



Monthly Generation Performance Report

July 2023

Introduction

As part of the Transmission and Distribution System Operation and Maintenance Agreement (OMA), LUMA serves as both the operator of the electric grid and as the island's System Operator.

As the Operator of the electric grid, LUMA oversees and maintains the transmission and distribution system that is critical to delivering energy to over 1.5 million Puerto Rican customers.

As the System Operator, LUMA monitors the performance of the Puerto Rico Electric Power Authority (PREPA) and other private generators' generation units, implements dispatch of available units, and plans and maintains adequate generation reserve levels to meet customer's energy demands.

While LUMA does not generate energy, LUMA's responsibility as the System Operator includes measuring the performance of the island's generation fleet. This report summarizes generation performance, identifies trends, compares facility performance, and provides a high-level picture of the entire generation portfolio.



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Executive Summary – July Performance

Overview

Maximum Peak Demand expectation for July 2023 is approximately 3050 MW gross. We expect to have enough power to meet the demand. Aguirre 1 is still in an outage since March 2022 and its estimated time of return has been pushed back to July 2. Costa Sur 5 is scheduled to be taken offline for a forced outage this coming July and is expected to come back October 7 with 350 MW. Though not forecasted, there were numerous load sheds due to trips from baseload units, including AES 1, Aguirre 2, Costa Sur 5, Palo Seco 3, Palo Seco 4, San Juan CC 6, and several of the FEMA units.

Major Events

In July, the electric system experienced 8 load shed events due to generation shortfall, and 10 generation events that caused underfrequency load shed to prevent a frequency decay.

System Reserves

In July, the hourly reserve levels averaged 568 MW, with 534 hours during the month having less than 750 MW in reserves (equal to 72% of the time.)

The forecast for August 2023 shows higher reserve levels to the same month last year (August 2022), with 1,553 MW average reserves forecasted versus 777 MW seen for the same month last year.

The System Availability for the month of July was 52%.

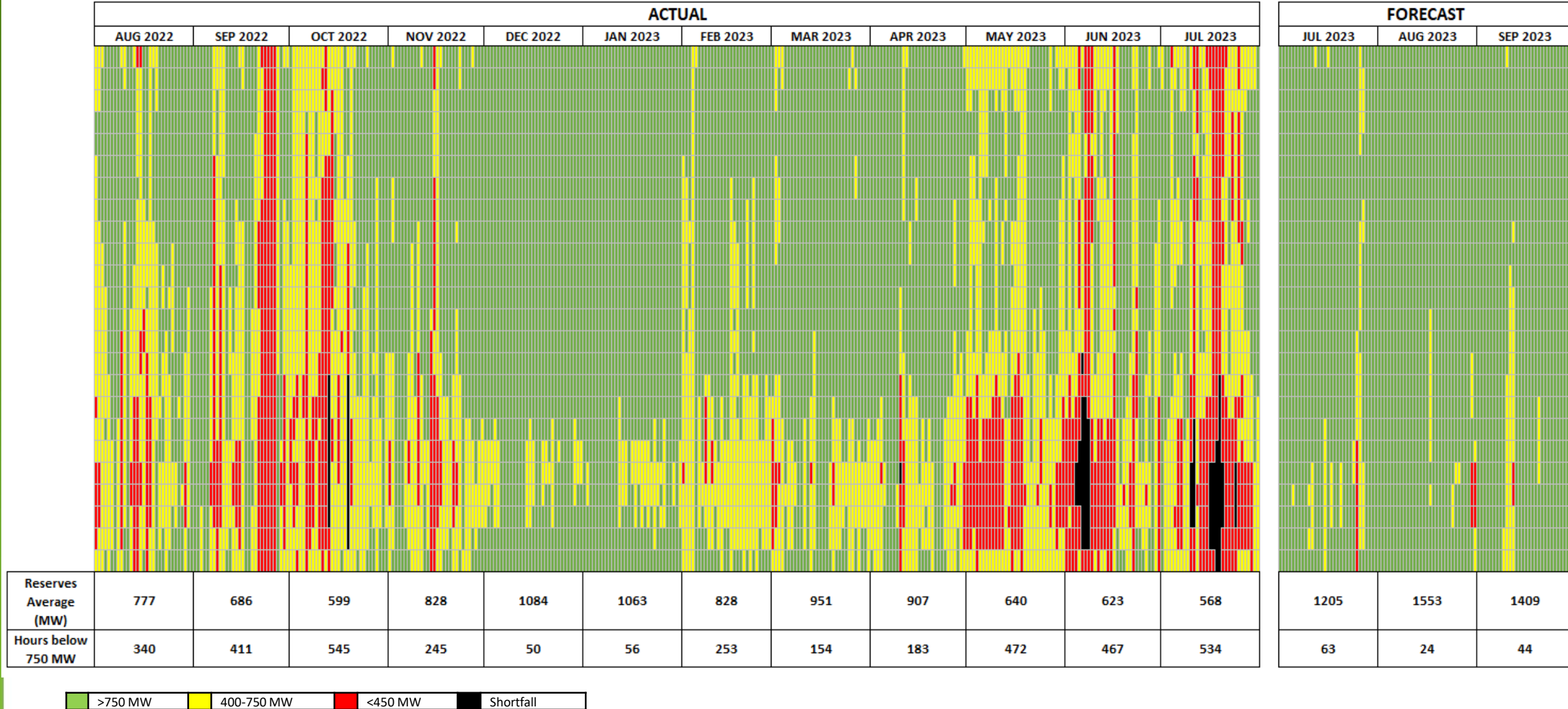
- PREPA – 45%
- AES – 56%
- EcoEléctrica – 100%



System Reserves

System Reserves is the amount of generating capacity available to meet peak or abnormally high demands for power and to generate power during scheduled or unscheduled outages.

