			0.53	207.66	0.75	
Sep	0.56	0.18	219			0.56	219.39	0.75	
Oct	0.54	0.27	213			0.54	212.94	0.75	
Nov	0.52	0.16	206			0.52	205.90	0.75	
Dec	0.54	0.18	212			0.54	212.35	0.75	
2024									
Jan	0.53	0.18	207			0.53	207.21	0.75	
Feb	0.55	0.17	218			0.55	217.76	0.75	
Mar	0.55	0.18	218			0.55	217.76	0.75	
Apr	0.60	0.29	235			0.60	234.51	0.75	
May	0.58	0.21	230			0.58	229.54	0.75	
Jun	0.54	0.22	212			0.54	212.17	0.75	
Jul	0.56	0.26	220			0.56	219.62	0.75	
Aug	0.56	0.26	220			0.56	219.62	0.75	

Sep	0.59	0.19	232			0.59	232.02	0.75	
Oct	0.57	0.29	225			0.57	225.20	0.75	
Nov	0.55	0.17	218			0.55	217.76	0.75	
Dec	0.57	0.20	225			0.57	224.58	0.75	
2025									
Jan	0.55	0.19	218			0.55	218.38	0.75	
Feb	0.58	0.18	229			0.58	229.50	0.75	
Mar	0.58	0.19	229			0.58	229.50	0.75	
Apr	0.63	0.31	247			0.63	247.15	0.75	
May	0.61	0.22	242			0.61	241.92	0.75	
Jun	0.57	0.23	224			0.57	223.61	0.75	
Jul	0.59	0.28	231			0.59	231.46	0.75	
Aug	0.59	0.28	231			0.59	231.46	0.75	
Sep	0.62	0.20	245			0.62	244.54	0.75	
Oct	0.60	0.31	237			0.60	237.34	0.75	
Nov	0.58	0.18	229			0.58	229.50	0.75	
Dec	0.60	0.21	237			0.60	236.69	0.75	
2026									
Jan	0.58	0.20	229			0.58	229.31	0.75	
Feb	0.61	0.19	241			0.61	240.99	0.75	
Mar	0.61	0.20	241			0.61	240.99	0.75	
Apr	0.66	0.33	260			0.66	259.52	0.75	
May	0.65	0.23	254			0.65	254.03	0.75	
Jun	0.60	0.25	235			0.60	234.81	0.75	
Jul	0.62	0.29	243			0.62	243.04	0.75	
Aug	0.62	0.29	243			0.62	243.04	0.75	
Sep	0.65	0.21	257			0.65	256.78	0.75	
Oct	0.63	0.32	249			0.63	249.22	0.75	
Nov	0.61	0.18	241			0.61	240.99	0.75	
Dec	0.63	0.22	249			0.63	248.54	0.75	
2027									
Jan	0.61	0.20	240			0.61	239.87	0.75	
Feb	0.64	0.20	252			0.64	252.08	0.75	
Mar	0.64	0.21	252			0.64	252.08	0.75	
Apr	0.69	0.34	271			0.69	271.47	0.75	
May	0.67	0.24	266			0.67	265.73	0.75	
Jun	0.62	0.26	246			0.62	245.62	0.75	
Jul	0.65	0.31	254			0.65	254.24	0.75	
Aug	0.65	0.30	254			0.65	254.24	0.75	
Sep	0.68	0.22	269			0.68	268.60	0.75	
Oct	0.66	0.34	261			0.66	260.70	0.75	
Nov	0.64	0.19	252			0.64	252.08	0.75	
Dec	0.66	0.23	260			0.66	259.98	0.75	

