



# Monthly Generation Performance Report

## January 2025

# Introduction

This report oversees Puerto Rico's electrical system overall performance; from system level to unit's level. System level measures shown are generation, availability and reserves level. Additionally, a summary of load shed events occurred in the last 12 months prior to this report's month. At plant and unit level, it oversees generation, availability, heat rate, and outage hours (planned, maintenance and forced). Finally, in terms of economics, fuel and variable costs are shown.

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 Genera PR 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

## January 2025 performance

### Major Events

In January, the electric system experienced **15** generation events that led to load shedding, with **11** caused by underfrequency due to generation unit trips and **4** caused by a generation shortfall events. Additionally, a blackout event occurred on December 31, 2024, causing all units go offline.

### Overview of January 2025

The maximum peak demand was approximately **2,547 MW**.

Units offline:

- San Juan 6 CC (220 MW): expected date of return on May 21, 2025.
- San Juan 7 (100 MW): expected date of return on May 30, 2025.
- Palo Seco 4 (216 MW): expected date of return on July 30, 2025.
- Aguirre 2 (450 MW): expected date of return is on discussion (TBD).

Hourly reserves levels averaged **834 MW**, with 275 hours during the month having less than 750 MW in reserves (equal to ~35% of the time).

Forecast average reserves levels for February 2025 is **243 MW**, lower than February 2024 actual average reserves of 692 MW.

Weighted system availability rate was **49%**.

- Genera – 42%
- AES – 58%
- EcoElectrica – 96%



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\*Disclaimer: some information shown in this report could be preliminary and subject to change as further analysis are made.

# Operations

## System-Level Performance



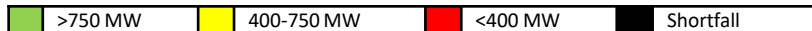
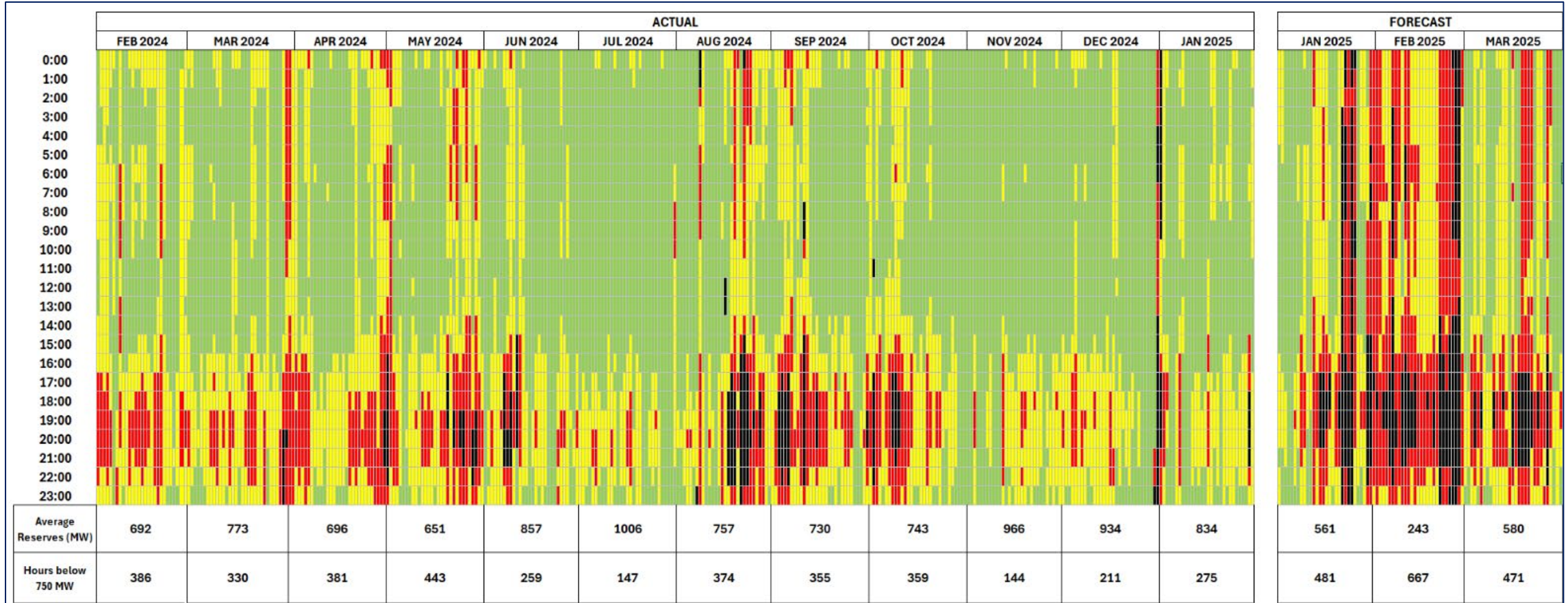
# System Reserves

