

Total Cost of Wholesale Power

MMUAC

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IMM



Monitoring Analytics

Total Cost of Wholesale Power

- **The total cost of wholesale power is the total cost per MWh of wholesale electricity in PJM markets.**
- **The total cost is an average cost.**
- **The costs of each component and subcomponent may vary by location and time period.**
- **The total costs are the sum of the total charges for the individual billing line items in each category divided by real time load, even when a specific category is not charged on that basis.**

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- **The charges for the individual billing line items includes after the fact billing adjustments.**
 - **Adjustments are included in the month to which they apply, not the month they are charged.**
- **The total cost of wholesale power and the components of that cost are presented for informational purposes and should not be used to calculate the costs of any specific market activity in PJM.**
- **Recent modifications were made to the metric to capture all components of the total cost of wholesale power.**

Legacy Table

Category	2023 (Jan-Jun) \$/MWh	2023 (Jan-Jun) (\$ Millions)	2023 (Jan-Jun) Percent of Total	2024 (Jan-Jun) \$/MWh	2024 (Jan-Jun) (\$ Millions)	2024 (Jan-Jun) Percent of Total	Percent Change
Load Weighted Energy	\$29.33	\$10,603	55.1%	\$31.70	\$12,149	57.9%	8.1%
Capacity	\$5.14	\$1,858	9.7%	\$3.05	\$1,170	5.6%	(40.6%)
Capacity	\$5.03	\$1,817	9.4%	\$2.95	\$1,130	5.4%	(41.4%)
Capacity (FRR)	\$0.01	\$3	0.0%	\$0.02	\$9	0.0%	161.5%
Capacity (RMR)	\$0.10	\$37	0.2%	\$0.08	\$31	0.1%	(21.9%)
Transmission	\$16.97	\$6,134	31.9%	\$17.93	\$6,873	32.7%	5.7%
Transmission Service Charges	\$14.47	\$5,230	27.2%	\$15.20	\$5,825	27.8%	5.0%
Transmission Enhancement Cost Recovery	\$2.42	\$874	4.5%	\$2.64	\$1,012	4.8%	9.2%
Transmission Owner (Schedule 1A)	\$0.08	\$30	0.2%	\$0.09	\$36	0.2%	13.5%
Transmission Seams Elimination Cost Assignment (SECA)	\$0.00	\$0	0.0%	\$0.00	\$0	0.0%	0.0%
Transmission Facility Charges	\$0.00	\$0	0.0%	\$0.00	\$0	0.0%	0.0%
Ancillary	\$0.86	\$312	1.6%	\$0.94	\$360	1.7%	8.9%
Reactive	\$0.54	\$194	1.0%	\$0.50	\$193	0.9%	(5.8%)
Regulation	\$0.17	\$63	0.3%	\$0.22	\$86	0.4%	28.8%
Black Start	\$0.09	\$33	0.2%	\$0.09	\$35	0.2%	0.7%
Synchronized Reserves	\$0.06	\$20	0.1%	\$0.10	\$39	0.2%	83.5%
Secondary Reserves	\$0.00	\$0	0.0%	\$0.00	\$1	0.0%	216.3%
Non-Synchronized Reserves	\$0.00	\$1	0.0%	\$0.01	\$5	0.0%	234.4%
Day Ahead Scheduling Reserve (DASR)	\$0.00	\$0	0.0%	\$0.00	\$0	0.0%	0.0%
Administration	\$0.61	\$219	1.1%	\$0.68	\$259	1.2%	11.5%
PJM Administrative Fees	\$0.57	\$205	1.1%	\$0.63	\$243	1.2%	11.7%
NERC/RFC	\$0.04	\$14	0.1%	\$0.04	\$16	0.1%	8.7%
RTO Startup and Expansion	\$0.00	\$0	0.0%	\$0.00	\$0	0.0%	0.0%
Energy Uplift (Operating Reserves)	\$0.15	\$54	0.3%	\$0.44	\$168	0.8%	193.0%
Demand Response	\$0.18	\$64	0.3%	\$0.01	\$4	0.0%	(94.0%)
Load Response	\$0.01	\$3	0.0%	\$0.01	\$4	0.0%	11.6%
Emergency Load Response	\$0.17	\$61	0.3%	\$0.00	\$0	0.0%	(100.0%)
Emergency Energy	\$0.00	\$0	0.0%	\$0.00	\$0	0.0%	0.0%
Other	\$0.01	\$2	0.0%	\$0.01	\$3	0.0%	41.6%
Total Price	\$53.25	\$19,246	100.0%	\$54.76	\$20,986	100.0%	2.8%
Total Load (GWh)	361,468			383,286			6.0%
Total Cost (\$ Billions)	\$19.25			\$20.99			9.0%