10 Year Monthly Data of ARACELI

Year	Forecast			Contracted and For PSA Approval Demand and Energy		Uncontracted Demand and Energy		Committed for CSP	
	Coincident Peak Demand (MW)	Off Peak Demand (MW)	Energy Requirement (MWh)	Demand (MW)	Energy (MWh)	Uncontracted Demand (MW)	Uncontracted Energy (MWh)	Demand (MW)	Energy (MWh)
2018									
Jan	0.15	0.05	63	0.20		(0.05)	63.38		
Feb	0.15	0.05	55	0.20		(0.05)	55.50		
Mar	0.16	0.06	58	0.20		(0.04)	57.62		
Apr	0.17	0.05	72	0.20		(0.03)	72.18		
May	0.19	0.06	77	0.20		(0.01)	76.88		
Jun	0.18	0.07	79	0.20		(0.02)	78.55		
Jul	0.18	0.06	68	0.20		(0.02)	68.39		
Aug	0.19	0.06	75	0.20		(0.01)	74.60		
Sep	0.19	0.06	78	0.20		(0.01)	77.94		
Oct	0.19	0.06	76	0.20		(0.01)	75.82		
Nov	0.19	0.10	78	0.20		(0.01)	78.39		
Dec	0.19	0.05	77	0.20		(0.01)	77.03		
2019									
Jan	0.16	0.05	68	0.22		(0.06)	67.78		
Feb	0.16	0.05	59	0.22		(0.06)	59.35		
Mar	0.17	0.06	62	0.22		(0.05)	61.62		
Apr	0.18	0.06	77	0.22		(0.04)	77.18		
May	0.20	0.06	82	0.22		(0.02)	82.21		
Jun	0.19	0.07	84	0.22		(0.03)	83.99		
Jul	0.19	0.06	73			0.19	73.13	0.50	
Aug	0.20	0.07	80			0.20	79.78	0.50	
Sep	0.21	0.07	83			0.21	83.34	0.50	
Oct	0.20	0.06	81			0.20	81.07	0.50	
Nov	0.21	0.11	84			0.21	83.83	0.50	
Dec	0.21	0.06	82			0.21	82.37	0.50	
2020									
Jan	0.17	0.06	72			0.17	72.41	0.50	
Feb	0.17	0.05	63			0.17	63.41	0.50	
Mar	0.19	0.07	66			0.19	65.83	0.50	
Apr	0.19	0.06	82			0.19	82.46	0.50	
May	0.21	0.07	88			0.21	87.83	0.50	
Jun	0.21	0.08	90			0.21	89.74	0.50	
Jul	0.20	0.07	78			0.20	78.13	0.50	
Aug	0.21	0.07	85			0.21	85.23	0.50	
Sep	0.22	0.07	89			0.22	89.04	0.50	
Oct	0.21	0.07	87			0.21	86.62	0.50	
Nov	0.22	0.11	90			0.22	89.56	0.50	

Dec	0.22	0.06	88			0.22	88.01	0.50	
2021									
Jan	0.18	0.06	77			0.18	77.23	0.50	
Feb	0.18	0.06	68			0.18	67.63	0.50	
Mar	0.20	0.07	70			0.20	70.21	0.50	
Apr	0.21	0.07	88			0.21	87.95	0.50	
May	0.23	0.07	94			0.23	93.68	0.50	
Jun	0.22	0.08	96			0.22	95.71	0.50	
Jul	0.22	0.07	83			0.22	83.33	0.50	
Aug	0.23	0.08	91			0.23	90.91	0.50	
Sep	0.23	0.08	95			0.23	94.97	0.50	
Oct	0.23	0.07	92			0.23	92.38	0.50	
Nov	0.24	0.12	96			0.24	95.53	0.50	
Dec	0.24	0.06	94			0.24	93.86	0.50	
2022									
Jan	0.20	0.06	82			0.20	82.18	0.50	
Feb	0.20	0.06	72			0.20	71.95	0.50	
Mar	0.21	0.07	75			0.21	74.71	0.50	
Apr	0.22	0.07	94			0.22	93.58	0.50	
May	0.24	0.08	100			0.24	99.68	0.50	
Jun	0.24	0.09	102			0.24	101.84	0.50	
Jul	0.23	0.08	89			0.23	88.67	0.50	
Aug	0.24	0.08	97			0.24	96.73	0.50	
Sep	0.25	0.08	101			0.25	101.05	0.50	
Oct	0.24	0.08	98			0.24	98.30	0.50	
Nov	0.25	0.13	102			0.25	101.64	0.50	
Dec	0.25	0.07	100			0.25	99.87	0.50	
2023									
Jan	0.21	0.07	87			0.21	87.19	0.50	
Feb	0.21	0.06	76			0.21	76.34	0.50	
Mar	0.22	0.08	79			0.22	79.26	0.50	
Apr	0.23	0.07	99			0.23	99.29	0.50	
May	0.25	0.08	106			0.25	105.75	0.50	
Jun	0.25	0.09	108			0.25	108.05	0.50	
Jul	0.25	0.08	94			0.25	94.07	0.50	
Aug	0.26	0.09	103			0.26	102.63	0.50	
Sep	0.27	0.08	107			0.27	107.21	0.50	
Oct	0.26	0.08	104			0.26	104.29	0.50	
Nov	0.27	0.14	108			0.27	107.84	0.50	
Dec	0.27	0.07	106			0.27	105.96	0.50	
2024									
Jan	0.22	0.07	92			0.22	92.21	0.50	
Feb	0.22	0.07	81			0.22	80.74	0.50	
Mar	0.24	0.08	84			0.24	83.83	0.50	
Apr	0.25	0.08	105			0.25	105.01	0.50	
May	0.27	0.09	112			0.27	111.84	0.50	
Jun	0.26	0.10	114			0.26	114.27	0.50	
Jul	0.26	0.09	99			0.26	99.49	0.50	
Aug	0.27	0.09	109			0.27	108.53	0.50	