Target: ▲ Reserves >750MW per the System Operation Principles

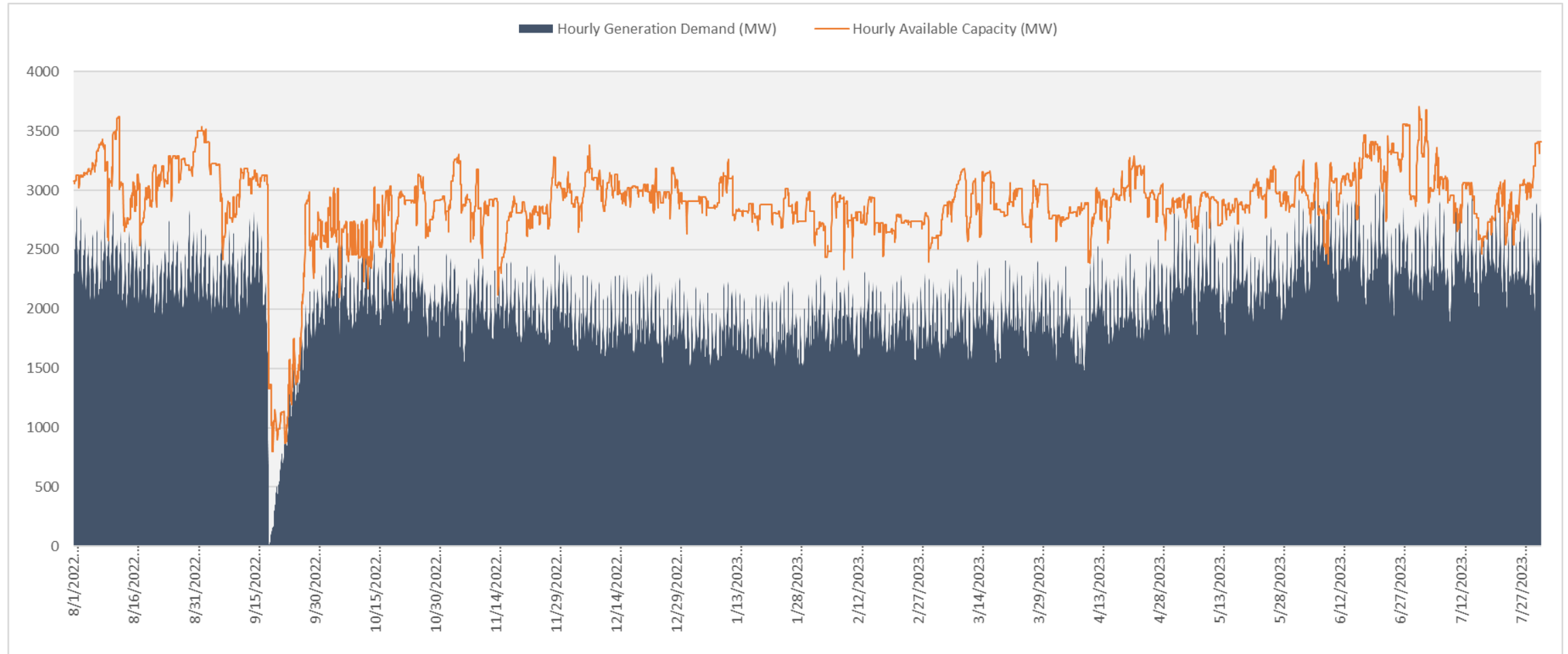


*Refer to Glossary of Terms on page 21 for a list of definitions and formulas.

System Availability

The System Availability is the maximum expected output that generating units can supply to system load, adjusted for scheduled or unscheduled outages. In this graph, the availability is being compared with the total generation required to meet demand to visualize the gap between the two lines (the gap represents the reserves level).

Target: ▲ A bigger gap between availability and generation demand means a better chance of recovery in emergency events due to adequate reserves.



- The dip in availability and generation in September is due to the passing of Hurricane Fiona.

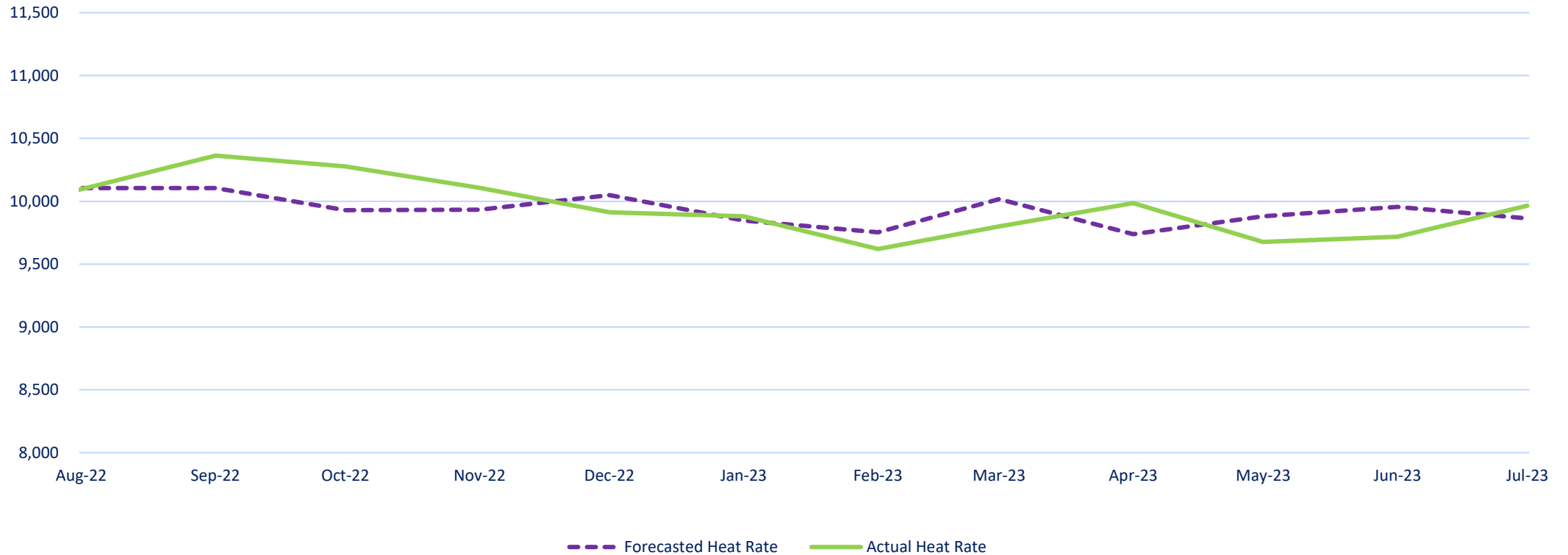


System Heat Rate

The System Heat Rate measures the efficiency of the system to convert fuel into electricity. System Heat Rate will vary depending on the available generation units and required resources to satisfy electrical demand. It is calculated as energy consumed (MMBtu) / energy produced (MWh). The forecasted Heat Rate is determined by the last forecast calculated for the Fuel Clause Adjustment Factor.

Target: ▼ Lower heat rates represent higher efficiency.

