

# TobiPower Innovations (TPI)

## Hourly Energy Consumption

TobiPower Innovations (TPI), a regional transmission organization (RTO), operates within the Western Interconnection grid, delivering electric transmission services across various states.

 The power consumption data, measured in megawatts (MW), is obtained from TPI's website

Date

1/4/1998

12/7/2018

Companies

All

12.22bn

Total MW Usage

394.20M

AVG Daily MW Usage

11.21K

AVG Hourly MW Usage

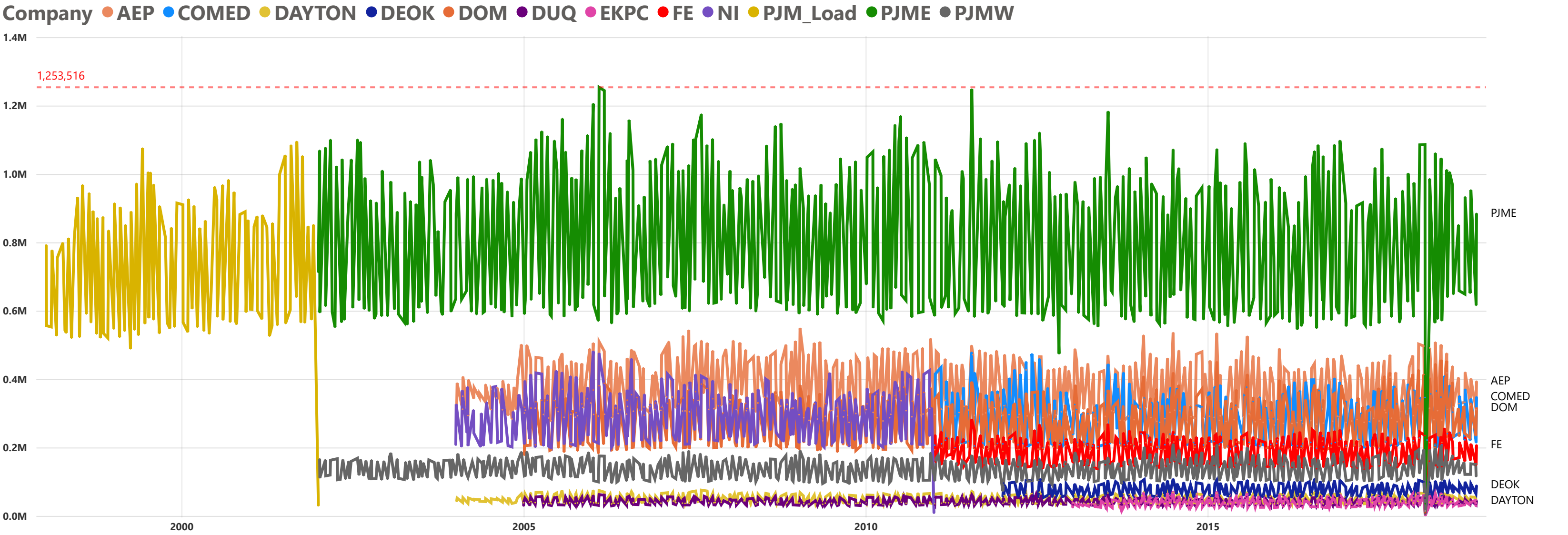
62.01K

Max Hourly MW Usage

4.04%

YoY MW Change

All time Energy Usage by Companies (cumulative daily usage)



The green line (**PJME**) is the **most consumer** or aggregator within TPI's data, peaking around 1.2–1.3 million MW on 04-Feb-2006. There is a drop off from PJM\_Load on 01-Jan-2002. This implies that before January 2002, PJM\_Load was the only distribution company in existence. This is evidence of the fact that regions/companies have evolved over time