Actual reserves timeframe: February 2024 – January 2025

Forecasted reserves timeframe: January 2025 – March 2025

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

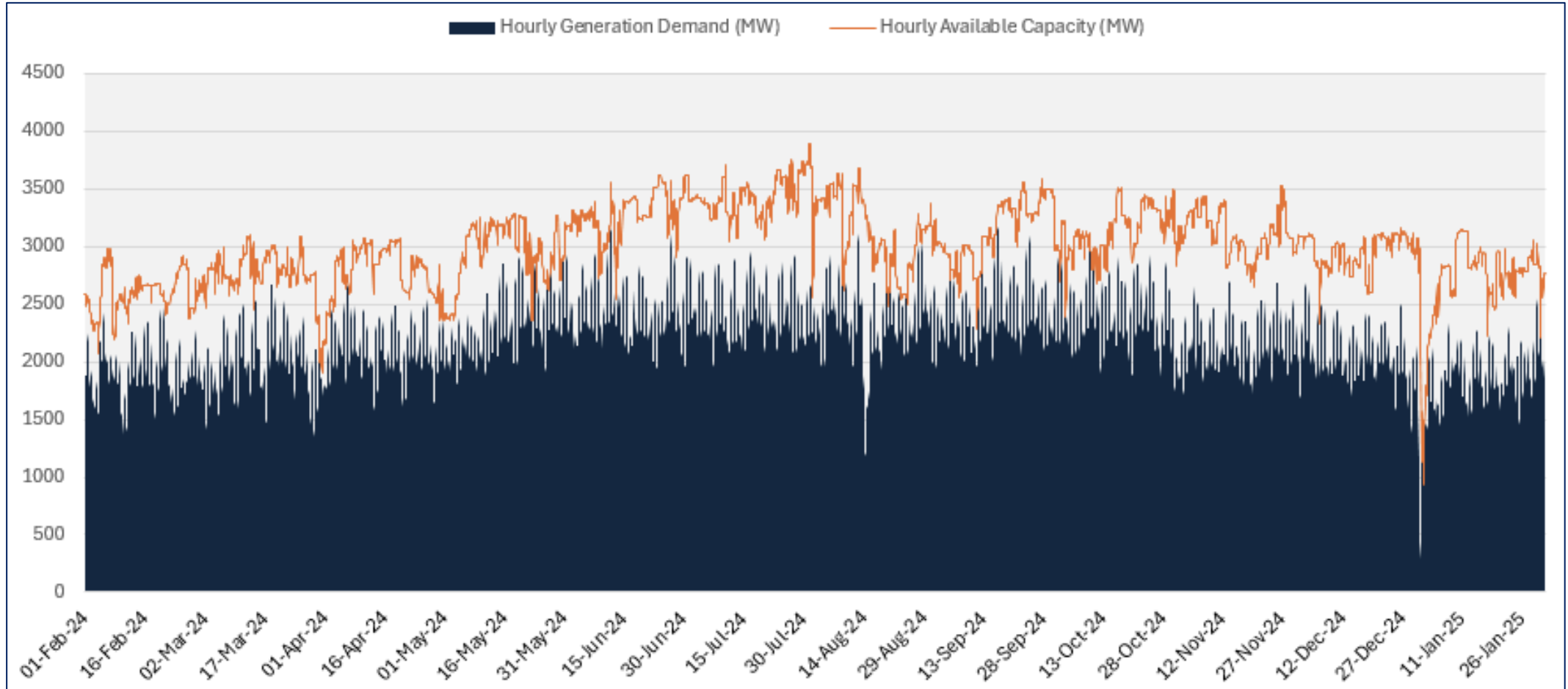


\*Refer to Glossary of Terms on page 25 for a list of definitions and formulas.

# 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.

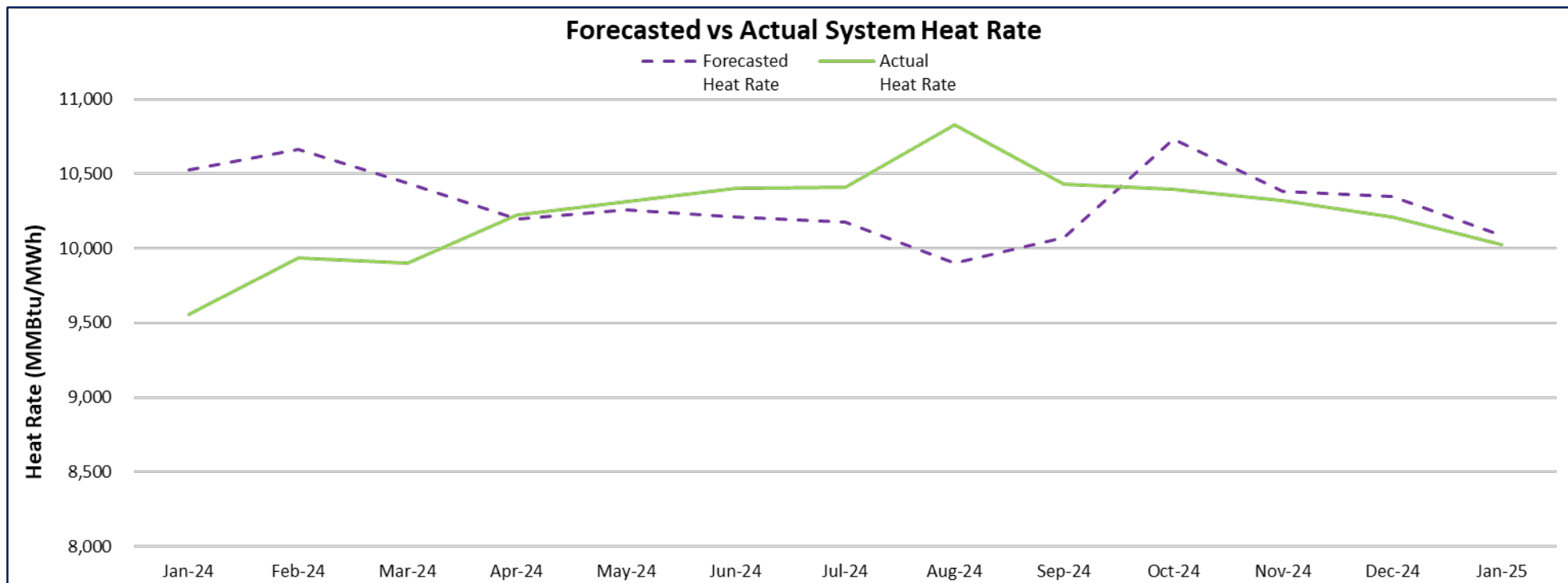


\*Refer to Glossary of Terms on page 25 for a list of definitions and formulas.