Sep	0.28	0.09	113			0.28	113.39	0.50	
Oct	0.27	0.09	110			0.27	110.30	0.50	
Nov	0.28	0.14	114			0.28	114.05	0.50	
Dec	0.28	0.08	112			0.28	112.06	0.50	
2025									
Jan	0.23	0.08	97			0.23	97.18	0.50	
Feb	0.23	0.07	85			0.23	85.09	0.50	
Mar	0.25	0.09	88			0.25	88.35	0.50	
Apr	0.26	0.08	111			0.26	110.67	0.50	
May	0.28	0.09	118			0.28	117.87	0.50	
Jun	0.28	0.10	120			0.28	120.43	0.50	
Jul	0.27	0.09	105			0.27	104.85	0.50	
Aug	0.29	0.10	114			0.29	114.39	0.50	
Sep	0.30	0.09	120			0.30	119.50	0.50	
Oct	0.29	0.09	116			0.29	116.25	0.50	
Nov	0.30	0.15	120			0.30	120.20	0.50	
Dec	0.30	0.08	118			0.30	118.11	0.50	
2026									
Jan	0.24	0.08	102			0.24	102.05	0.50	
Feb	0.24	0.07	89			0.24	89.35	0.50	
Mar	0.26	0.09	93			0.26	92.77	0.50	
Apr	0.27	0.09	116			0.27	116.21	0.50	
May	0.30	0.10	124			0.30	123.77	0.50	
Jun	0.29	0.11	126			0.29	126.46	0.50	
Jul	0.29	0.10	110			0.29	110.10	0.50	
Aug	0.30	0.10	120			0.30	120.11	0.50	
Sep	0.31	0.10	125			0.31	125.48	0.50	
Oct	0.30	0.10	122			0.30	122.07	0.50	
Nov	0.31	0.16	126			0.31	126.22	0.50	
Dec	0.31	0.09	124			0.31	124.02	0.50	
2027									
Jan	0.26	0.08	107			0.26	106.75	0.50	
Feb	0.26	0.08	93			0.26	93.47	0.50	
Mar	0.27	0.10	97			0.27	97.04	0.50	
Apr	0.29	0.09	122			0.29	121.56	0.50	
May	0.31	0.10	129			0.31	129.48	0.50	
Jun	0.31	0.11	132			0.31	132.28	0.50	
Jul	0.30	0.10	115			0.30	115.17	0.50	
Aug	0.31	0.11	126			0.31	125.64	0.50	
Sep	0.32	0.10	131			0.32	131.26	0.50	
Oct	0.32	0.10	128			0.32	127.69	0.50	
Nov	0.33	0.17	132			0.33	132.03	0.50	
Dec	0.33	0.09	130			0.33	129.73	0.50	

10 Year Monthly Data of AGUTAYA

Year	Forecast			Contracted and For PSA Approval Demand and Energy		Uncontracted Demand and Energy		Committed for CSP	
	Coincident Peak Demand (MW)	Off Peak Demand (MW)	Energy Requirement (MWh)	Demand (MW)	Energy (MWh)	Uncontracted Demand (MW)	Uncontracted Energy (MWh)	Demand (MW)	Energy (MWh)
2018									
Jan	0.09	0.03	24	0.14		(0.04)	24.13		
Feb	0.09	0.04	22	0.14		(0.04)	21.59		
Mar	0.09	0.04	21	0.14		(0.04)	21.44		
Apr	0.09	0.04	25	0.14		(0.04)	25.10		
May	0.09	0.04	26	0.14		(0.04)	26.14		
Jun	0.09	0.04	28	0.14		(0.04)	27.93		
Jul	0.09	0.04	25	0.14		(0.04)	25.12		
Aug	0.09	0.04	26	0.14		(0.04)	26.29		
Sep	0.09	0.04	27	0.14		(0.04)	26.99		
Oct	0.10	0.04	25	0.14		(0.04)	25.09		
Nov	0.10	0.04	26	0.14		(0.04)	26.28		
Dec	0.09	0.03	26	0.14		(0.04)	25.84		
2019									
Jan	0.10	0.03	26	0.16		(0.06)	25.80		
Feb	0.10	0.04	23	0.16		(0.06)	23.09		
Mar	0.10	0.04	23	0.16		(0.06)	22.92		
Apr	0.10	0.04	27	0.16		(0.06)	26.84		
May	0.10	0.04	28	0.16		(0.06)	27.96		
Jun	0.10	0.04	30	0.16		(0.06)	29.87		
Jul	0.10	0.04	27			0.10	26.86	0.25	
Aug	0.10	0.04	28			0.10	28.11	0.25	
Sep	0.10	0.04	29			0.10	28.87	0.25	
Oct	0.10	0.04	27			0.10	26.83	0.25	
Nov	0.10	0.04	28			0.10	28.10	0.25	
Dec	0.10	0.03	28			0.10	27.63	0.25	
2020									
Jan	0.11	0.03	28			0.11	27.57	0.25	
Feb	0.11	0.05	25			0.11	24.67	0.25	
Mar	0.11	0.05	24			0.11	24.49	0.25	
Apr	0.11	0.05	29			0.11	28.68	0.25	
May	0.11	0.05	30			0.11	29.87	0.25	
Jun	0.11	0.05	32			0.11	31.91	0.25	
Jul	0.11	0.05	29			0.11	28.70	0.25	
Aug	0.11	0.05	30			0.11	30.04	0.25	
Sep	0.11	0.05	31			0.11	30.84	0.25	
Oct	0.11	0.05	29			0.11	28.67	0.25	
Nov	0.11	0.04	30			0.11	30.02	0.25	