Forecasted vs Actual Heat Rate

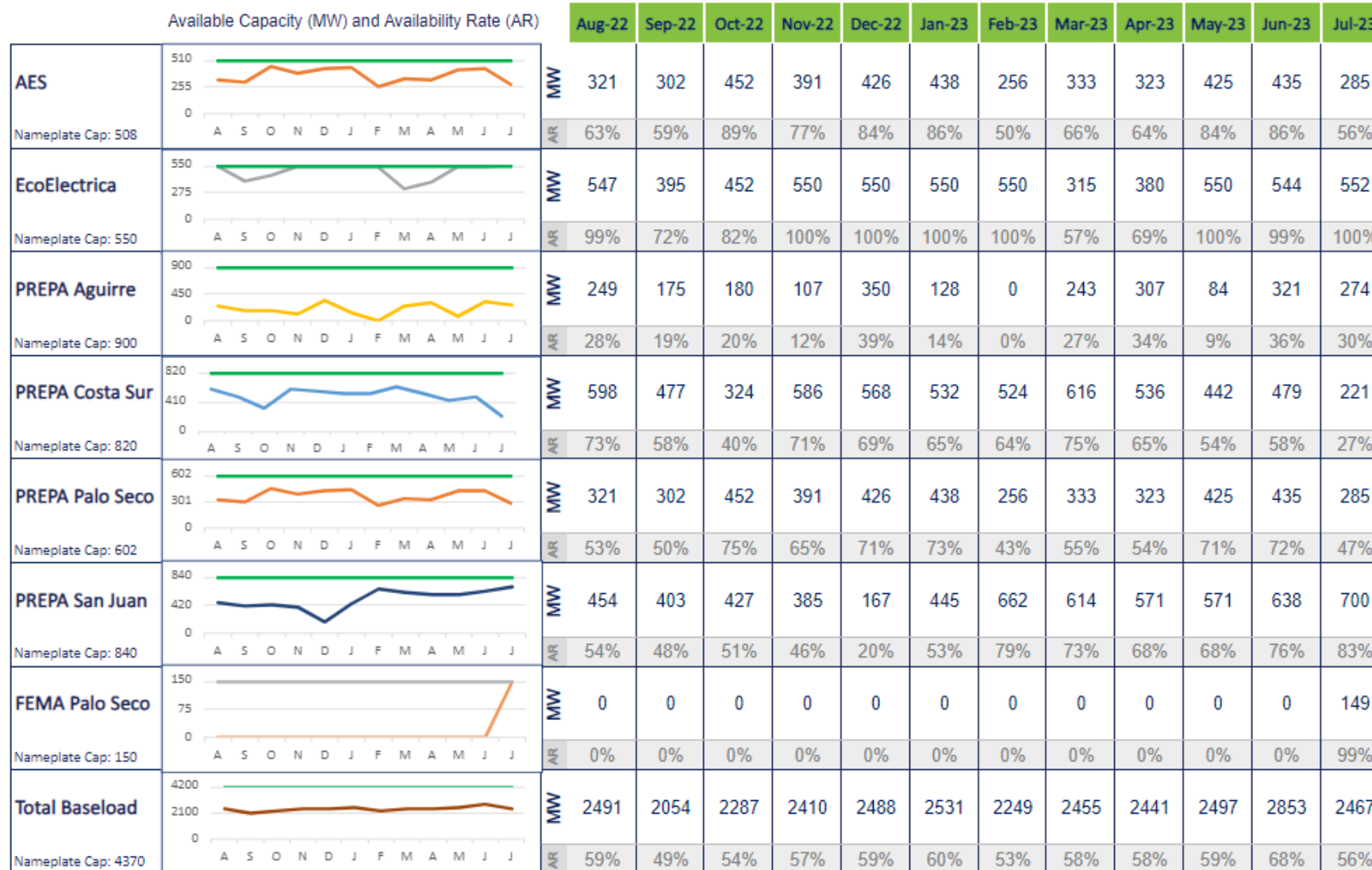


*Refer to Glossary of Terms on page 21 for a list of definitions and formulas.

Available Capacity – Baseload Units

Available Capacity is the maximum output that a unit can generate at any given time. The Availability Rate indicates the percent of available capacity out of the total nameplate capacity. Variables in the chart below are shown in MW (gross) representing an average over the month.

Target: ▲ A higher availability indicates the plant is able to produce power closer to its nameplate capacity.

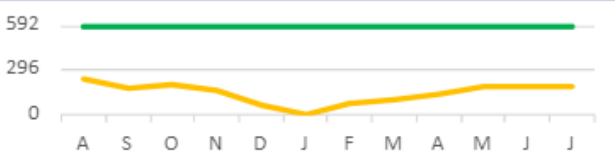
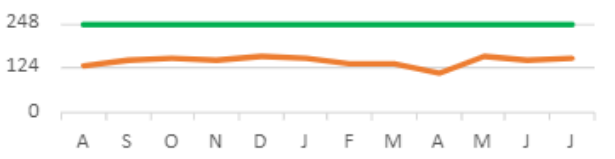
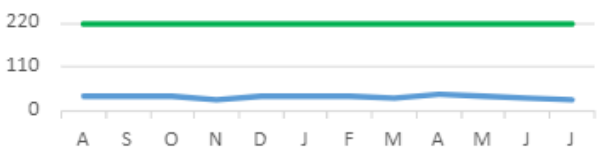
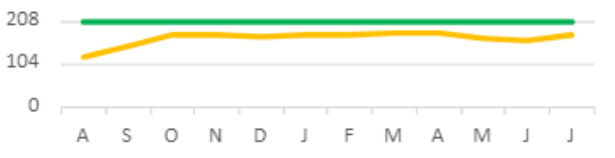
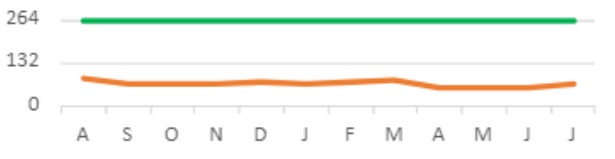
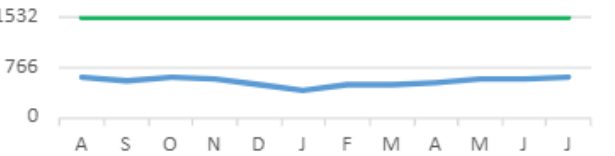


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Available Capacity – Peaker Units

Available Capacity is the maximum output that a unit can generate at any given time. The Availability Rate indicates the percent of available capacity out of the total nameplate capacity. Variables in the chart below are shown in MW representing an average over the month.

Target: ▲ A higher availability indicates the plant is able to produce power closer to its nameplate capacity.


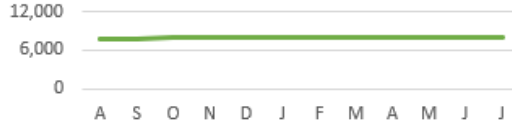

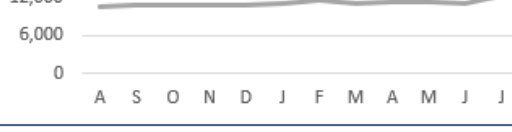
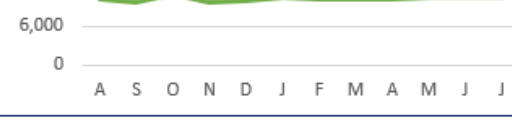

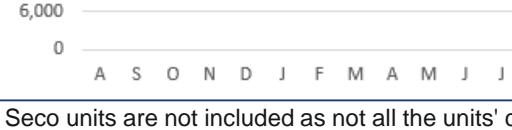
Available Capacity (MW) and Availability Rate (AR)		Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	
PREPA Aguirre Combined Cycle Nameplate Cap: 592		MW	236	171	202	166	65	0	81	95	137	190	193	191
	AR	40%	29%	34%	28%	11%	0%	14%	16%	23%	32%	33%	32%	
PREPA Cambalache Nameplate Cap: 248		MW	134	146	152	146	156	151	136	136	113	155	146	152
	AR	54%	59%	62%	59%	63%	61%	55%	55%	46%	63%	59%	61%	
PREPA Mayaguez Nameplate Cap: 220		MW	38	37	37	29	37	38	38	33	40	37	35	28
	AR	17%	17%	17%	13%	17%	17%	17%	15%	18%	17%	16%	13%	
PREPA Palo Seco (Inc. Mobile-Pack) Nameplate Cap: 207		MW	122	148	175	177	170	177	177	178	178	165	162	175
	AR	59%	71%	84%	85%	82%	85%	86%	86%	86%	80%	78%	85%	
Other Peakers Nameplate Cap: 264		MW	89	68	68	71	73	69	76	78	59	57	55	71
	AR	34%	26%	26%	27%	28%	26%	29%	30%	22%	22%	21%	27%	
Total Peakers Nameplate Cap: 1531		MW	618	569	634	589	501	435	508	520	527	604	591	617
	AR	40%	37%	41%	38%	33%	28%	33%	34%	34%	39%	39%	40%	

*Refer to Glossary of Terms on page 21 for a list of definitions and formulas.

Heat Rate – Baseload Units

Heat Rate measures the efficiency of a power plant to convert fuel into electricity. It is calculated as energy consumed (MMBtu) / energy produced (MWh).

Target: ▼ Lower heat rates represent higher efficiency.

