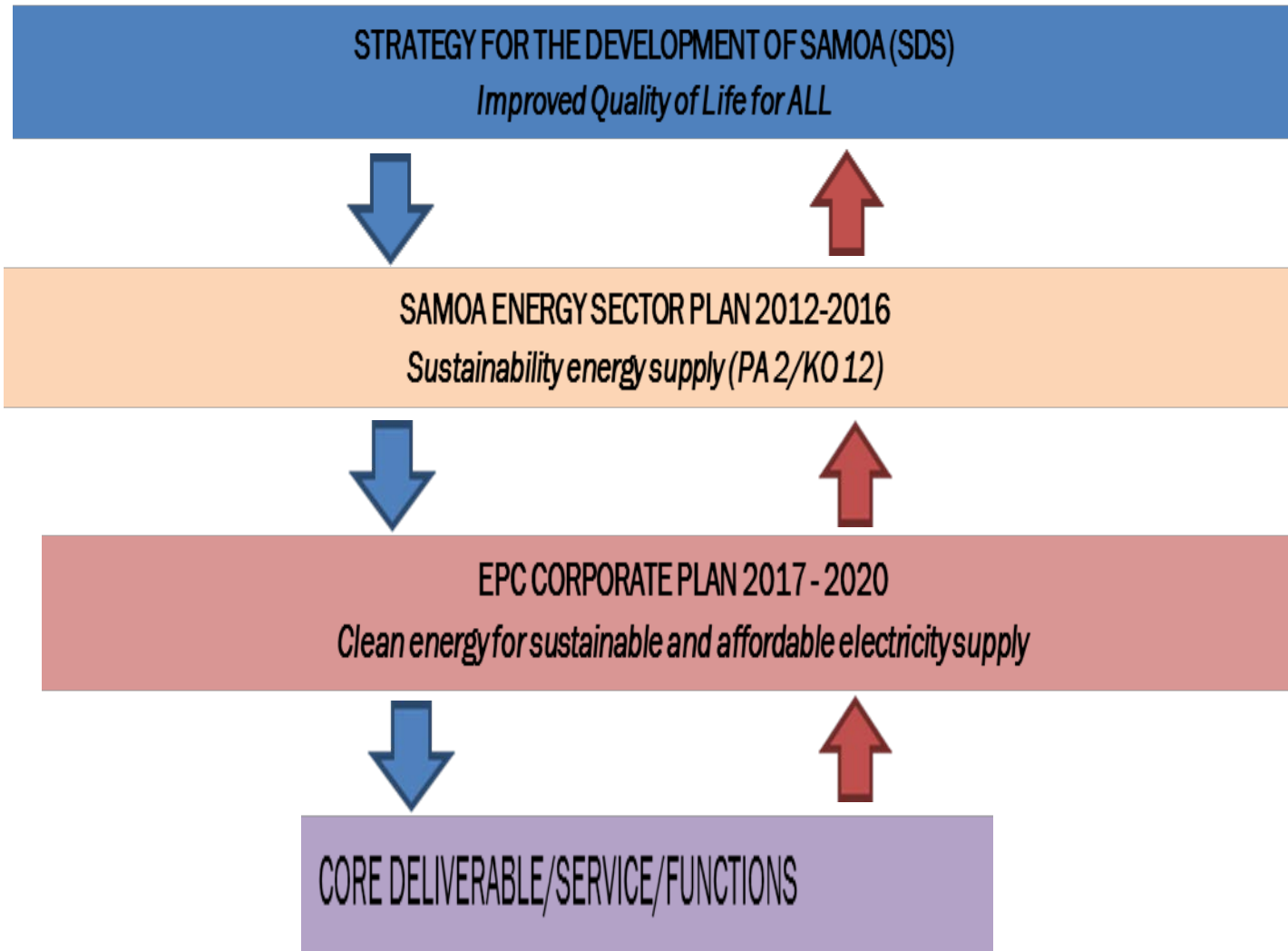




EPC INFRASTRUCTURE

CASE STUDY

CORPORATE PLAN



ENERGY AND CAPACITY MIX FORECAST OF UPOLO

Upolu System Energy Mix Forecast															
Row	Yr No		0	1	2	3	4	5	6	7	8	9	10	11	12
1	Year		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
2	gWh load growth, %pa			0.44%	19.75%	5.22%	7.58%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
3	Total Gross Generation, gWH	Type	103.918	104.371	124.986	131.510	141.478	145.723	150.094	154.597	159.235	164.012	168.933	174.001	179.221
4	Existing Hydro	Hydro	36.774	35.745	29.989	30.897	34.029	47.567	47.567	47.567	47.567	47.567	47.567	47.567	47.567
5	Diesel Generation required, gWH	Diesel	67.143	68.62331	83.14695	84.77	96.14646	75.92101	-168.263	-163.76	-159.122	-154.345	-149.425	-144.357	-139.137
6	Existing Diesel Generation available, gWH	Diesel	56.4144	106.872	106.872	106.872	106.872	106.872	26.9808	26.9808	26.9808	26.9808	26.9808	26.9808	26.9808
7	Total New Hydro Generation	Hydro	0	0	0	0	0	0	3.659888	3.659888	3.659888	3.659888	3.659888	3.659888	3.659888
8	Total New Solar Generation	Solar	0	0	0.316	3.182	11.03	21.962	24.386	24.386	24.386	24.386	24.386	24.386	24.386
9	Total Other New RE Generation	Wind/Biomass	0	0	0	0.179	0.273	0.273	242.745	242.745	242.745	242.745	242.745	242.745	242.745
10	TOTAL RE GENERATION		36.774	35.74521	30.30513	34.258	45.332	69.8018	318.3577	318.3577	318.3577	318.3577	318.3577	318.3577	318.3577