Dec	0.11	0.04	30			0.11	29.52	0.25	
2021									
Jan	0.11	0.03	29			0.11	29.40	0.25	
Feb	0.11	0.05	26			0.11	26.31	0.25	
Mar	0.11	0.05	26			0.11	26.12	0.25	
Apr	0.11	0.05	31			0.11	30.59	0.25	
May	0.11	0.05	32			0.11	31.86	0.25	
Jun	0.11	0.05	34			0.11	34.03	0.25	
Jul	0.11	0.05	31			0.11	30.61	0.25	
Aug	0.11	0.05	32			0.11	32.04	0.25	
Sep	0.11	0.05	33			0.11	32.89	0.25	
Oct	0.12	0.05	31			0.12	30.57	0.25	
Nov	0.12	0.04	32			0.12	32.02	0.25	
Dec	0.11	0.04	31			0.11	31.48	0.25	
2022									
Jan	0.12	0.03	31			0.12	31.29	0.25	
Feb	0.12	0.05	28			0.12	27.99	0.25	
Mar	0.12	0.05	28			0.12	27.79	0.25	
Apr	0.12	0.05	33			0.12	32.54	0.25	
May	0.12	0.05	34			0.12	33.90	0.25	
Jun	0.12	0.05	36			0.12	36.21	0.25	
Jul	0.12	0.05	33			0.12	32.57	0.25	
Aug	0.12	0.05	34			0.12	34.09	0.25	
Sep	0.12	0.05	35			0.12	35.00	0.25	
Oct	0.12	0.05	33			0.12	32.53	0.25	
Nov	0.12	0.05	34			0.12	34.07	0.25	
Dec	0.12	0.04	33			0.12	33.50	0.25	
2023									
Jan	0.13	0.04	33			0.13	33.19	0.25	
Feb	0.13	0.06	30			0.13	29.70	0.25	
Mar	0.13	0.06	29			0.13	29.49	0.25	
Apr	0.13	0.06	35			0.13	34.53	0.25	
May	0.13	0.06	36			0.13	35.96	0.25	
Jun	0.13	0.06	38			0.13	38.42	0.25	
Jul	0.13	0.06	35			0.13	34.55	0.25	
Aug	0.13	0.06	36			0.13	36.17	0.25	
Sep	0.13	0.06	37			0.13	37.13	0.25	
Oct	0.13	0.06	35			0.13	34.52	0.25	
Nov	0.13	0.05	36			0.13	36.15	0.25	
Dec	0.13	0.04	36			0.13	35.54	0.25	
2024									
Jan	0.14	0.04	35			0.14	35.11	0.25	
Feb	0.14	0.06	31			0.14	31.41	0.25	
Mar	0.14	0.06	31			0.14	31.18	0.25	
Apr	0.14	0.06	37			0.14	36.52	0.25	
May	0.14	0.06	38			0.14	38.04	0.25	
Jun	0.14	0.06	41			0.14	40.63	0.25	
Jul	0.14	0.06	37			0.14	36.54	0.25	
Aug	0.14	0.06	38			0.14	38.25	0.25	

Sep	0.14	0.06	39			0.14	39.27	0.25	
Oct	0.14	0.06	37			0.14	36.50	0.25	
Nov	0.14	0.05	38			0.14	38.23	0.25	
Dec	0.13	0.05	38			0.13	37.59	0.25	
2025									
Jan	0.14	0.04	37			0.14	37.00	0.25	
Feb	0.14	0.06	33			0.14	33.10	0.25	
Mar	0.14	0.06	33			0.14	32.87	0.25	
Apr	0.14	0.06	38			0.14	38.49	0.25	
May	0.14	0.06	40			0.14	40.09	0.25	
Jun	0.14	0.06	43			0.14	42.83	0.25	
Jul	0.14	0.06	39			0.14	38.51	0.25	
Aug	0.14	0.06	40			0.14	40.31	0.25	
Sep	0.14	0.06	41			0.14	41.39	0.25	
Oct	0.15	0.06	38			0.15	38.47	0.25	
Nov	0.15	0.05	40			0.15	40.29	0.25	
Dec	0.14	0.05	40			0.14	39.61	0.25	
2026									
Jan	0.15	0.04	39			0.15	38.85	0.25	
Feb	0.15	0.06	35			0.15	34.76	0.25	
Mar	0.15	0.07	35			0.15	34.51	0.25	
Apr	0.15	0.07	40			0.15	40.41	0.25	
May	0.15	0.07	42			0.15	42.09	0.25	
Jun	0.15	0.07	45			0.15	44.97	0.25	
Jul	0.15	0.07	40			0.15	40.44	0.25	
Aug	0.15	0.07	42			0.15	42.33	0.25	
Sep	0.15	0.07	43			0.15	43.46	0.25	
Oct	0.16	0.07	40			0.16	40.40	0.25	
Nov	0.16	0.06	42			0.16	42.31	0.25	
Dec	0.15	0.05	42			0.15	41.60	0.25	
2027									
Jan	0.16	0.04	41			0.16	40.64	0.25	
Feb	0.16	0.07	36			0.16	36.36	0.25	
Mar	0.16	0.07	36			0.16	36.10	0.25	
Apr	0.16	0.07	42			0.16	42.27	0.25	
May	0.16	0.07	44			0.16	44.03	0.25	
Jun	0.16	0.07	47			0.16	47.04	0.25	
Jul	0.16	0.07	42			0.16	42.31	0.25	
Aug	0.16	0.07	44			0.16	44.28	0.25	
Sep	0.16	0.07	45			0.16	45.46	0.25	
Oct	0.16	0.07	42			0.16	42.26	0.25	
Nov	0.16	0.06	44			0.16	44.25	0.25	
Dec	0.16	0.05	44			0.16	43.51	0.25	

