

Schedule JMP-1

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Unitil Energy Systems - Domestic Rate Class (Residential)
 8 Month Energy Supply Forecast

Month	Evaluation Loads (MWh)	Avg ISO LMP Off/On pk Energy (\$/MWh)	Forecast Capacity Price (\$/MWh)	Forecast Ancillary Price (\$/MWh)	Total Wholesale Energy Price (\$/MWh)
Dec-22	39,689	\$ 249.25	\$ 19.21	\$ 5.08	\$ 273.54
Jan-23	44,313	\$ 294.63	\$ 17.21	\$ 5.90	\$ 317.73
Feb-23	43,657	\$ 273.95	\$ 17.47	\$ 5.51	\$ 296.93
Mar-23	39,166	\$ 147.88	\$ 19.47	\$ 3.16	\$ 170.51
Apr-23	37,517	\$ 68.55	\$ 20.33	\$ 1.68	\$ 90.56
May-23	33,008	\$ 48.18	\$ 23.10	\$ 1.35	\$ 72.62
Jun-23	33,285	\$ 50.18	\$ 12.33	\$ 1.18	\$ 63.68
Jul-23	43,233	\$ 61.23	\$ 9.49	\$ 1.34	\$ 72.05
PERIOD	313,869				\$ 177.17

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Evaluation Loads, Domestic Customer Class (Residential), ISO Asset 11451

Year	MONTH	Small Customer Purchases (MWh)	Version
2022	Dec-22	39,689	Fcast
2023	Jan-23	44,313	Fcast
2023	Feb-23	43,657	Fcast
2023	Mar-23	39,166	Fcast
2023	Apr-23	37,517	Fcast
2023	May-23	33,008	Fcast
2023	Jun-23	33,285	Fcast
2023	Jul-23	43,233	Fcast

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ISO New England LMP Futures Prices (\$/MWh)

7/18/2022					
Year	Month	ISO LMP Off-Peak [1]	ISO LMP On-Peak [2]	Average	
2022	Dec-22	\$ 237.50	\$ 261.00	\$	249.25
2023	Jan-23	\$ 272.05	\$ 317.20	\$	294.63
2023	Feb-23	\$ 261.45	\$ 286.45	\$	273.95
2023	Mar-23	\$ 143.25	\$ 152.50	\$	147.88
2023	Apr-23	\$ 63.10	\$ 74.00	\$	68.55
2023	May-23	\$ 42.10	\$ 54.25	\$	48.18
2023	Jun-23	\$ 43.35	\$ 57.00	\$	50.18
2023	Jul-23	\$ 52.50	\$ 69.95	\$	61.23

[1] <https://www.cmegroup.com/markets/energy/electricity/nepool-internal-hub-5-mw-off-peak-calendar-month-day-ahead-swap-futures.html>

[2] <https://www.cmegroup.com/markets/energy/electricity/nepool-internal-hub-5-mw-peak-calendar-month-day-ahead-swap-futures.quotes.html>

Capacity Cost Calculation - Domestic Rate Class (Residential)

	December	January	February	March	April	May	June	July
ICAP Tag (MW)	(147.690)	(147.690)	(147.690)	(147.690)	(147.690)	(147.690)	(147.690)	(147.690)
Peak Contribution (MW)	(25,279.640)	(25,279.640)	(25,279.640)	(25,279.640)	(25,279.640)	(25,279.640)	(24,726.743)	(24,726.743)
Capacity Supply Obligation	34,347.525	34,347.525	34,347.525	34,347.525	34,347.525	34,347.525	34,347.525	34,347.525
Capacity Share Obligation	200.667	200.667	200.667	200.667	200.667	200.667	205.154	205.154
Capacity Price (\$ MW-Month)	3,800	3,800	3,800	3,800	3,800	3,800	2,000	2,000
Capacity Cost	\$ 762,534.07	\$ 762,534.07	\$ 762,534.07	\$ 762,534.07	\$ 762,534.07	\$ 762,534.07	\$ 410,307.65	\$ 410,307.65
MWH Volume (MWh)	39,689.01	44,313	43,657	39,166	37,517	33,008	33,285	43,233
Capacity Cost per MWh	\$ 19.21	\$ 17.21	\$ 17.47	\$ 19.47	\$ 20.33	\$ 23.10	\$ 12.33	\$ 9.49

Three Year History of Ancillary Charges as a Percentage of Capacity and Energy Costs for Unitil's Fitchburg Large Customer Class