Heat Rate (MMBtu/MWh)		Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23
AES		9,800	9,800	9,800	9,800	9,800	9,800	9,800	9,800	9,800	9,800	9,800	9,800
EcoElectrica		7,683	7,683	7,932	7,932	7,932	7,932	7,945	7,945	7,945	7,945	7,945	7,945
PREPA Aguirre		10,847	10,935	11,486	12,016	10,957	10,699	-	11,230	11,075	12,205	10,741	11,494
PREPA Costa Sur		10,620	10,749	10,724	10,736	10,845	10,909	11,408	10,995	11,249	11,281	11,095	12,327
PREPA Palo Seco		10,249	9,865	10,960	9,876	10,131	10,483	10,363	10,223	10,229	10,614	10,474	10,573
PREPA San Juan		9,662	10,271	11,417	11,404	11,603	10,559	9,869	8,345	8,751	8,308	8,566	8,729
Total Baseload		9,712	9,846	10,156	10,049	9,982	9,931	9,866	9,761	9,860	9,662	9,626	8,987

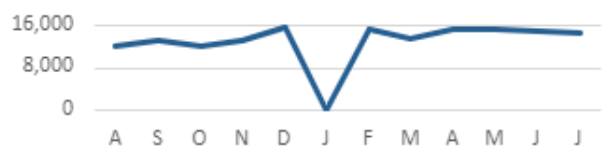
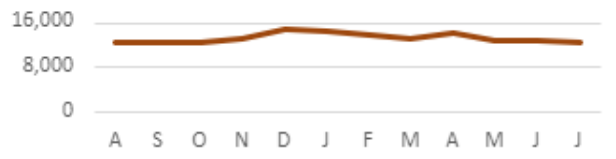




- The FEMA Palo Seco units are not included as not all the units' consumption is included in the Genera Fuel Report

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Heat Rate – Peaker Units

Heat Rate measures the efficiency of a power plant to convert fuel into electricity. It is calculated as energy consumed (MMBtu) / energy produced (MWh).

Target: ▼ Lower heat rates represent higher efficiency.

Heat Rate (MMBtu/MWh)		Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23
PREPA Aguirre Combined Cycle		12,169	13,170	12,150	13,145	15,978	-	15,272	13,680	15,461	15,437	15,129	14,561
PREPA Cambalache		12,530	12,481	12,646	13,185	14,794	14,509	13,971	13,264	14,206	12,887	13,005	12,504
PREPA Mayaguez		10,406	10,728	13,418	10,919	10,413	10,816	10,934	10,355	11,417	11,234	11,046	10,970
PREPA Palo Seco (Inc. Mobile Pack)		15,922	12,234	11,818	11,481	11,719	11,341	11,719	11,964	11,499	11,908	12,143	11,493
Other Peakers		15,487	14,860	15,750	14,053	15,681	16,101	17,324	15,391	14,898	14,497	13,642	13,677
Total Peakers		12,319	12,421	12,587	12,438	12,628	12,332	13,085	12,746	13,479	13,499	13,220	12,690

*Refer to Glossary of Terms on page 21 for a list of definitions and formulas.

Generation and Capacity Factor – Baseload Units

Generation indicates the average amount of energy each plant produced per month, in MW (gross). The Capacity Factor measures what percentage of the nameplate capacity was used to produce energy during that time period.

Target: ▲ Higher Capacity Factor, and a Generation closer to the nameplate capacity will represent a better utilization of the units.

Average Generation (MW) and Capacity Factor		Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23
AES		318	266	452	390	414	414	253	314	317	426	425	281
Nameplate Cap: 508		63%	52%	89%	77%	82%	82%	50%	62%	62%	84%	84%	55%
EcoElectrica		428	309	373	416	411	380	404	261	326	421	430	449
Nameplate Cap: 550		78%	56%	68%	76%	75%	69%	73%	47%	59%	77%	78%	82%
PREPA Aguirre		231	155	145	83	250	87	0	191	233	74	245	231
Nameplate Cap: 900		26%	17%	16%	9%	28%	10%	0%	21%	26%	8%	27%	26%
PREPA Costa Sur		498	400	299	503	471	441	429	473	456	431	437	214
Nameplate Cap: 820		61%	49%	37%	61%	57%	54%	52%	58%	56%	53%	53%	26%
PREPA Palo Seco		275	114	149	152	258	239	261	241	231	295	207	259
Nameplate Cap: 602		46%	19%	25%	25%	43%	40%	43%	40%	38%	49%	34%	43%
PREPA San Juan		419	353	404	365	141	293	432	363	324	371	417	470
Nameplate Cap: 840		50%	42%	48%	43%	17%	35%	51%	43%	39%	44%	50%	56%
FEMA Palo Seco		0	0	0	0	0	0	0	0	0	0	0	149
Nameplate Cap: 150		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	99%
Total Baseload		2169	1597	1822	1910	1945	1854	1778	1842	1886	2019	2161	2053
Nameplate Cap: 4370		51%	38%	43%	45%	46%	44%	42%	44%	45%	48%	51%	47%

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Generation and Capacity Factor – Peaker Units

Generation indicates the average amount of energy each plant produced per month (MW). The Capacity Factor measures what percentage of the nameplate capacity was used to produce energy during that time period.

Target: ▲ Higher Capacity Factor, and a Generation closer to the nameplate capacity will represent a better utilization of the units.

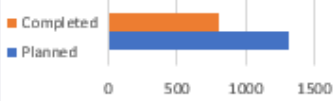
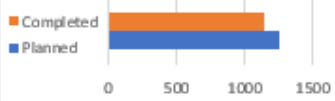
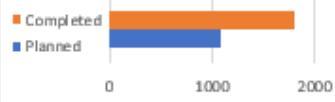

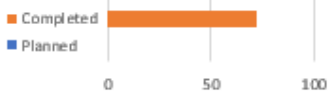
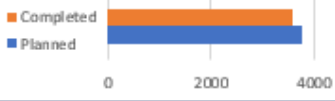
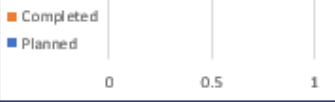
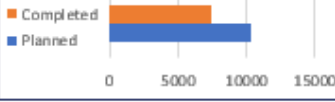
Average Generation (MW) and Capacity Factor		Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23
PREPA Aguirre Combined Cycle Nameplate Cap: 592		MW 113	80	149	76	5	0	23	28	34	103	89	112
		CF 19%	14%	25%	13%	1%	0%	4%	5%	6%	17%	15%	19%
PREPA Cambalache Nameplate Cap: 247.5		MW 35	63	53	22	10	7	18	21	19	44	44	83
		CF 14%	25%	21%	9%	4%	3%	7%	8%	8%	18%	18%	33%
PREPA Mayaguez Nameplate Cap: 220		MW 29	53	46	51	18	8	23	17	26	55	56	88
		CF 13%	24%	21%	23%	8%	4%	10%	8%	12%	25%	26%	40%
PREPA Palo Seco (Inc. Mobile-Pack) Nameplate Cap: 207		MW 7	39	62	21	4	8	17	17	16	37	40	55
		CF 3%	19%	30%	10%	2%	4%	8%	8%	7%	18%	19%	26%
Other Peakers (PREPA) Nameplate Cap: 264		MW 12	14	23	16	2	1	2	7	3	10	11	22
		CF 5%	5%	9%	6%	1%	0%	1%	3%	1%	4%	4%	8%
Total Peakers Nameplate Cap: 1530.5		MW 196	249	332	186	39	24	83	90	98	248	241	359
		CF 13%	16%	22%	12%	3%	2%	5%	6%	6%	16%	16%	23%

*Refer to Glossary of Terms on page 21 for a list of definitions and formulas.

Planned Outage Hours – Baseload Units

Planned Outage Hours represents the shutdown of a generating unit or facility for inspection or maintenance, in accordance with an advance schedule; represented in hours. This scoreboard compares the scheduled outage hours with the actual duration of the outage.