10 Year Monthly Data of BALABAC

Year	Forecast			Contracted and For PSA Approval Demand and Energy		Uncontracted Demand and Energy		Committed for CSP	
	Coincident Peak Demand (MW)	Off Peak Demand (MW)	Energy Requirement (MWh)	Demand (MW)	Energy (MWh)	Uncontracted Demand (MW)	Uncontracted Energy (MWh)	Demand (MW)	Energy (MWh)
2018									
Jan	0.15	0.06	47	0.23		(0.08)	47.00		
Feb	0.15	0.06	45	0.23		(0.08)	44.52		
Mar	0.16	0.06	42	0.23		(0.07)	41.62		
Apr	0.15	0.06	48	0.23		(0.08)	48.42		
May	0.15	0.06	45	0.23		(0.09)	44.51		
Jun	0.15	0.06	47	0.23		(0.08)	47.34		
Jul	0.15	0.06	42	0.23		(0.08)	42.29		
Aug	0.15	0.06	47	0.23		(0.08)	46.73		
Sep	0.15	0.06	46	0.23		(0.08)	46.46		
Oct	0.17	0.06	44	0.23		(0.07)	43.78		
Nov	0.15	0.06	46	0.23		(0.08)	45.95		
Dec	0.15	0.06	42	0.23		(0.08)	41.86		
2019									
Jan	0.16	0.07	50	0.27		(0.11)	50.26		
Feb	0.15	0.06	48	0.27		(0.12)	47.61		
Mar	0.16	0.07	45	0.27		(0.10)	44.50		
Apr	0.16	0.07	52	0.27		(0.11)	51.78		
May	0.15	0.07	48	0.27		(0.12)	47.60		
Jun	0.16	0.07	51	0.27		(0.11)	50.62		
Jul	0.15	0.06	45			0.15	45.22	0.25	
Aug	0.15	0.07	50			0.15	49.97	0.25	
Sep	0.16	0.07	50			0.16	49.69	0.25	
Oct	0.17	0.07	47			0.17	46.82	0.25	
Nov	0.16	0.06	49			0.16	49.14	0.25	
Dec	0.16	0.07	45			0.16	44.76	0.25	
2020									
Jan	0.16	0.07	54			0.16	53.70	0.25	
Feb	0.16	0.06	51			0.16	50.86	0.25	
Mar	0.17	0.07	48			0.17	47.55	0.25	
Apr	0.16	0.07	55			0.16	55.32	0.25	
May	0.16	0.07	51			0.16	50.85	0.25	
Jun	0.16	0.07	54			0.16	54.08	0.25	
Jul	0.16	0.07	48			0.16	48.31	0.25	
Aug	0.16	0.07	53			0.16	53.39	0.25	
Sep	0.16	0.07	53			0.16	53.08	0.25	
Oct	0.18	0.07	50			0.18	50.02	0.25	
Nov	0.17	0.07	53			0.17	52.50	0.25	