# 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.

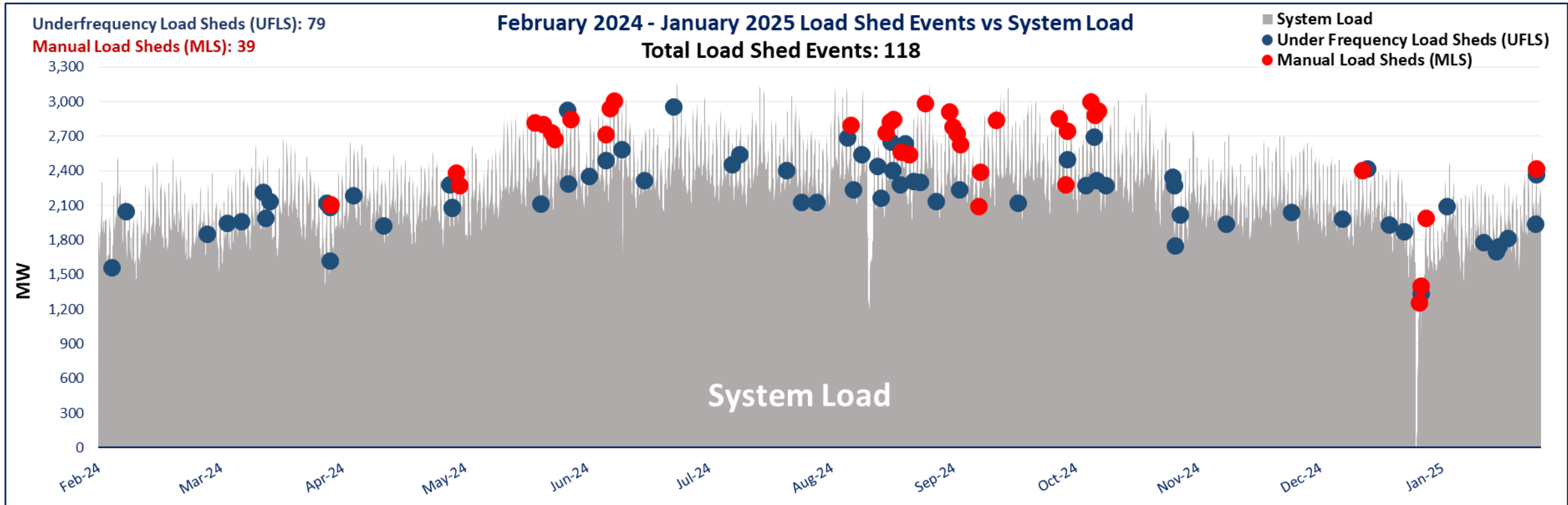


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# Load Shed Events

Load shed events can occur due to unexpected generation unit losses (Unit Performance Load Shed Events). Also, when the demand for electricity exceeds available supply levels, LUMA, as the system operator and in compliance with its responsibilities under the T&D OMA, implements load shedding to stabilize the electric system and prevent larger and longer outages (Generation Shortfall Events).

LUMA does not generate energy and can only operate the system with the electricity that is provided by Genera PR, PREPA, and other island generators.



MTD (January 1, 2025 – January 31, 2025)	Total Events	Average Customers Affected	Average Duration (min)
Generation Shortfall Events	4	178,275	351
Unit Performance Load Shed Events	11	215,165	36

Rolling 12 Months (February 1, 2024 – January 31, 2025)	Total Events	Average Customers Affected	Average Duration (min)
Generation Shortfall Events	39	109,093	208
Unit Performance Load Shed Events	79	113,262	23

\*Refer to Glossary of Terms on page 25 for a list of definitions and formulas.

# Operations

## Plant/Units-Level Performance



# 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.

Available Capacity (MW) and Availability Rate (AR)			Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25
<b>AES</b>		Av Cap (MW)	330	463	406	249	257	440	466	371	364	353	484	294
Nameplate Capacity: 508 MW		AR (%)	65%	91%	80%	49%	51%	87%	92%	73%	72%	69%	95%	58%
<b>EcoEléctrica</b>		Av Cap (MW)	547	550	550	543	566	566	252	391	561	566	556	542
Nameplate Capacity: 566 MW		AR (%)	97%	97%	97%	96%	100%	100%	45%	69%	99%	100%	98%	96%
<b>Aguirre</b>		Av Cap (MW)	368	341	303	505	592	440	314	147	169	220	0	99
Nameplate Capacity: 900 MW		AR (%)	41%	38%	34%	56%	66%	49%	35%	16%	19%	24%	0%	11%
<b>Costa Sur</b>		Av Cap (MW)	3	105	316	403	533	599	546	643	561	574	525	555
Nameplate Capacity: 820 MW		AR (%)	0%	13%	39%	49%	65%	73%	67%	78%	68%	70%	64%	68%
<b>Palo Seco</b>		Av Cap (MW)	0	0	0	0	0	27	173	198	193	146	162	174
Nameplate Capacity: 432 MW		AR (%)	0%	0%	0%	0%	0%	6%	40%	46%	45%	34%	37%	40%
<b>San Juan</b>		Av Cap (MW)	429	425	250	266	330	392	398	375	259	254	205	204
Nameplate Capacity: 740 MW		AR (%)	58%	57%	34%	36%	45%	53%	54%	51%	35%	34%	28%	28%
<b>Total Baseload</b>		Av Cap (MW)	2021	1884	1826	1967	2279	2462	2149	2125	2108	2113	1931	1868
Nameplate Capacity: 3966 MW		AR (%)	51%	48%	46%	50%	57%	62%	54%	54%	53%	53%	49%	47%

\*Refer to Glossary of Terms on page 25 for a list of definitions and formulas.