Target: ▼ A smaller gap between actuals and planned hours represents a more accurate planification.

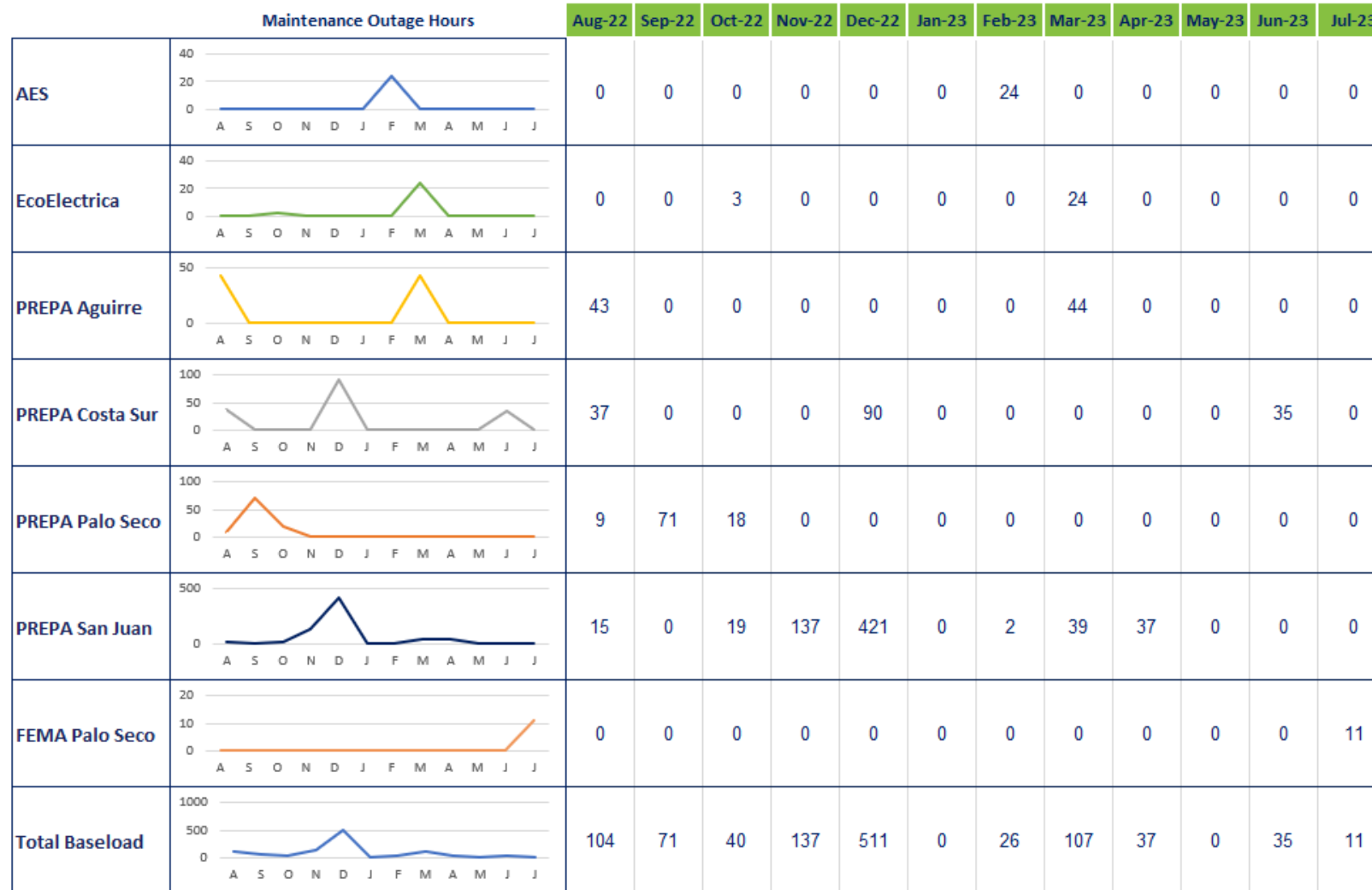
	Planned Outage Hours (AUG 2022 - JUL 2023)	Planned Outage Hours	Completed Outage Hours	Notes for In-Progress Planned Outages	Expected Return-to- Service Date
AES		1320	801		
EcoElectrica		1248	1142		
PREPA Aguirre		1080	1799		
PREPA Costa Sur		2928	0		
PREPA Palo Seco		0	72		
PREPA San Juan		3768	3582		
FEMA Palo Seco		0	0		
Total Baseload		10344	7396		

*Refer to Glossary of Terms on page 21 for a list of definitions and formulas.

Maintenance Outage Hours – Baseload Units

Maintenance Outage Hours represent the shutdown of a generating unit or facility for nonemergency reasons or conditions which need repair outside of the advance schedule; represented in hours per unit.




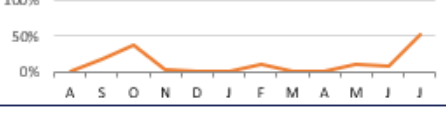
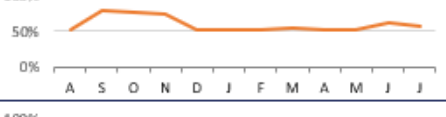


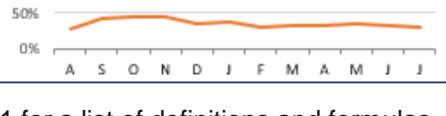
Target: ▼ Less maintenance hours represents more available capacity in the system to meet demand.



Forced Outage Hours and Rate – Baseload Units

Forced Outage Hours represent the shutdown of a generating unit or facility for emergency reasons or a condition in which the generating equipment is unavailable for load due to an unanticipated breakdown; represented in hours per unit. The Forced Outage Rate represents the percentage of time the unit was in a Forced Outage condition out of the total time the unit was expected to be available.

Target: ▼ Less forced outage hours and a smaller outage rate represents more available capacity in the system to meet demand.


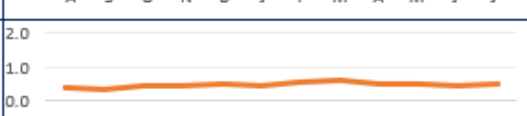
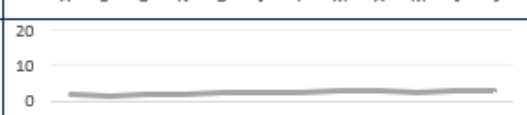