Dec	0.17	0.07	48			0.17	47.82	0.25	
2021									
Jan	0.17	0.07	57			0.17	57.27	0.25	
Feb	0.17	0.07	54			0.17	54.25	0.25	
Mar	0.18	0.07	51			0.18	50.71	0.25	
Apr	0.17	0.07	59			0.17	59.01	0.25	
May	0.17	0.07	54			0.17	54.24	0.25	
Jun	0.17	0.07	58			0.17	57.68	0.25	
Jul	0.17	0.07	52			0.17	51.53	0.25	
Aug	0.17	0.07	57			0.17	56.94	0.25	
Sep	0.17	0.07	57			0.17	56.62	0.25	
Oct	0.19	0.07	53			0.19	53.35	0.25	
Nov	0.17	0.07	56			0.17	56.00	0.25	
Dec	0.17	0.07	51			0.17	51.01	0.25	
2022									
Jan	0.18	0.08	61			0.18	60.94	0.25	
Feb	0.18	0.07	58			0.18	57.72	0.25	
Mar	0.19	0.08	54			0.19	53.96	0.25	
Apr	0.18	0.08	63			0.18	62.78	0.25	
May	0.18	0.08	58			0.18	57.71	0.25	
Jun	0.18	0.08	61			0.18	61.37	0.25	
Jul	0.18	0.07	55			0.18	54.83	0.25	
Aug	0.18	0.08	61			0.18	60.59	0.25	
Sep	0.18	0.08	60			0.18	60.24	0.25	
Oct	0.20	0.08	57			0.20	56.76	0.25	
Nov	0.18	0.07	60			0.18	59.58	0.25	
Dec	0.18	0.08	54			0.18	54.27	0.25	
2023									
Jan	0.19	0.08	65			0.19	64.65	0.25	
Feb	0.19	0.08	61			0.19	61.24	0.25	
Mar	0.20	0.08	57			0.20	57.25	0.25	
Apr	0.19	0.08	67			0.19	66.61	0.25	
May	0.19	0.08	61			0.19	61.23	0.25	
Jun	0.19	0.08	65			0.19	65.12	0.25	
Jul	0.19	0.08	58			0.19	58.17	0.25	
Aug	0.19	0.08	64			0.19	64.28	0.25	
Sep	0.19	0.08	64			0.19	63.92	0.25	
Oct	0.21	0.08	60			0.21	60.22	0.25	
Nov	0.19	0.08	63			0.19	63.21	0.25	
Dec	0.19	0.08	58			0.19	57.58	0.25	
2024									
Jan	0.20	0.09	68			0.20	68.38	0.25	
Feb	0.20	0.08	65			0.20	64.77	0.25	
Mar	0.21	0.09	61			0.21	60.55	0.25	
Apr	0.20	0.09	70			0.20	70.45	0.25	
May	0.20	0.09	65			0.20	64.76	0.25	
Jun	0.20	0.09	69			0.20	68.87	0.25	
Jul	0.20	0.08	62			0.20	61.52	0.25	
Aug	0.20	0.09	68			0.20	67.99	0.25	

Sep	0.20	0.09	68			0.20	67.60	0.25	
Oct	0.22	0.09	64			0.22	63.69	0.25	
Nov	0.20	0.08	67			0.20	66.85	0.25	
Dec	0.20	0.09	61			0.20	60.90	0.25	
2025									
Jan	0.21	0.09	72			0.21	72.06	0.25	
Feb	0.21	0.08	68			0.21	68.26	0.25	
Mar	0.22	0.09	64			0.22	63.81	0.25	
Apr	0.21	0.09	74			0.21	74.25	0.25	
May	0.21	0.09	68			0.21	68.25	0.25	
Jun	0.21	0.09	73			0.21	72.58	0.25	
Jul	0.21	0.09	65			0.21	64.84	0.25	
Aug	0.21	0.09	72			0.21	71.65	0.25	
Sep	0.21	0.09	71			0.21	71.24	0.25	
Oct	0.23	0.09	67			0.23	67.13	0.25	
Nov	0.21	0.09	70			0.21	70.46	0.25	
Dec	0.21	0.09	64			0.21	64.18	0.25	
2026									
Jan	0.22	0.10	76			0.22	75.67	0.25	
Feb	0.22	0.09	72			0.22	71.68	0.25	
Mar	0.24	0.10	67			0.24	67.01	0.25	
Apr	0.22	0.10	78			0.22	77.96	0.25	
May	0.22	0.10	72			0.22	71.66	0.25	
Jun	0.22	0.10	76			0.22	76.21	0.25	
Jul	0.22	0.09	68			0.22	68.08	0.25	
Aug	0.22	0.10	75			0.22	75.24	0.25	
Sep	0.22	0.10	75			0.22	74.81	0.25	
Oct	0.25	0.10	70			0.25	70.49	0.25	
Nov	0.23	0.09	74			0.23	73.99	0.25	
Dec	0.23	0.10	67			0.23	67.40	0.25	
2027									
Jan	0.24	0.10	79			0.24	79.16	0.30	
Feb	0.23	0.09	75			0.23	74.98	0.30	
Mar	0.25	0.10	70			0.25	70.09	0.30	
Apr	0.24	0.10	82			0.24	81.55	0.30	
May	0.23	0.10	75			0.23	74.97	0.30	
Jun	0.24	0.10	80			0.24	79.72	0.30	
Jul	0.23	0.09	71			0.23	71.22	0.30	
Aug	0.23	0.10	79			0.23	78.70	0.30	
Sep	0.24	0.10	78			0.24	78.25	0.30	
Oct	0.26	0.10	74			0.26	73.73	0.30	
Nov	0.24	0.09	77			0.24	77.39	0.30	
Dec	0.24	0.10	70			0.24	70.50	0.30	