Revised Table

Category	2023 (Jan-Sep) \$M/MWh	2023 (Jan-Sep) (\$ Millions)	2023 (Jan-Sep) Percent of Total	2024 (Jan-Sep) \$M/MWh	2024 (Jan-Sep) (\$ Millions)	2024 (Jan-Sep) Percent of Total	Percent Change
Energy	\$30.37	\$17,364	57.3%	\$32.58	\$19,477	59.2%	7.3%
Day Ahead Energy	\$31.58	\$18,053	59.6%	\$33.47	\$20,005	60.8%	6.0%
Balancing Energy	\$0.43	\$245	0.8%	\$0.61	\$365	1.1%	42.4%
ARR Credits	(\$1.49)	(\$850)	(2.8%)	(\$1.34)	(\$801)	(2.4%)	(9.8%)
Self Scheduled FTR Credits	(\$0.37)	(\$211)	(0.7%)	(\$0.54)	(\$322)	(1.0%)	45.7%
Balancing Congestion	\$0.38	\$217	0.7%	\$0.39	\$233	0.7%	2.7%
Emergency Energy	\$0.00	\$0	0.0%	\$0.00	\$0	0.0%	0.0%
Inadvertent Energy	\$0.01	\$3	0.0%	\$0.02	\$9	0.0%	184.8%
Load Response - Energy	\$0.01	\$5	0.0%	\$0.01	\$8	0.0%	50.7%
Emergency Load Response	\$0.11	\$61	0.2%	\$0.00	\$0	0.0%	(100.0%)
Energy Uplift (Operating Reserves)	\$0.20	\$117	0.4%	\$0.36	\$217	0.7%	78.1%
Marginal Loss Surplus Allocation	(\$0.56)	(\$319)	(1.1%)	(\$0.45)	(\$270)	(0.8%)	(19.0%)
Market to Market Payments	\$0.08	\$44	0.1%	\$0.05	\$32	0.1%	(29.7%)
Capacity	\$4.91	\$2,809	9.3%	\$3.55	\$2,120	6.4%	(27.8%)
Capacity (Capacity Market and FRR)	\$4.81	\$2,752	9.1%	\$3.45	\$2,064	6.3%	(28.3%)
Capacity Part V (RMR)	\$0.10	\$57	0.2%	\$0.08	\$48	0.1%	(19.8%)
Load Response - Capacity	\$0.00	\$0	0.0%	\$0.01	\$8	0.0%	2,989.6%
Transmission	\$16.30	\$9,316	30.7%	\$17.36	\$10,379	31.5%	6.5%
Transmission Service Charges	\$13.91	\$7,950	26.2%	\$14.74	\$8,808	26.8%	6.0%
Transmission Enhancement Cost Recovery	\$2.31	\$1,319	4.4%	\$2.53	\$1,515	4.6%	9.9%
Transmission Owner (Schedule 1A)	\$0.08	\$48	0.2%	\$0.09	\$55	0.2%	11.2%
Transmission Seams Elimination Cost Assignment (SECA)	\$0.00	\$0	0.0%	\$0.00	\$0	0.0%	0.0%
Transmission Facility Charges	\$0.00	\$0	0.0%	\$0.00	\$0	0.0%	0.0%
Ancillary	\$0.85	\$483	1.6%	\$0.91	\$547	1.7%	8.1%
Reactive	\$0.51	\$292	1.0%	\$0.48	\$286	0.9%	(6.2%)
Regulation	\$0.17	\$99	0.3%	\$0.23	\$137	0.4%	31.4%
Black Start	\$0.09	\$50	0.2%	\$0.09	\$55	0.2%	5.3%
Synchronized Reserves	\$0.07	\$37	0.1%	\$0.10	\$59	0.2%	50.9%
Secondary Reserves	\$0.00	\$1	0.0%	\$0.00	\$2	0.0%	80.8%
Non-Synchronized Reserves	\$0.01	\$4	0.0%	\$0.01	\$8	0.0%	92.6%
Day Ahead Scheduling Reserve (DASR)	\$0.00	\$0	0.0%	\$0.00	\$0	0.0%	0.0%
Administration	\$0.59	\$340	1.1%	\$0.66	\$393	1.2%	10.7%
PJM Administrative Fees	\$0.55	\$314	1.0%	\$0.61	\$364	1.1%	10.8%
NERC/RFC	\$0.04	\$22	0.1%	\$0.04	\$25	0.1%	8.8%
RTO Startup and Expansion	\$0.00	\$0	0.0%	\$0.00	\$0	0.0%	0.0%
Other	\$0.01	\$4	0.0%	\$0.01	\$5	0.0%	7.4%
Total Price	\$53.02	\$30,313	100.0%	\$55.06	\$32,915	100.0%	3.8%
Total Day Ahead Load	567,278			591,116			4.2%
Total Balancing Load	(4,421)			(6,667)			50.8%
Total Real Time Load	571,700			597,782			4.6%
Total Cost (\$ Billions)	\$30.31			\$32.92			8.6%