11	PERCENTAGE RENEWABLE		35.39%	34.25%	24.25%	26.05%	32.04%	47.90%	212.10%	205.93%	199.93%	194.11%	188.45%	182.96%	177.63%

Upolu System Peak Demand Mix Forecast															
Row	Yr No		0	1	2	3	4	5	6	7	8	9	10	11	12
1	Year		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
2	MW Peak Demand growth, %pa			3.00%	3.00%	13.11%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
3	Peak Demand MW	Type	17.500	18.025	18.566	21.000	21.630	22.279	22.947	23.636	24.345	25.075	25.827	26.602	27.400
4	Total Existing Hydro Capacity, MW	Hydro	5	5	5	5	5	5	5.6	5.6	5.6	5.6	5.6	5.6	5.6
5	Diesel Capacity required, MW	Diesel	12.5	13.025	13.19375	13.398	8.78	9.4289	-45.0027	-44.3143	-43.6052	-42.8749	-42.1226	-41.3478	-40.5498
6	Diesel Capacity available, MW	Diesel	16.1	30.5	30.5	30.5	30.5	30.5	7.7	7.7	7.7	7.7	7.7	7.7	7.7
7	Total New Hydro Generation	Hydro	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Total New Solar Generation	Solar	0	0	0.372	2.492	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74
9	Total Other New RE Generation	Wind/Biomass	0	0	0	0.11	0.11	0.11	54.61	54.61	54.61	54.61	54.61	54.61	54.61
10	TOTAL RE GENERATION		5	5	5.372	7.602	12.85	12.85	67.95	67.95	67.95	67.95	67.95	67.95	67.95
11	PERCENTAGE RENEWABLE		28.57%	27.74%	28.94%	36.20%	59.41%	57.68%	296.11%	287.49%	279.12%	270.99%	263.09%	255.43%	247.99%