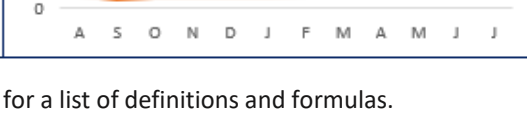

Forced Outage Hours and Outage Rate		Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23
AES		Hrs 281 % 21%	Hrs 543 % 38%	Hrs 36 % 2%	Hrs 175 % 12%	Hrs 178 % 12%	Hrs 173 % 12%	Hrs 0 % 0%	Hrs 384 % 27%	Hrs 249 % 17%	Hrs 0 % 0%	Hrs 25 % 2%	Hrs 505 % 34%
EcoElectrica		Hrs 7 % 0%	Hrs 118 % 5%	Hrs 211 % 10%	Hrs 0 % 0%	Hrs 4 % 0%	Hrs 0 % 0%	Hrs 0 % 0%	Hrs 30 % 2%	Hrs 5 % 0%	Hrs 0 % 0%	Hrs 13 % 1%	Hrs 0 % 0%
PREPA Aguirre		Hrs 130 % 16%	Hrs 899 % 67%	Hrs 1055 % 71%	Hrs 1180 % 82%	Hrs 720 % 48%	Hrs 815 % 75%	Hrs 720 % 94%	Hrs 768 % 56%	Hrs 778 % 54%	Hrs 1166 % 78%	Hrs 823 % 57%	Hrs 855 % 57%
PREPA Costa Sur		Hrs 2 % 0%	Hrs 268 % 19%	Hrs 553 % 37%	Hrs 46 % 3%	Hrs 0 % 0%	Hrs 0 % 0%	Hrs 153 % 11%	Hrs 0 % 0%	Hrs 0 % 0%	Hrs 139 % 9%	Hrs 116 % 8%	Hrs 771 % 52%
PREPA Palo Seco		Hrs 1507 % 51%	Hrs 2198 % 80%	Hrs 2250 % 77%	Hrs 2120 % 74%	Hrs 1572 % 53%	Hrs 1537 % 52%	Hrs 1395 % 52%	Hrs 1598 % 54%	Hrs 1498 % 52%	Hrs 1525 % 51%	Hrs 1751 % 61%	Hrs 1704 % 57%
PREPA San Juan		Hrs 2530 % 43%	Hrs 2432 % 42%	Hrs 3000 % 51%	Hrs 3071 % 55%	Hrs 2930 % 64%	Hrs 3174 % 55%	Hrs 2063 % 40%	Hrs 2449 % 46%	Hrs 2342 % 47%	Hrs 2421 % 45%	Hrs 2196 % 40%	Hrs 2328 % 39%
FEMA Palo Seco		Hrs 0 % 0%	Hrs 0 % 0%	Hrs 0 % 0%	Hrs 0 % 0%	Hrs 0 % 0%	Hrs 0 % 0%	Hrs 0 % 0%	Hrs 0 % 0%	Hrs 0 % 0%	Hrs 0 % 0%	Hrs 0 % 0%	Hrs 76 % 1%
Total Baseload		Hrs 4455 % 29%	Hrs 6458 % 43%	Hrs 7105 % 45%	Hrs 6592 % 44%	Hrs 5405 % 35%	Hrs 5699 % 36%	Hrs 4330 % 31%	Hrs 5228 % 33%	Hrs 4872 % 32%	Hrs 5251 % 34%	Hrs 4923 % 33%	Hrs 6240 % 30%

*Refer to Glossary of Terms on page 21 for a list of definitions and formulas.

Renewables Capacity Factor - Solar

The Capacity Factor measures the actual production of electricity over the theoretical maximum output (nameplate capacity). For Renewable projects, the Capacity Factor is expected to be lower due to the solar and wind cycles.

Target: ▲ A higher Capacity Factor represents a better utilization of the maximum capacity the project is able to produce.

Average Production (MW) and Capacity Factor			Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23
AES Ilumina		MW	4	3	4	4	3	4	4	4	4	4	4	4
Nameplate Cap: 20		CF	21%	16%	19%	18%	17%	19%	21%	22%	22%	21%	21%	20%
Windmar Cantera Martinó		MW	0.4	0.3	0.5	0.4	0.5	0.5	0.5	0.6	0.5	0.5	0.4	0.5
Nameplate Cap: 2.1		CF	17%	15%	22%	21%	23%	22%	26%	29%	24%	24%	21%	23%
San Fermín		MW	2	1	2	2	2	2	3	3	3	3	3	3
Nameplate Cap: 20		CF	10%	6%	8%	10%	12%	11%	13%	14%	14%	13%	14%	13%
Horizon Energy		MW	3	2	2	2	2	2	2	3	3	3	3	3
Nameplate Cap: 10		CF	27%	17%	23%	22%	23%	24%	25%	28%	28%	28%	26%	27%
Oriana Energy		MW	10	8	9	9	9	10	11	10	11	11	11	11
Nameplate Cap: 45		CF	23%	17%	19%	20%	20%	21%	24%	23%	25%	25%	24%	24%
Windmar Coto Laurel		MW	2	1	2	2	2	2	2	2	2	2	2	2
Nameplate Cap: 10		CF	21%	14%	21%	20%	22%	20%	22%	22%	20%	21%	21%	23%
Fonroche Humacao		MW	8	5	7	7	7	7	8	8	9	8	9	8
Nameplate Cap: 40		CF	20%	14%	18%	17%	18%	18%	21%	19%	22%	21%	22%	21%
Total Solar		MW	30	21	26	26	27	28	31	31	33	32	32	31
Nameplate Cap: 147		CF	20%	14%	18%	18%	18%	19%	21%	21%	22%	22%	22%	21%

*Refer to Glossary of Terms on page 21 for a list of definitions and formulas.

Renewables Capacity Factor – Wind and Landfill

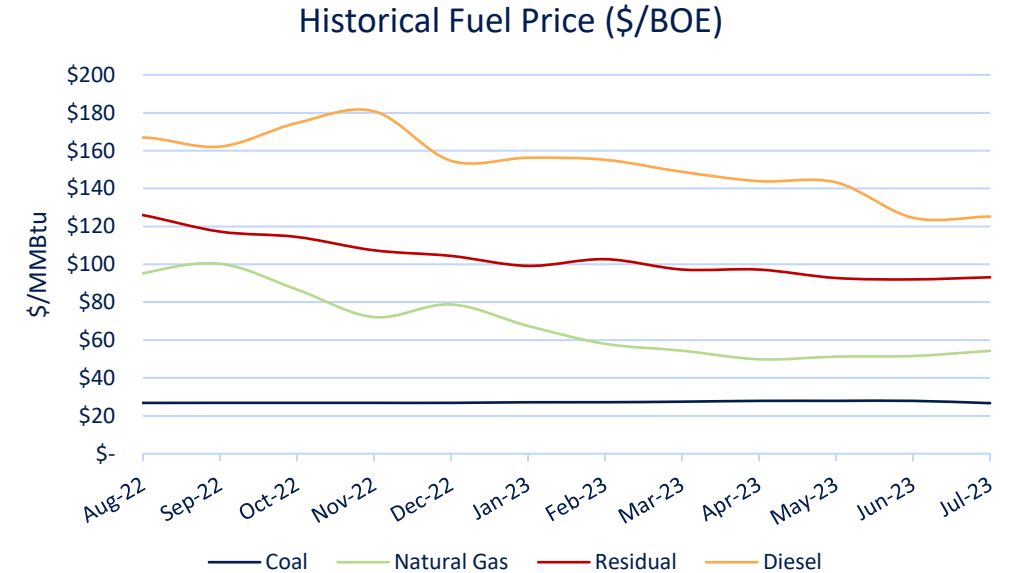
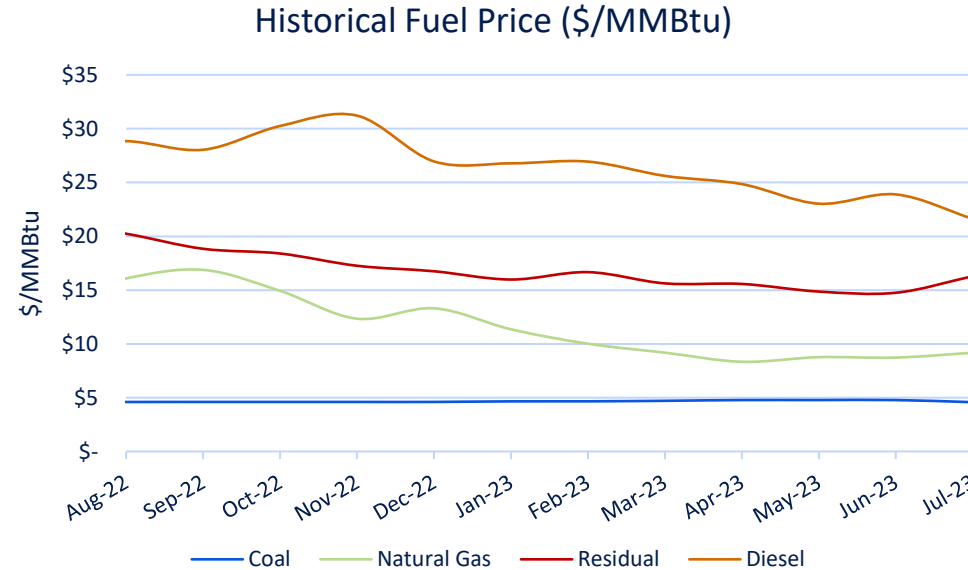
The Capacity Factor measures the actual production of electricity over the theoretical maximum output (nameplate capacity). For Renewable projects, the Capacity Factor is expected to be lower due to the solar and wind cycles.