Energy

Legacy

Category
Load Weighted Energy

Revised

Category
Energy
Day Ahead Energy
Balancing Energy
ARR Credits
Self Scheduled FTR Credits
Balancing Congestion
Emergency Energy
Inadvertent Energy
Load Response - Energy
Emergency Load Response
Energy Uplift (Operating Reserves)
Marginal Loss Surplus Allocation
Market to Market Payments



Capacity

Legacy

Category

Capacity

Capacity

Capacity (FRR)

Capacity (RMR)

Revised

Category

Capacity

Capacity (Capacity Market and FRR)

Capacity Part V (RMR)

Load Response - Capacity



Transmission

Legacy

Category

Transmission

- Transmission Service Charges
- Transmission Enhancement Cost Recovery
- Transmission Owner (Schedule 1A)
- Transmission Seams Elimination Cost Assignment (SECA)
- Transmission Facility Charges

Revised

Category

Transmission

- Transmission Service Charges
- Transmission Enhancement Cost Recovery
- Transmission Owner (Schedule 1A)
- Transmission Seams Elimination Cost Assignment (SECA)
- Transmission Facility Charges



Ancillary

Legacy

Category

Ancillary

- Reactive
- Regulation
- Black Start
- Synchronized Reserves
- Secondary Reserves
- Non-Synchronized Reserves
- Day Ahead Scheduling Reserve (DASR)

Revised

Category

Ancillary

- Reactive
- Regulation
- Black Start
- Synchronized Reserves
- Secondary Reserves
- Non-Synchronized Reserves
- Day Ahead Scheduling Reserve (DASR)



Administration

Legacy

Category
Administration
PJM Administrative Fees
NERC/RFC
RTO Startup and Expansion

Revised

Category
Administration
PJM Administrative Fees
NERC/RFC
RTO Startup and Expansion
Other



Other

Legacy

Revised

Category
Energy Uplift (Operating Reserves)
Demand Response
Load Response
Emergency Load Response
Emergency Energy
Other



Total Cost of Wholesale Power

- **Calculation Documentation:**
 - https://www.monitoringanalytics.com/data/docs/IMM_Total_Price_Calculation_Documentation_20241011.pdf
- **Monthly Totals:**
 - https://www.monitoringanalytics.com/data/pjm_price.shtml
- **Quarterly Totals:**
 - Presented in Quarterly State of the Market Reports
- **Monthly Year to Date Totals:**
 - When Possible, year to date totals will be presented at the MC Webinar

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