ENERGY AND CAPACITY MIX FORECAST FOR SAVAII

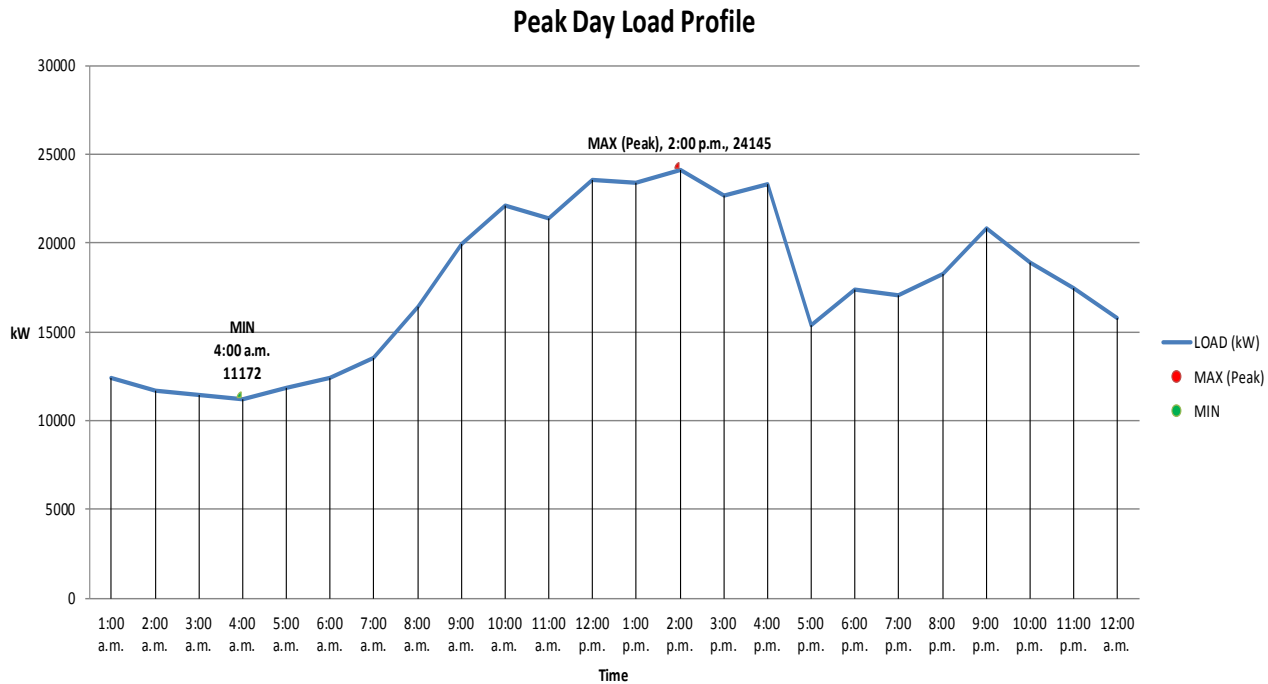
Savaii System Energy Mix Forecast															
Row	Yr No		0	1	2	3	4	5	6	7	8	9	10	11	12
1	Year		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
2	gWh load growth, %pa			3.12%	-1.29%	5.55%	8.50%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
3	Total Gross Generation, gWH	Type	11.363	11.718	11.567	12.209	13.247	13.909	14.605	15.335	16.102	16.907	17.752	18.640	19.572
4	Total Existing Hydro Generation, gWH	Hydro	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Diesel Generation required, gWH	Diesel	11.363	11.718	11.567	11.947	12.839	8.16835	-6.74418	-6.01394	-5.24719	-4.4421	-3.59675	-2.70914	-1.77715
6	Existing Diesel Generation available, gWH	Diesel	12.1	12.1	12.1	12.1	14.717	14.717	14.717	14.717	14.717	14.717	14.717	14.717	14.717
7	Total New Hydro Generation	Hydro	0	0	0	0	0	1.353	9.953	9.953	9.953	9.953	9.953	9.953	9.953
8	Total New Solar Generation	Solar	0	0	0	0.262	0.416	4.388	4.388	4.388	4.388	4.388	4.388	4.388	4.388
9	Total Other New RE Generation	Wind/Solar/	0	0	0	0	0	0	7.008	7.008	7.008	7.008	7.008	7.008	7.008
10	TOTAL RE GENERATION		0.000	0.000	0.000	0.262	0.416	4.388	21.349	21.349	21.349	21.349	21.349	21.349	21.349
11	PERCENTAGE RENEWABLE		0.00%	0.00%	0.00%	2.15%	3.14%	31.55%	146.18%	139.22%	132.59%	126.27%	120.26%	114.53%	109.08%