# 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 (gross) 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)			Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	
<b>Aguirre Combined Cycle</b>	592		Av Cap (MW)	138	127	170	178	201	197	206	216	257	239	246	112
	Nameplate Capacity: 592 MW		AR (%)	23%	21%	29%	30%	34%	33%	35%	37%	43%	40%	42%	19%
<b>Cambalache</b>	170		Av Cap (MW)	156	153	155	155	151	152	155	152	106	149	159	
	Nameplate Capacity: 165 MW		AR (%)	94%	93%	94%	94%	92%	92%	92%	94%	92%	64%	91%	96%
<b>Mayagüez</b>	220		Av Cap (MW)	182	176	151	165	153	141	140	135	143	138	138	
	Nameplate Capacity: 220 MW		AR (%)	83%	80%	69%	75%	69%	64%	64%	64%	61%	65%	63%	63%
<b>Palo Seco Mobile-Packs</b>	82		Av Cap (MW)	0	1	71	74	72	70	69	73	73	74	78	50
	Nameplate Capacity: 81 MW		AR (%)	0%	1%	87%	92%	89%	87%	85%	90%	90%	92%	96%	62%
<b>Palo Seco TMs</b>	90		Av Cap (MW)	143	96	62	80	86	84	87	79	82	90	83	90
	Nameplate Capacity: 90 MW		AR (%)	95%	64%	69%	89%	96%	93%	97%	88%	91%	99%	93%	100%
<b>San Juan TMs</b>	250		Av Cap (MW)	200	205	245	236	226	224	218	239	212	221	200	167
	Nameplate Capacity: 250 MW		AR (%)	80%	82%	98%	95%	91%	89%	87%	96%	85%	88%	80%	67%
<b>Frame 5's Peakers</b>	150		Av Cap (MW)	101	121	108	102	107	103	97	108	112	126	117	116
	Nameplate Capacity: 147 MW		AR (%)	69%	82%	74%	69%	73%	70%	66%	73%	76%	86%	80%	79%
<b>Total Peakers</b>	1550		Av Cap (MW)	921	880	962	991	997	969	969	1010	1023	999	1013	833
	Nameplate Capacity: 1545 MW		AR (%)	60%	57%	62%	64%	65%	63%	63%	65%	66%	65%	66%	54%

\*Refer to Glossary of Terms on page 25 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 (CF)		Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	
<b>AES</b> Nameplate Capacity: 508 MW		Gen (MW)	320	452	412	249	251	437	449	357	365	348	481	291
	CF (%)	63%	89%	81%	49%	49%	86%	88%	70%	72%	68%	95%	57%	
<b>EcoEléctrica</b> Nameplate Capacity: 566 MW		Gen (MW)	405	398	412	399	415	412	235	292	404	391	378	369
	CF (%)	72%	70%	73%	71%	73%	73%	42%	52%	71%	69%	67%	65%	
<b>Aguirre</b> Nameplate Capacity: 900 MW		Gen (MW)	284	243	221	418	466	346	237	125	148	198	0	83
	CF (%)	32%	27%	25%	46%	52%	38%	26%	14%	16%	22%	0%	9%	
<b>Costa Sur</b> Nameplate Capacity: 820 MW		Gen (MW)	1	101	270	358	486	482	435	543	495	492	432	452
	CF (%)	0%	12%	33%	44%	59%	59%	53%	66%	60%	60%	53%	55%	
<b>Palo Seco</b> Nameplate Capacity: 432 MW		Gen (MW)	0	0	0	0	0	28	139	150	150	121	121	144
	CF (%)	0%	0%	0%	0%	0%	6%	32%	35%	35%	28%	28%	33%	
<b>San Juan</b> Nameplate Capacity: 740 MW		Gen (MW)	380	380	227	254	306	343	302	330	229	211	180	173
	CF (%)	51%	51%	31%	34%	41%	46%	41%	45%	31%	29%	24%	23%	
<b>Total Baseload</b> Nameplate Capacity: 3966 MW		Gen (MW)	1390	1573	1542	1679	1924	2047	1798	1797	1790	1761	1593	1512
	CF (%)	35%	40%	39%	42%	49%	52%	45%	45%	45%	44%	40%	38%	

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# Generation and Capacity Factor – Peaker 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.