Month	Loads (MWh)	Ancillary Costs	Energy Costs	Capacity Costs	Capacity + Energy	Ancillary as % of Energy + Capacity
1/1/2019	886	\$ 751.59	\$ 46,245.29	\$ 26,707.50	\$ 72,952.79	1.0%
2/1/2019	913	\$ 706.83	\$ 34,257.12	\$ 31,963.83	\$ 66,220.95	1.1%
3/1/2019	1,163	\$ 982.97	\$ 43,201.89	\$ 42,058.75	\$ 85,260.64	1.2%
4/1/2019	1,211	\$ 973.68	\$ 32,638.19	\$ 42,774.24	\$ 75,412.43	1.3%
5/1/2019	1,563	\$ 1,103.74	\$ 36,388.62	\$ 32,281.00	\$ 68,669.62	1.6%
6/1/2019	1,632	\$ 1,801.10	\$ 37,395.92	\$ 20,646.44	\$ 58,042.36	3.1%
7/1/2019	1,610	\$ 1,856.33	\$ 46,486.81	\$ 20,816.64	\$ 67,303.45	2.8%
8/1/2019	692	\$ 1,706.41	\$ 16,828.63	\$ 20,780.53	\$ 37,609.16	4.5%
9/1/2019	622	\$ 2,039.57	\$ 12,984.01	\$ 20,848.21	\$ 33,832.22	6.0%
10/1/2019	616	\$ 1,009.92	\$ 12,716.47	\$ 12,472.45	\$ 25,188.92	4.0%
11/1/2019	576	\$ 770.62	\$ 19,854.43	\$ 9,883.70	\$ 29,738.13	2.6%
12/1/2019	592	\$ 194.66	\$ 25,642.93	\$ 2,653.65	\$ 28,296.58	0.7%
1/1/2020	598	\$ 519.43	\$ 15,717.10	\$ 2,490.76	\$ 18,207.86	2.9%
2/1/2020	558	\$ 312.40	\$ 11,396.84	\$ 11,036.61	\$ 22,433.45	1.4%
3/1/2020	602	\$ 448.14	\$ 10,155.71	\$ 11,636.55	\$ 21,792.26	2.1%
4/1/2020	580	\$ 406.36	\$ 10,494.13	\$ 11,845.28	\$ 22,339.41	1.8%
5/1/2020	614	\$ 714.09	\$ 11,170.83	\$ 11,881.68	\$ 23,052.51	3.1%
6/1/2020	634	\$ 675.08	\$ 13,753.57	\$ 10,272.71	\$ 24,026.28	2.8%
7/1/2020	687	\$ 626.61	\$ 15,900.21	\$ 10,244.42	\$ 26,144.63	2.4%
8/1/2020	703	\$ 207.50	\$ 27,467.61	\$ 10,207.67	\$ 37,675.28	0.6%
9/1/2020	624	\$ 566.76	\$ 12,727.11	\$ 10,263.58	\$ 22,990.69	2.5%
10/1/2020	617	\$ 652.28	\$ 16,778.66	\$ 10,216.13	\$ 26,994.79	2.4%
11/1/2020	642	\$ 453.47	\$ 15,948.91	\$ 10,185.23	\$ 26,134.14	1.7%
12/1/2020	706	\$ 1,775.46	\$ 28,595.58	\$ 10,166.29	\$ 38,761.87	4.6%
1/1/2021	1,107	\$ 470.00	\$ 49,201.34	\$ 10,124.69	\$ 59,326.03	0.8%
2/1/2021	859	\$ 937.86	\$ 61,884.97	\$ 16,897.40	\$ 78,782.37	1.2%
3/1/2021	926	\$ 1,211.88	\$ 31,588.63	\$ 27,220.99	\$ 58,809.62	2.1%
4/1/2021	841	\$ 1,014.94	\$ 22,005.05	\$ 30,866.35	\$ 52,871.40	1.9%
5/1/2021	869	\$ 1,055.32	\$ 21,036.71	\$ 39,400.49	\$ 60,437.20	1.7%
6/1/2021	1,111	\$ 1,214.31	\$ 43,360.28	\$ 21,325.98	\$ 64,686.26	1.9%
7/1/2021	1,505	\$ 890.99	\$ 55,793.30	\$ 13,572.14	\$ 69,365.44	1.3%
8/1/2021	1,803	\$ 1,443.11	\$ 93,431.43	\$ 13,598.14	\$ 107,029.57	1.3%
9/1/2021	1,522	\$ 804.49	\$ 71,687.54	\$ 17,129.63	\$ 88,817.17	0.9%
10/1/2021	1,381	\$ 1,302.90	\$ 56,646.02	\$ 19,980.85	\$ 76,626.87	1.7%
11/1/2021	1,382	\$ 1,631.34	\$ 61,287.04	\$ 20,080.43	\$ 81,367.47	2.0%
	32,947	\$ 33,232.14	\$ 1,122,668.88	\$ 634,530.94	\$ 1,757,199.82	1.9%

Unitil Energy Systems - Domestic Rate Class (Residential)
 6 Month Energy Supply Forecast

Month	Evaluation Loads (MWh)	Avg ISO LMP Off/On pk Energy (\$/MWh)	Forecast Capacity Price (\$/MWh)	Forecast Ancillary Price (\$/MWh)	Total Wholesale Energy Price (\$/MWh)
Dec-22	39,689	\$ 249.25	\$ 19.21	\$ 5.08	\$ 273.54
Jan-23	44,313	\$ 294.63	\$ 17.21	\$ 5.90	\$ 317.73
Feb-23	43,657	\$ 273.95	\$ 17.47	\$ 5.51	\$ 296.93
Mar-23	39,166	\$ 147.88	\$ 19.47	\$ 3.16	\$ 170.51
Apr-23	37,517	\$ 68.55	\$ 20.33	\$ 1.68	\$ 90.56
May-23	33,008	\$ 48.18	\$ 23.10	\$ 1.35	\$ 72.62
PERIOD	237,351				\$ 212.23

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Evaluation Loads, Domestic Customer Class (Residential), ISO Asset 11451

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Capacity Price (\$ MW-Month)	3,800	3,800	3,800	3,800	3,800	3,800
Capacity Cost	\$ 762,534.07	\$ 762,534.07	\$ 762,534.07	\$ 762,534.07	\$ 762,534.07	\$ 762,534.07
MWH Volume (MWh)	39,689.01	44,313	43,657	39,166	37,517	33,008
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11/1/2021	1,382	\$ 1,631.34	\$ 61,287.04	\$ 20,080.43	\$ 81,367.47	2.0%
	32,947	\$ 33,232.14	\$ 1,122,668.88	\$ 634,530.94	\$ 1,757,199.82	1.9%