10 Year Monthly Data of CAGAYANCILLO

Year	Forecast			Contracted and For PSA Approval Demand and Energy		Uncontracted Demand and Energy		Committed for CSP	
	Coincident Peak Demand (MW)	Off Peak Demand (MW)	Energy Requirement (MWh)	Demand (MW)	Energy (MWh)	Uncontracted Demand (MW)	Uncontracted Energy (MWh)	Demand (MW)	Energy (MWh)
2018									
Jan	0.13	0.04	22	0.17		(0.04)	22.17		
Feb	0.13	0.04	20	0.17		(0.04)	20.31		
Mar	0.15	0.04	20	0.17		(0.03)	19.63		
Apr	0.14	0.04	22	0.17		(0.03)	22.23		
May	0.14	0.04	21	0.17		(0.04)	21.49		
Jun	0.15	0.05	22	0.17		(0.03)	22.10		
Jul	0.15	0.05	23	0.17		(0.03)	22.72		
Aug	0.15	0.05	24	0.17		(0.03)	23.64		
Sep	0.15	0.06	25	0.17		(0.02)	25.38		
Oct	0.15	0.05	22	0.17		(0.03)	21.53		
Nov	0.15	0.05	25	0.17		(0.02)	25.44		
Dec	0.15	0.04	24	0.17		(0.03)	24.29		
2019									
Jan	0.14	0.04	24	0.19		(0.05)	23.70		
Feb	0.14	0.04	22	0.19		(0.06)	21.72		
Mar	0.16	0.04	21	0.19		(0.04)	20.99		
Apr	0.15	0.05	24	0.19		(0.05)	23.77		
May	0.15	0.05	23	0.19		(0.05)	22.98		
Jun	0.16	0.05	24	0.19		(0.04)	23.63		
Jul	0.16	0.05	24			0.16	24.30	0.25	
Aug	0.16	0.05	25			0.16	25.28	0.25	
Sep	0.16	0.06	27			0.16	27.14	0.25	
Oct	0.16	0.05	23			0.16	23.02	0.25	
Nov	0.16	0.05	27			0.16	27.21	0.25	
Dec	0.16	0.05	26			0.16	25.97	0.25	
2020									
Jan	0.15	0.04	25			0.15	25.33	0.25	
Feb	0.15	0.04	23			0.15	23.21	0.25	
Mar	0.17	0.04	22			0.17	22.43	0.25	
Apr	0.16	0.05	25			0.16	25.40	0.25	
May	0.16	0.05	25			0.16	24.55	0.25	
Jun	0.17	0.05	25			0.17	25.24	0.25	
Jul	0.17	0.05	26			0.17	25.96	0.25	
Aug	0.17	0.05	27			0.17	27.00	0.25	
Sep	0.17	0.06	29			0.17	29.00	0.25	
Oct	0.17	0.05	25			0.17	24.60	0.25	
Nov	0.17	0.06	29			0.17	29.07	0.25	

Dec	0.17	0.05	28			0.17	27.75	0.25	
2021									
Jan	0.16	0.04	27			0.16	27.01	0.25	
Feb	0.16	0.04	25			0.16	24.75	0.25	
Mar	0.18	0.05	24			0.18	23.92	0.25	
Apr	0.17	0.05	27			0.17	27.09	0.25	
May	0.17	0.05	26			0.17	26.18	0.25	
Jun	0.18	0.06	27			0.18	26.92	0.25	
Jul	0.18	0.06	28			0.18	27.69	0.25	
Aug	0.18	0.06	29			0.18	28.80	0.25	
Sep	0.18	0.07	31			0.18	30.93	0.25	
Oct	0.18	0.06	26			0.18	26.24	0.25	
Nov	0.18	0.06	31			0.18	31.00	0.25	
Dec	0.18	0.05	30			0.18	29.59	0.25	
2022									
Jan	0.17	0.05	29			0.17	28.74	0.25	
Feb	0.17	0.05	26			0.17	26.33	0.25	
Mar	0.19	0.05	25			0.19	25.45	0.25	
Apr	0.18	0.06	29			0.18	28.82	0.25	
May	0.18	0.06	28			0.18	27.86	0.25	
Jun	0.19	0.06	29			0.19	28.65	0.25	
Jul	0.19	0.06	29			0.19	29.46	0.25	
Aug	0.19	0.06	31			0.19	30.65	0.25	
Sep	0.20	0.07	33			0.20	32.91	0.25	
Oct	0.19	0.06	28			0.19	27.92	0.25	
Nov	0.19	0.06	33			0.19	32.99	0.25	
Dec	0.19	0.06	31			0.19	31.49	0.25	
2023									
Jan	0.18	0.05	30			0.18	30.49	0.25	
Feb	0.18	0.05	28			0.18	27.94	0.25	
Mar	0.20	0.05	27			0.20	27.00	0.25	
Apr	0.19	0.06	31			0.19	30.58	0.25	
May	0.19	0.06	30			0.19	29.56	0.25	
Jun	0.20	0.06	30			0.20	30.39	0.25	
Jul	0.20	0.06	31			0.20	31.26	0.25	
Aug	0.20	0.06	33			0.20	32.52	0.25	
Sep	0.21	0.08	35			0.21	34.92	0.25	
Oct	0.20	0.06	30			0.20	29.62	0.25	
Nov	0.20	0.07	35			0.20	35.00	0.25	
Dec	0.20	0.06	33			0.20	33.41	0.25	
2024									
Jan	0.20	0.05	32			0.20	32.25	0.25	
Feb	0.19	0.05	30			0.19	29.55	0.25	
Mar	0.21	0.06	29			0.21	28.56	0.25	
Apr	0.20	0.06	32			0.20	32.34	0.25	
May	0.20	0.06	31			0.20	31.26	0.25	
Jun	0.21	0.07	32			0.21	32.14	0.25	
Jul	0.21	0.07	33			0.21	33.06	0.25	
Aug	0.21	0.07	34			0.21	34.39	0.25	