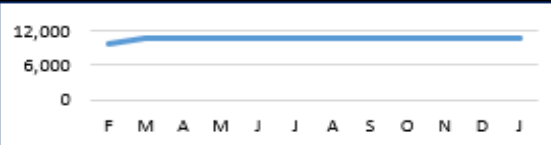
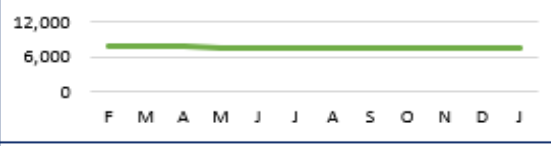



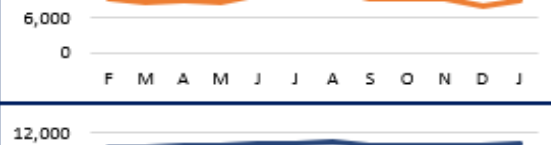

Average Generation (MW) and Capacity Factor (CF)		Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	
<b>Aguirre Combined Cycle</b> Nameplate Capacity: 592 MW		Gen (MW)	42	31	79	101	75	48	114	120	149	58	85	37
	CF (%)	7%	5%	13%	17%	13%	8%	19%	20%	25%	10%	14%	6%	
<b>Cambalache</b> Nameplate Capacity: 165 MW		Gen (MW)	35	24	57	71	37	27	67	74	68	19	42	48
	CF (%)	21%	15%	34%	43%	23%	16%	41%	45%	41%	12%	26%	29%	
<b>Mayagüez</b> Nameplate Capacity: 220 MW		Gen (MW)	72	56	79	90	66	49	69	68	66	45	57	43
	CF (%)	33%	25%	36%	41%	30%	22%	31%	31%	30%	20%	26%	19%	
<b>Palo Seco Mobile-Packs</b> Nameplate Capacity: 81 MW		Gen (MW)	0	1	4	12	10	2	22	18	19	7	10	9
	CF (%)	0%	1%	5%	14%	12%	3%	27%	23%	23%	8%	12%	12%	
<b>Palo Seco TMs</b> Nameplate Capacity: 90 MW		Gen (MW)	143	96	66	82	85	60	80	77	80	79	71	54
	CF (%)	159%	106%	74%	91%	94%	66%	89%	85%	89%	87%	79%	60%	
<b>San Juan TMs</b> Nameplate Capacity: 250 MW		Gen (MW)	201	189	241	222	203	179	180	217	193	170	179	128
	CF (%)	80%	76%	96%	89%	81%	71%	72%	87%	77%	68%	72%	51%	
<b>Frame 5's Peakers</b> Nameplate Capacity: 147 MW		Gen (MW)	21	22	26	42	18	15	29	32	33	8	13	20
	CF (%)	15%	15%	18%	29%	12%	10%	20%	21%	23%	5%	9%	14%	
<b>Total Peakers</b> Nameplate Capacity: 1545 MW		Gen (MW)	515	418	552	620	494	379	561	605	608	385	459	339
	CF (%)	33%	27%	36%	40%	32%	25%	36%	39%	39%	25%	30%	22%	

\*Refer to Glossary of Terms on page 25 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)		Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25
<b>AES</b>		9,800	10,620	10,620	10,620	10,620	10,620	10,620	10,620	10,620	10,620	10,620	10,620
<b>EcoElectrica</b>		7,957	7,957	7,957	7,881	7,881	7,881	7,881	7,881	7,881	7,881	7,881	7,881
<b>Aguirre</b>		11,397	11,268	11,117	10,934	10,951	11,220	11,225	11,142	11,177	10,813	-	12,429
<b>Costa Sur</b>		-	12,106	10,397	10,703	10,562	10,343	10,854	10,738	10,976	11,075	11,052	11,185
<b>Palo Seco</b>		-	-	-	-	-	10,264	9,696	9,648	9,296	9,669	9,817	11,181
<b>San Juan</b>		9,432	8,714	8,882	8,796	10,188	10,817	11,016	9,485	9,263	9,486	8,166	8,916
<b>Total Baseload</b>		9,405	9,519	9,564	9,687	9,904	10,007	10,275	9,817	9,761	9,807	9,711	9,988

\*Refer to Glossary of Terms on page 25 for a list of definitions and formulas.

# 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)		Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25
<b>Aguirre Combined Cycle</b>		14,989	13,867	11,936	11,751	12,482	13,852	11,888	12,289	11,844	12,793	12,276	15,654
<b>Cambalache</b>		12,785	12,872	12,640	12,407	12,756	12,876	12,361	12,343	12,361	13,227	12,818	12,584
<b>Mayaguez</b>		10,945	11,029	11,107	10,882	11,040	10,832	10,908	10,868	10,861	10,898	10,817	13,753
<b>Palo Seco Mobile Packs</b>		-	10,246	10,457	10,401	10,445	10,108	10,107	10,394	10,519	10,466	10,195	11,021
<b>Palo Seco &amp; San Juan TMs</b>		N/Av	N/Av	11,307	10,791	10,808	10,736	10,602	10,721	11,372	10,853	10,991	11,888
<b>Frame 5's Peakers</b>		16,090	15,014	14,019	15,379	15,563	10,800	14,767	14,881	13,255	14,157	12,135	14,328
<b>Total Peakers</b>		12,951	12,710	11,640	11,451	11,406	11,283	11,302	11,452	11,618	11,331	11,395	12,755

\*Refer to Glossary of Terms on page 25 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.