Savaii System Peak Demand Mix Forecast															
Row	Yr No		0	1	2	3	4	5	6	7	8	9	10	11	12
1	Year		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
2	kW Peak Demand growth, %pa			0.02	0.058824	0.037037	0.071429	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
3	Total Gross Peak Demand growth, kW	Type	2500	2550	2700	2800	3000	3150	3307.5	3472.875	3646.519	3828.845	4020.287	4221.301	4432.366
4	Total Existing Hydro Capacity, kW	Hydro	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Diesel Capacity required, kW	Diesel	2500	2550	2700	2800	3000	3150	3307.5	3472.875	3646.519	3828.845	4020.287	4221.301	4432.366
6	Existing Diesel Capacity available, kW	Diesel	3000	3000	3000	3000	4200	4200	4200	4200	4200	4200	4200	4200	4200
7	Total New Hydro Generation	Hydro	0	0	0	0	0	0	1908.6	1908.6	1908.6	1908.6	1908.6	1908.6	1908.6
8	Total New Solar Generation	Solar	0	0	150	450	450	450	1650	1650	1650	1650	1650	1650	1650
9	Total Other New RE Generation	Wind/Solar/	0	0	0	0	0	0	1200	1200	1200	1200	1200	1200	1200
10	TOTAL RE GENERATION		0.000	0.000	150.000	450.000	450.000	450.000	4,758.600	4,758.600	4,758.600	4,758.600	4,758.600	4,758.600	4,758.600
11	PERCENTAGE RENEWABLE		0.00%	0.00%	5.56%	16.07%	15.00%	14.29%	143.87%	137.02%	130.50%	124.28%	118.36%	112.73%	107.36%

UPOLU TYPICAL LOAD CURVE

MAX (Peak) is: 24145 kW @ 2:00 p.m.
 MIN is: 11172 kW @ 4:00 a.m.

Hour	LOAD (kW)
1:00 a.m.	12416
2:00 a.m.	11676
3:00 a.m.	11473
4:00 a.m.	11172
5:00 a.m.	11820
6:00 a.m.	12377
7:00 a.m.	13503
8:00 a.m.	16382
9:00 a.m.	19975
10:00 a.m.	22122
11:00 a.m.	21411
12:00 p.m.	23514
1:00 p.m.	23369
2:00 p.m.	24145
3:00 p.m.	22702
4:00 p.m.	23280
5:00 p.m.	15328
6:00 p.m.	17367
7:00 p.m.	17012
8:00 p.m.	18234
9:00 p.m.	20836
10:00 p.m.	18884
11:00 p.m.	17426
12:00 a.m.	15759