Sep	0.22	0.08	37			0.22	36.93	0.25	
Oct	0.21	0.07	31			0.21	31.32	0.25	
Nov	0.22	0.07	37			0.22	37.01	0.25	
Dec	0.21	0.06	35			0.21	35.33	0.25	
2025									
Jan	0.21	0.06	34			0.21	33.99	0.25	
Feb	0.20	0.06	31			0.20	31.14	0.25	
Mar	0.22	0.06	30			0.22	30.10	0.25	
Apr	0.21	0.07	34			0.21	34.09	0.25	
May	0.21	0.07	33			0.21	32.95	0.25	
Jun	0.22	0.07	34			0.22	33.88	0.25	
Jul	0.22	0.07	35			0.22	34.84	0.25	
Aug	0.22	0.07	36			0.22	36.24	0.25	
Sep	0.23	0.09	39			0.23	38.92	0.25	
Oct	0.22	0.07	33			0.22	33.01	0.25	
Nov	0.23	0.08	39			0.23	39.01	0.25	
Dec	0.22	0.07	37			0.22	37.24	0.25	
2026									
Jan	0.22	0.06	36			0.22	35.69	0.25	
Feb	0.21	0.06	33			0.21	32.70	0.25	
Mar	0.24	0.06	32			0.24	31.60	0.25	
Apr	0.22	0.07	36			0.22	35.79	0.25	
May	0.22	0.07	35			0.22	34.60	0.25	
Jun	0.23	0.07	36			0.23	35.57	0.25	
Jul	0.24	0.07	37			0.24	36.58	0.25	
Aug	0.23	0.07	38			0.23	38.06	0.25	
Sep	0.24	0.09	41			0.24	40.87	0.25	
Oct	0.24	0.07	35			0.24	34.66	0.25	
Nov	0.24	0.08	41			0.24	40.96	0.25	
Dec	0.23	0.07	39			0.23	39.10	0.25	
2027									
Jan	0.23	0.06	37			0.23	37.33	0.30	
Feb	0.22	0.06	34			0.22	34.21	0.30	
Mar	0.25	0.07	33			0.25	33.06	0.30	
Apr	0.23	0.07	37			0.23	37.44	0.30	
May	0.23	0.07	36			0.23	36.19	0.30	
Jun	0.24	0.08	37			0.24	37.21	0.30	
Jul	0.25	0.08	38			0.25	38.27	0.30	
Aug	0.24	0.08	40			0.24	39.81	0.30	
Sep	0.26	0.09	43			0.26	42.75	0.30	
Oct	0.25	0.08	36			0.25	36.26	0.30	
Nov	0.25	0.08	43			0.25	42.85	0.30	
Dec	0.24	0.07	41			0.24	40.90	0.30	

MODEL NO.	FORECASTING MODEL	MODEL DESCRIPTIONS	VALIDITY TEST							
			R^2 (>0.99)		Adjusted R^2 (>0.99)		Coefficient Value		T-Statistic (>2 or <-2)	
19	$Y = a\ln(t)^2 + b\ln(t) + ct^{-1} + e$	Quadratic & Logarithmic Trending with Smoothing	0.996	Passed	0.992	Passed	a	93,510.229	(2.59)	Passed
							b	(269,817.807)	3.65	Passed
							c	(323,811.134)	(2.60)	Passed
							e	473,902.961	3.81	Passed
51	$Y = a\ln(t)^3 + c\ln(t) + dt^{-1} + e$	Cubic & Logarithmic Trending with Smoothing	0.998	Passed	0.996	Passed	a	3,288.640	(3.92)	Passed
							c	(14,895.903)	9.50	Passed
							d	(19,800.212)	(4.37)	Passed
							e	22,362.357	4.49	Passed

MODEL NO.	VALIDITY TEST		ACCURACY TEST		AVERAGE GROWTH RATE					
	P-Value (<0.1)		MAPE (<5%)		Actual Data	1st 5 Year Forecast	6th-15th Year Forecast			
19	0.081	Passed	0.84%	Passed	9.36%	6.63%	3.90%	Passed	Selected	Main Grid
	0.036	Passed								
	0.080	Passed								
	0.032	Passed								
51	0.030	Passed	2.26%	Passed	34.20%	18.31%	7.84%	Passed	Selected	El Nido
	0.002	Passed								
	0.022	Passed								
	0.021	Passed								