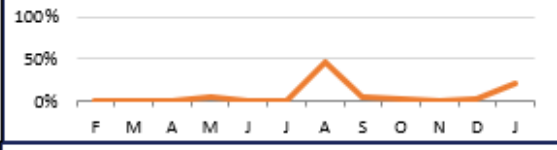
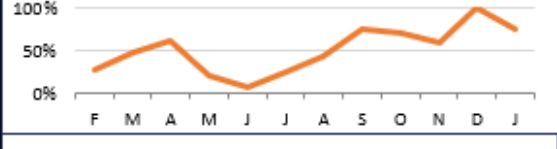
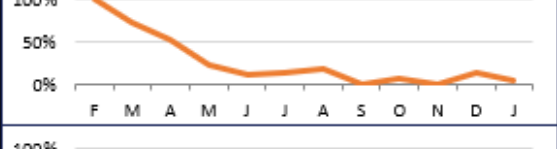
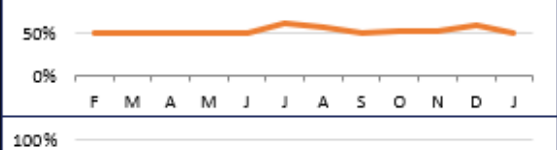
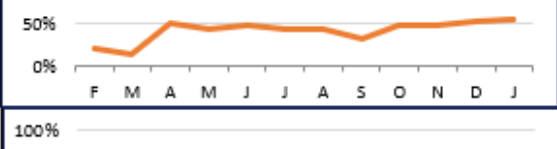
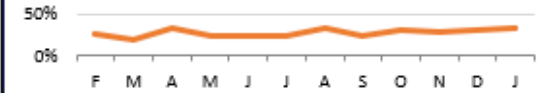
	Planned Outage Hours (FEB 2024 - JAN 2025)	Planned Outage Hours	Completed Outage Hours
<b>AES</b>		<b>1608</b>	<b>1124</b>
<b>EcoElectrica</b>		<b>432</b>	<b>0</b>
<b>Aguirre</b>		<b>1368</b>	<b>0</b>
<b>Costa Sur</b>		<b>1944</b>	<b>0</b>
<b>Palo Seco</b>		<b>2856</b>	<b>4113</b>
<b>San Juan</b>		<b>5256</b>	<b>1935</b>
<b>Total Baseload</b>		<b>13464</b>	<b>7364</b>

\*Refer to Glossary of Terms on page 25 for a list of definitions and formulas.

# 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			Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25
AES		%	32%	0%	6%	17%	10%	6%	0%	22%	22%	24%	1%	23%
		Hrs	445	0	92	168	93	88	0	316	327	346	18	287
EcoElectrica		%	1%	0%	0%	6%	0%	0%	46%	4%	3%	0%	2%	21%
		Hrs	24	0	0	118	0	0	1028	75	70	0	55	465
Aguirre		%	28%	47%	60%	20%	7%	24%	42%	74%	69%	60%	100%	76%
		Hrs	395	697	866	301	101	361	632	1061	1032	857	1487	1127
Costa Sur		%	99%	74%	52%	23%	10%	14%	18%	0%	7%	0%	15%	5%
		Hrs	1373	1094	720	338	149	201	263	0	102	0	216	71
Palo Seco		%	50%	50%	50%	50%	50%	60%	56%	50%	52%	51%	60%	51%
		Hrs	696	743	720	743	720	895	831	720	768	739	891	756
San Juan		%	20%	13%	50%	43%	48%	44%	43%	31%	47%	48%	52%	54%
		Hrs	906	632	2518	2231	2386	2229	2251	1518	2341	2385	2306	2514
Total Baseload		%	27%	20%	33%	25%	23%	24%	32%	24%	30%	29%	32%	33%
		Hrs	6213	3166	4916	3899	3449	3775	5005	3690	4641	4327	4974	5219

\*Refer to Glossary of Terms on page 25 for a list of definitions and formulas.

# Renewables Average Generation and 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			Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25
<b>AES Ilumina</b>		Gen (MW)	3.4	4.1	4.0	4.0	3.8	3.7	3.9	3.9	3.5	3.0	3.0	3.4
Nameplate Capacity: 20 MW		CF (%)	17%	21%	20%	20%	19%	19%	19%	19%	18%	15%	15%	17%
<b>Windmar Cantera Martínó</b>		Gen (MW)	0.4	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.2	0.3	0.2	0.4
Nameplate Capacity: 2.1 MW		CF (%)	18%	25%	22%	20%	19%	14%	14%	13%	11%	13%	9%	18%
<b>San Fermín</b>		Gen (MW)	1.9	2.4	2.0	1.5	1.3	1.4	1.6	1.4	1.4	1.0	1.1	1.2
Nameplate Capacity: 20 MW		CF (%)	9%	12%	10%	7%	7%	7%	8%	7%	7%	5%	5%	6%
<b>Horizon Energy</b>		Gen (MW)	2.2	2.7	2.6	2.7	2.6	2.6	2.7	2.6	2.4	2.3	2.2	2.5
Nameplate Capacity: 10 MW		CF (%)	22%	27%	26%	27%	26%	26%	27%	26%	24%	23%	22%	25%
<b>Oriana Energy</b>		Gen (MW)	9.6	10.4	10.6	10.2	10.6	10.0	10.6	10.3	9.5	7.7	8.2	8.7
Nameplate Capacity: 45 MW		CF (%)	21%	23%	24%	23%	24%	22%	24%	23%	21%	17%	18%	19%
<b>Windmar Coto Laurel</b>		Gen (MW)	1.6	1.9	1.9	1.8	1.5	1.4	1.6	1.0	1.4	1.7	1.6	1.8
Nameplate Capacity: 10 MW		CF (%)	16%	19%	19%	18%	15%	14%	16%	10%	14%	17%	16%	18%
<b>Fonroche Humacao</b>		Gen (MW)	6.7	8.5	7.7	7.9	7.2	7.1	8.6	8.0	5.6	5.6	6.2	7.1
Nameplate Capacity: 40 MW		CF (%)	17%	21%	19%	20%	18%	18%	21%	20%	14%	14%	16%	18%
<b>Total Solar</b>		Gen (MW)	25.7	30.6	29.3	28.5	27.3	26.6	29.3	27.4	24.1	21.7	22.6	25.1
Nameplate Capacity: 147.1 MW		CF (%)	17%	21%	20%	19%	19%	18%	20%	19%	16%	15%	15%	17%

\*Refer to Glossary of Terms on page 25 for a list of definitions and formulas.