Target: ▲ A higher Capacity Factor represents a better utilization of the maximum capacity the project is able to produce.

Average Production (MW) and Capacity Factor			Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23
Pattern Santa Isabel		MW	18	7	10	10	11	14	18	14	13	11	12	20
		%	25%	9%	13%	13%	14%	19%	24%	19%	18%	15%	15%	27%
Landfill Gas Fajardo		MW	0.6	0.4	0.1	0.2	0.4	0.3	0.5	0.5	0.4	0.7	0.5	0.5
		%	25%	16%	6%	9%	18%	12%	20%	22%	15%	28%	22%	21%
Landfill Gas Toa Baja		MW	1.5	0.7	0.9	0.6	0.5	0.6	0.8	0.6	0.8	0.6	0.9	1.3
		%	62%	31%	36%	26%	21%	24%	32%	27%	32%	24%	39%	55%
Total Wind and Landfill		MW	20	8	11	11	12	15	19	15	14	12	13	22
		%	26%	10%	14%	14%	14%	19%	24%	19%	18%	15%	16%	27%

Fuel Prices

Fuel Price shows the prices paid for fuel used by PREPA and private generators, both in terms of MMBtus and Barrel of Oil Equivalent (BOE). The Fuel Price is divided by Fuel Type to better illustrate the contribution to the total Fuel Price for the month.

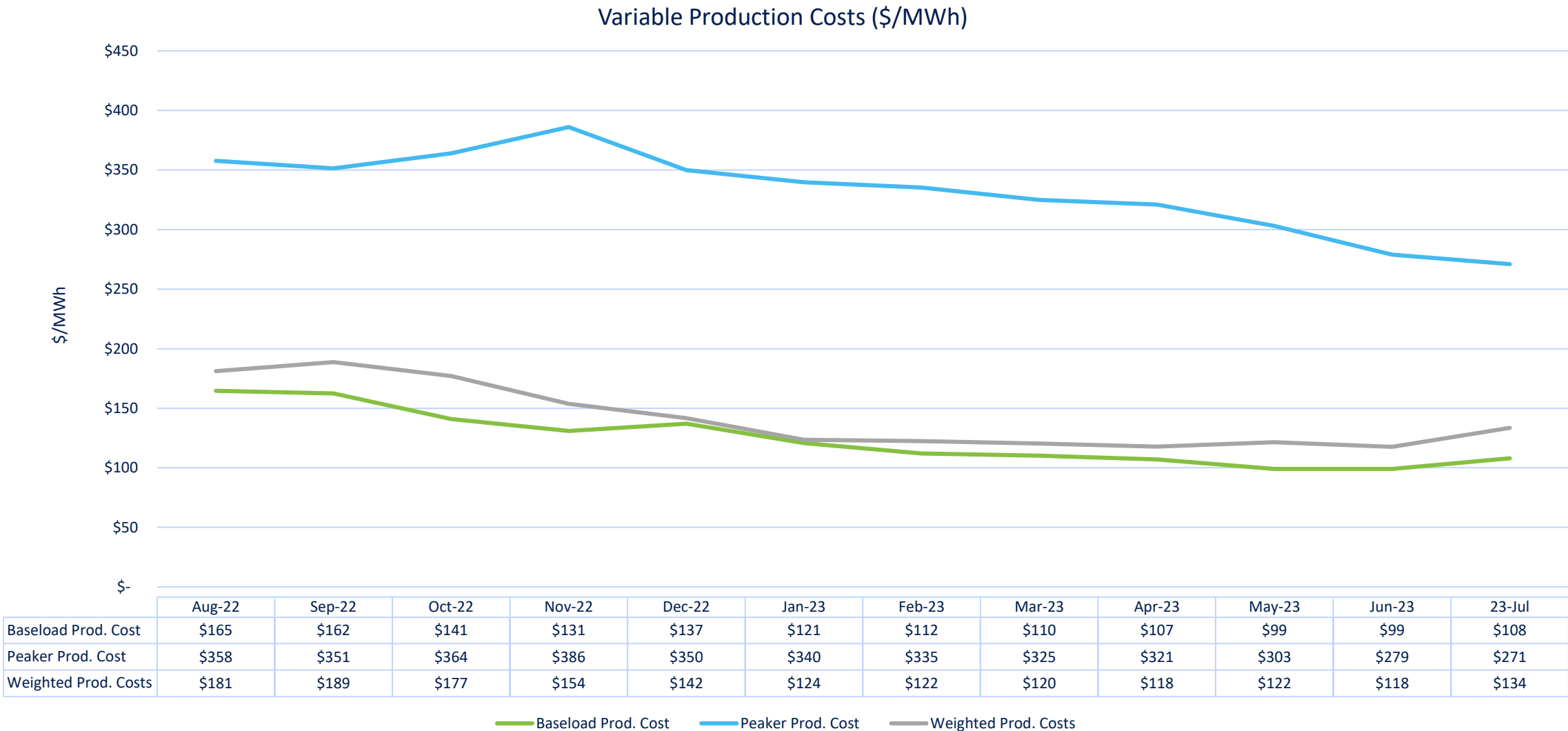


\$/MMBtu		Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23
Diesel		28.83	28.03	30.23	31.20	26.95	26.77	26.93	25.60	24.84	23.02	23.88	21.61
Residual		20.25	18.84	18.41	17.26	16.75	15.98	16.67	15.62	15.57	14.86	14.75	16.29
Natural Gas		16.10	16.90	14.94	12.35	13.32	11.36	10.02	9.19	8.34	8.77	8.73	9.18
Coal		4.62	4.63	4.63	4.63	4.62	4.68	4.68	4.73	4.80	4.80	4.80	4.60
\$/BOE		Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23
Diesel		167.00	162.18	174.68	180.89	154.70	156.31	155.24	148.87	143.93	143.30	124.61	125.28
Residual		125.96	117.24	114.41	107.37	104.42	99.14	102.69	97.22	97.19	92.75	92.01	93.14
Natural Gas		95.16	100.24	86.67	72.11	78.82	67.47	58.05	54.41	49.88	51.27	51.62	54.32
Coal		26.81	26.83	26.83	26.83	26.83	27.14	27.16	27.43	27.86	27.86	27.86	26.68

*Refer to Glossary of Terms on page 21 for a list of definitions and formulas.