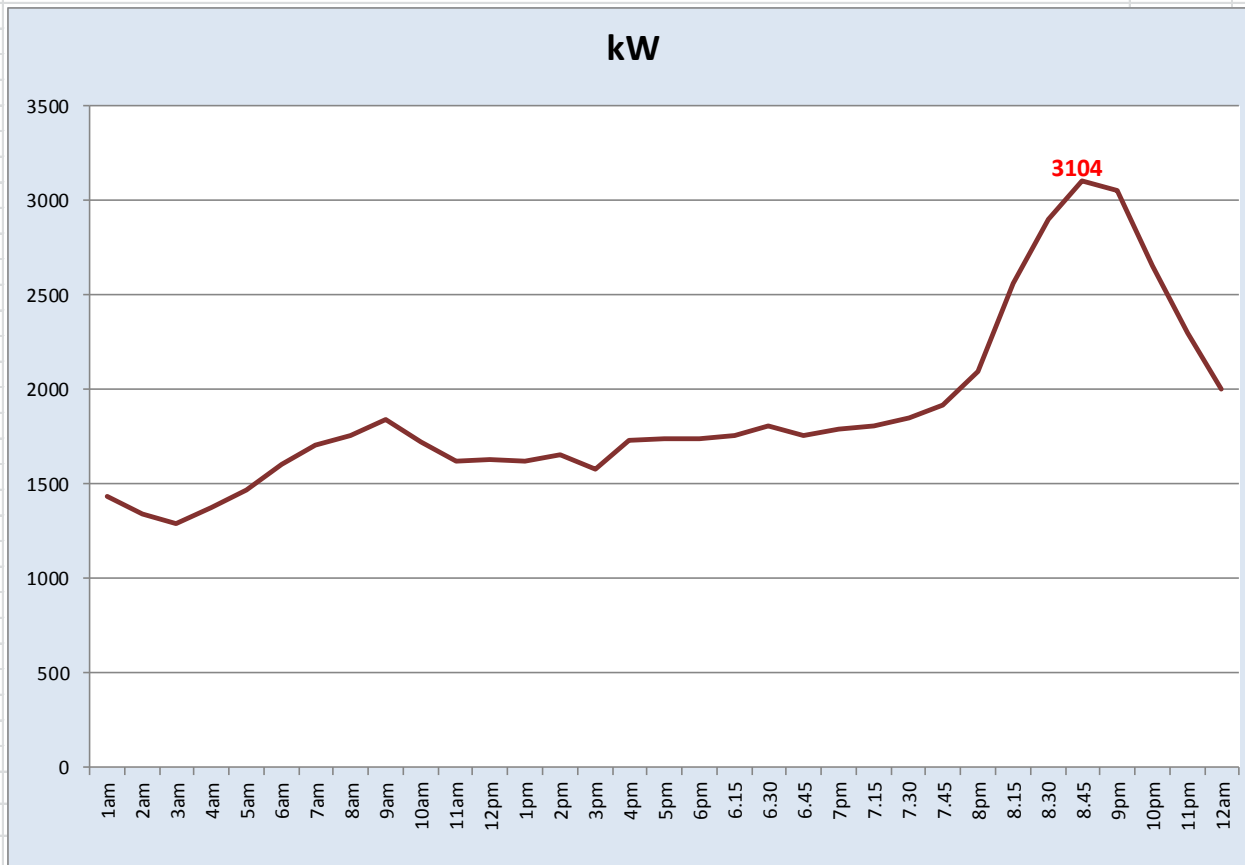


SAVAII TYPICAL LOAD CURVE

LOAD PROFILE FOR PEAK DAY

Date	
10	
TIME	kw
1am	1434
2am	1344
3am	1291
4am	1380
5am	1469
6am	1605
7am	1710
8am	1760
9am	1842
10am	1725
11am	1622
12pm	1626
1pm	1619
2pm	1659
3pm	1582
4pm	1735
5pm	1744
6pm	1738
6.15	1761
6.30	1805
6.45	1761
7pm	1791
7.15	1805
7.30	1852
7.45	1916
8pm	2096
8.15	2564
8.30	2900
8.45	3104
9pm	3050
10pm	2652
11pm	2295
12am	2001

LOAD CURVE ON THE 30th December 2016



PSEP PROJECT

- ❑ PSEP Original Investment Plan
 - 4 generation subprojects
 - 11 transmission and distribution subprojects
 - Single and 3 phase prepayment meters
 - SCADA
 - Portable equipment for measuring voltage and stream flow

- ❑ PSEP actual projects achieved
 - 11 generation subprojects
 - 25 transmission and distribution subprojects
 - Single and 3 phase prepayment meters
 - SCADA
 - Portable equipment for measuring voltage and stream flow



RENEWABLE AND REHAB PROJECT

- Tafitoala – 460KW
- Faleseela – 190KW
- Vailoa Palauli – 1,000KW
- Fuluasou – 680KW
- Tiapapata – 480KW
- Samasoni Rehab – 1,800KW
- Fale o le Fee Rehab – 1,650 KW
- Alaoa main intake and head race rehab - 1, 000KW

预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_1618