# Renewables Average Generation and 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			Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25
<b>Pattern Santa Isabel</b> Nameplate Capacity: 95 MW	95.0 47.5 0.0	Gen (MW) CF (%)	9.8	13.5	12.5	11.9	16.0	22.1	17.6	12.4	5.6	6.6	9.1	13.3
	F M A M J J A S O N D J		13%	14%	13%	13%	17%	23%	18%	13%	6%	7%	10%	14%
<b>Punta Lima</b> Nameplate Capacity: 26 MW	26.0 13.0 0.0	Gen (MW) CF (%)	3.5	5.1	6.5	3.0	5.3	8.7	5.9	3.1	2.0	2.9	4.8	6.9
	F M A M J J A S O N D J		14%	20%	25%	12%	20%	33%	23%	12%	8%	11%	18%	26%
<b>Landfill Gas Fajardo</b> Nameplate Capacity: 2.4 MW	2.4 1.2 0.0	Gen (MW) CF (%)	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.8	0.5	0.5	1.0
	F M A M J J A S O N D J		0%	0%	5%	5%	0%	4%	2%	4%	33%	19%	21%	42%
<b>Landfill Gas Toa Baja</b> Nameplate Capacity: 2.4 MW	2.4 1.2 0.0	Gen (MW) CF (%)	1.0	1.0	1.1	0.9	0.8	1.2	0.5	0.4	0.0	0.5	0.7	0.4
	F M A M J J A S O N D J		43%	41%	47%	36%	33%	48%	21%	15%	1%	21%	27%	18%
<b>Total Wind and Landfill</b> Nameplate Capacity: 125.8 MW	126.0 63.0 0.0	Gen (MW) CF (%)	14.3	19.6	20.2	15.9	22.1	32.1	24.0	15.9	8.5	10.5	15.1	21.6
	F M A M J J A S O N D J		11%	16%	16%	13%	18%	25%	19%	13%	7%	8%	12%	17%

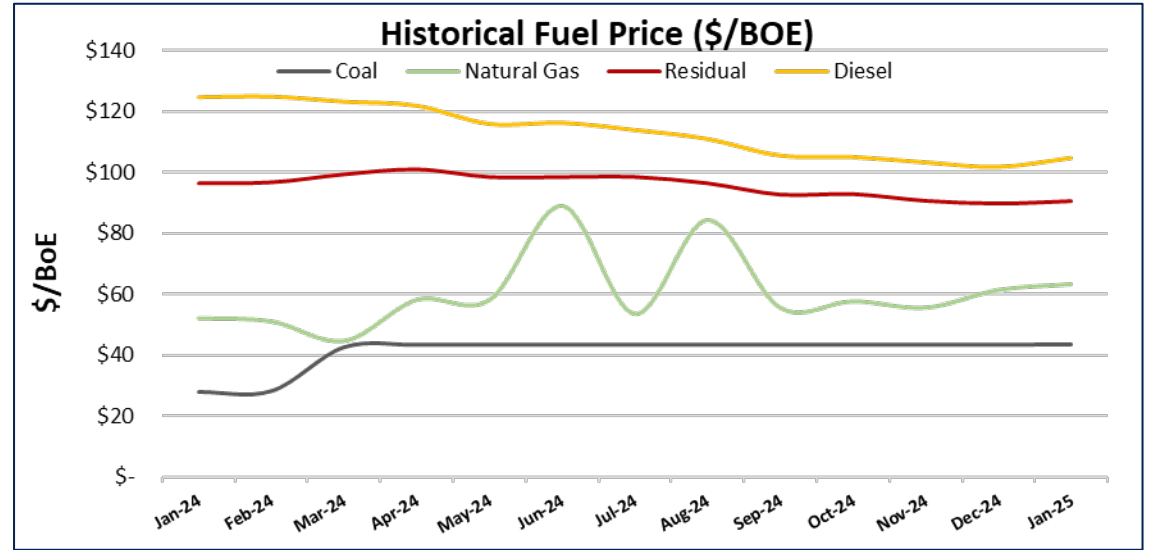
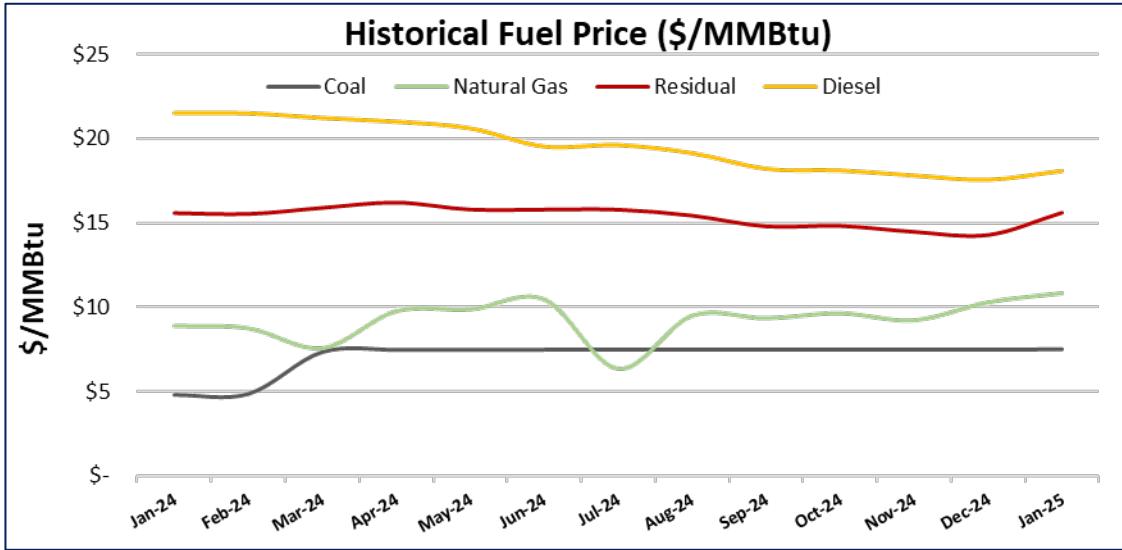
\*Refer to Glossary of Terms on page 25 for a list of definitions and formulas.