Variable Production Costs

Variable Production Costs are predominantly fuel costs and reflect the cost to produce one MWh of energy. In the graph, the cost is shown separately for Baseload units and Peaker units. The weighted average cost indicates the cost per MWh of energy produced for the System Portfolio.



*Refer to Glossary of Terms on page 21 for a list of definitions and formulas.

Glossary of Terms

Term	Definition	Formula
Heat Rate	Measures the efficiency of a power plant to convert fuel into electricity. It is the amount of energy used by a power plant to generate one kilowatt-hour (kWh) of electricity. The more efficient the generator is, the lower the heat rate.	MMBtu consumption by all units in the station during a specific period / MWh produced by the same units in the same period
Reserves	Amount of generating capacity available to meet peak or abnormally high demands for power and to generate power during scheduled or unscheduled outages.	Available Capacity (MW) during the reported period minus the Actual Generation (MW) during the same period
Available Capacity	The maximum output, commonly expressed in megawatts (MW), that generating equipment can supply to system load, adjusted for scheduled or unscheduled outages.	N/A – value is provided for each unit
Availability Rate	The ratio of the maximum output that can be supplied to system load for the period of time considered to the nameplate capacity.	Average available capacity for a specific period (MW) / nameplate capacity
Production	The amount of electric energy produced.	N/A – value is provided for each unit
Capacity Factor	The ratio of the electrical energy produced by a generating unit for the period of time considered to the nameplate capacity.	The average energy produced by all units in the plant during a specific period (MWh) / Nameplate capacity for the plant
Planned Outage Hours	The shutdown of a generating unit or facility for inspection or maintenance, in accordance with an advance schedule; represented in hours per unit (Equivalent Planned Outage Hours). Planned Hours – hours provided in the Generation Outage Schedule for the following 90-day outlook. Actual Hours – number of hours a unit was out of service due to a planned outage.	N/A – values is provided for each unit
Maintenance Outage Hours	The shutdown of a generating unit or facility for nonemergency reasons or conditions which need repair outside of the advance schedule; represented in hours per unit.	N/A – value is provided for each unit
Forced Outage Hours	The shutdown of a generating unit or facility for emergency reasons or a condition in which the generating equipment is unavailable for load due to unanticipated breakdown; represented in hours per unit.	N/A – value is provided for each unit
Forced Outage Rate	The ratio of the forced outages hours to the hours the unit was anticipated to be available for the reporting period.	Forced Outage Hours / Period Hours (excluding planned and unplanned outage hours)
Nameplate Capacity	The maximum rated output of a generator, prime mover, or other electric power production equipment under specific conditions designated by the manufacturer.	N/A – value is provided for each unit

Plant and Unit List – Baseload and Peaker Units

BASELOAD UNITS

Plant	Units	System Reserves	System Availability	System Heat Rate	All Metrics for Baseload Units	All Metrics for Peaker Units	Renewables Capacity Factor
San Juan	CT 5	X	X	X	X		
	STM 5	X	X	X	X		
	CT 6	X	X	X	X		
	STM 6	X	X	X	X		
	7	X	X	X	X		
	8	X	X	X	X		
	9	X	X	X	X		
	10	X	X	X	X		
Costa Sur	5	X	X	X	X		
	6	X	X	X	X		
Aguirre	1	X	X	X	X		
	2	X	X	X	X		
Palo Seco	1	X	X	X	X		
	2	X	X	X	X		
	3	X	X	X	X		
	4	X	X	X	X		
AES	AES 1	X	X	X	X		
	AES 2	X	X	X	X		
EcoEléctrica	ECO 1	X	X	X	X		
	ECO 2	X	X	X	X		
	STM 1	X	X	X	X		
FEMA Palo Seco	GT 1	X	X		X		
	GT 2	X	X		X		
	GT 4	X	X		X		
	GT 5	X	X		X		
	GT 6	X	X		X		
	GT 7	X	X		X		

PEAKER UNITS

Plant	Units	System Reserves	System Availability	System Heat Rate	All Metrics for Baseload Units	All Metrics for Peaker Units	Renewables Capacity Factor
Cambalache	1	X	X	X		X	
	2	X	X	X		X	
	3	X	X	X		X	
Mayaguez	1A	X	X	X		X	
	1B	X	X	X		X	
	2A	X	X	X		X	
	2B	X	X	X		X	
	3A	X	X	X		X	
	3B	X	X	X		X	
	4A	X	X	X		X	
	4B	X	X	X		X	
	1-1	X	X	X		X	
	1-2	X	X	X		X	
Palo Seco (Inc. Mobile-Pack)	2-1	X	X	X		X	
	2-2	X	X	X		X	
	3-1	X	X	X		X	
	3-2	X	X	X		X	
	MP 1	X	X	X		X	
	MP 2	X	X	X		X	
	MP 3	X	X	X		X	
	I-1	X	X	X		X	
	I-2	X	X	X		X	
Aguirre CC	I-3	X	X	X		X	
	I-4	X	X	X		X	
	ST-1	X	X	X		X	
	II-1	X	X	X		X	
	II-2	X	X	X		X	
	II-3	X	X	X		X	
	II-4	X	X	X		X	
	ST-2	X	X	X		X	

PEAKER UNITS

Plant	Units	System Reserves	System Availability	System Heat Rate	All Metrics for Baseload Units	All Metrics for Peaker Units	Renewables Capacity Factor
Other Peakers	Daguao 1-1	X	X	X		X	
	Daguao 1-2	X	X	X		X	
	Aguirre 2-1	X	X	X		X	
	Aguirre 2-2	X	X	X		X	
	Costa Sur 1-1	X	X	X		X	
	Costa Sur 1-2	X	X	X		X	
	Jobos 1-1	X	X	X		X	
	Jobos 1-2	X	X	X		X	
	Yabucoa 1-1	X	X	X		X	
	Yabucoa 1-2	X	X	X		X	
	Vega Baja 1-1	X	X	X		X	
	Vega Baja 1-2	X	X	X		X	
	Vieques 1	X	X	X		X	
	Vieques 2	X	X	X		X	
	Culebra 1	X	X	X		X	
	Culebra 2	X	X	X		X	
	Culebra 3	X	X	X		X	

Plant and Unit List – Renewable Projects

SOLAR PROJECTS

Projects	System Reserves	System Availability	System Heat Rate	All Metrics for Baseload Units	All Metrics for Peaker Units	Renewables Capacity Factor
AES Ilumina						X
Cantera Martinó						X
San Fermín						X
Horizon Energy						X
Oriana Energy						X
Coto Laurel						X
Humacao						X

WIND AND LANDFILL PROJECTS

Projects	System Reserves	System Availability	System Heat Rate	All Metrics for Baseload Units	All Metrics for Peaker Units	Renewables Capacity Factor
Pattern Santa Isabel						X
Landfill Gas Fajardo						X
Landfill Gas Toa Baja						X

HYDRO PLANTS

Projects	System Reserves	System Availability	System Heat Rate	All Metrics for Baseload Units	All Metrics for Peaker Units	Renewables Capacity Factor
Caonillas 1-1						
Caonillas 1-2						
Caonillas 2-1						
Dos Bocas 1						
Dos Bocas 2						
Dos Bocas 3						
Garzas 1-1						
Garzas 1-2						
Garzas 2-1						
Patillas 1-1						
Patillas 1-2						
Rio Blanco 1-1						
Rio Blanco 1-2						
Toro Negro 1-1						
Toro Negro 1-2						
Toro Negro 1-3						
Toro Negro 1-4						
Toro Negro 2-1						
Yauco 1-1						
Yauco 2-1						
Yauco 2-2						