# Economics



# 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.

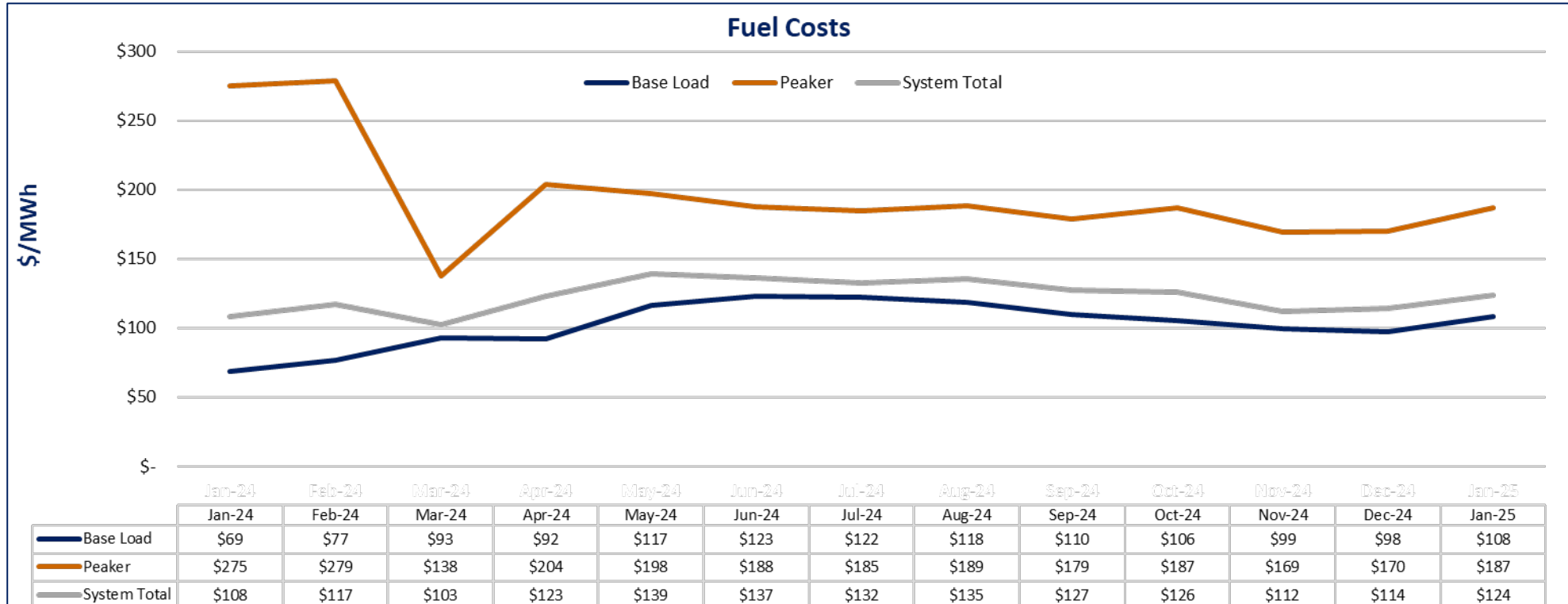


	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25
<b>\$/MMBtu</b>													
Diesel	21.52	21.50	21.22	21.00	20.60	19.51	19.60	19.12	18.19	18.09	17.78	17.53	18.06
Residual	15.57	15.52	15.88	16.18	15.78	15.77	15.77	15.43	14.80	14.83	14.49	14.30	15.60
Natural Gas	8.91	8.77	7.59	9.79	9.89	10.49	6.36	9.51	9.36	9.66	9.25	10.31	10.86
Coal	4.80	4.85	7.35	7.48	7.48	7.49	7.49	7.49	7.51	7.49	7.49	7.49	7.52
<b>\$/BOE</b>													
Diesel	124.84	125.03	123.35	122.01	115.98	116.34	113.98	111.03	105.52	105.02	103.26	101.76	104.72
Residual	96.38	96.71	99.35	101.02	98.48	98.47	98.50	96.40	92.61	92.79	90.55	89.65	90.45
Natural Gas	51.96	50.94	44.49	58.08	58.06	89.01	53.43	84.35	55.42	57.58	55.49	61.29	63.23
Coal	27.85	28.16	42.66	43.41	43.42	43.45	43.45	43.44	43.59	43.45	43.45	43.45	43.60

\*Refer to Glossary of Terms on page 25 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 25 for a list of definitions and formulas.

# Appendix



# 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
Generation Shortfall Events	An event in which customer demand for electricity is unable to be met due to lack of Available Capacity, leading to customers being manually disconnected from the grid.	N/A – Value is all events which occur in a specified time frame
Unit Performance Load Shed Events	An event in which a generating unit has an unanticipated breakdown and causes customers to be automatically disconnected from the grid to prevent potential damage to the system.	N/A – Value is all events which occur in a specified time frame



La gente primero.  
La seguridad siempre.

**LUMA** 