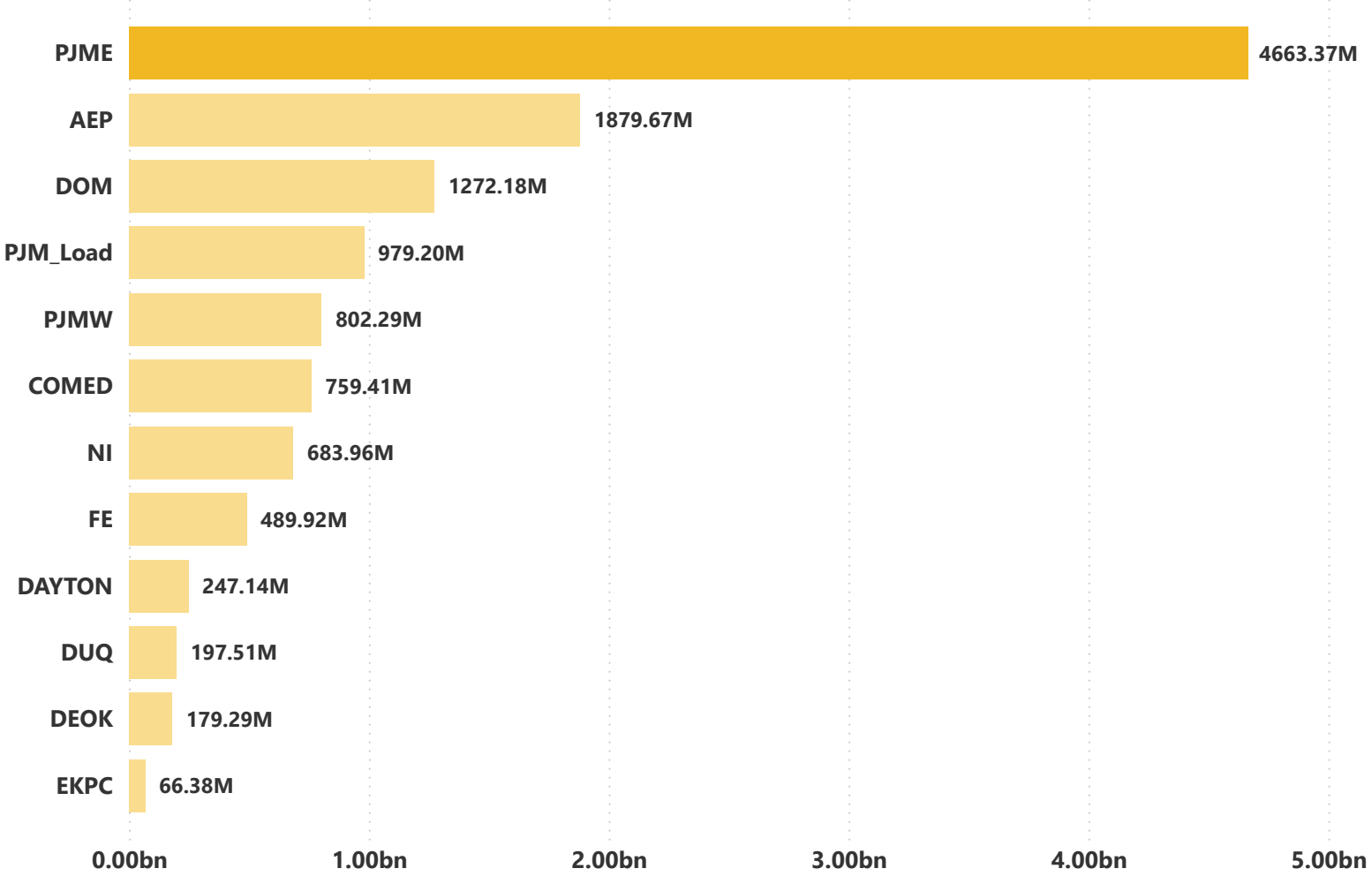
Bar chat 1 shows the cumulative energy consumption (in billions of MW) for each company over the entire dataset.

PJME has the highest total consumption at 4.69 billion MW **38.16%**, far surpassing others, AEP (1.88bn MW) **15.38%**, and DOM (1.72bn MW) **10.41%** are the next highest, but significantly lower than PJME.

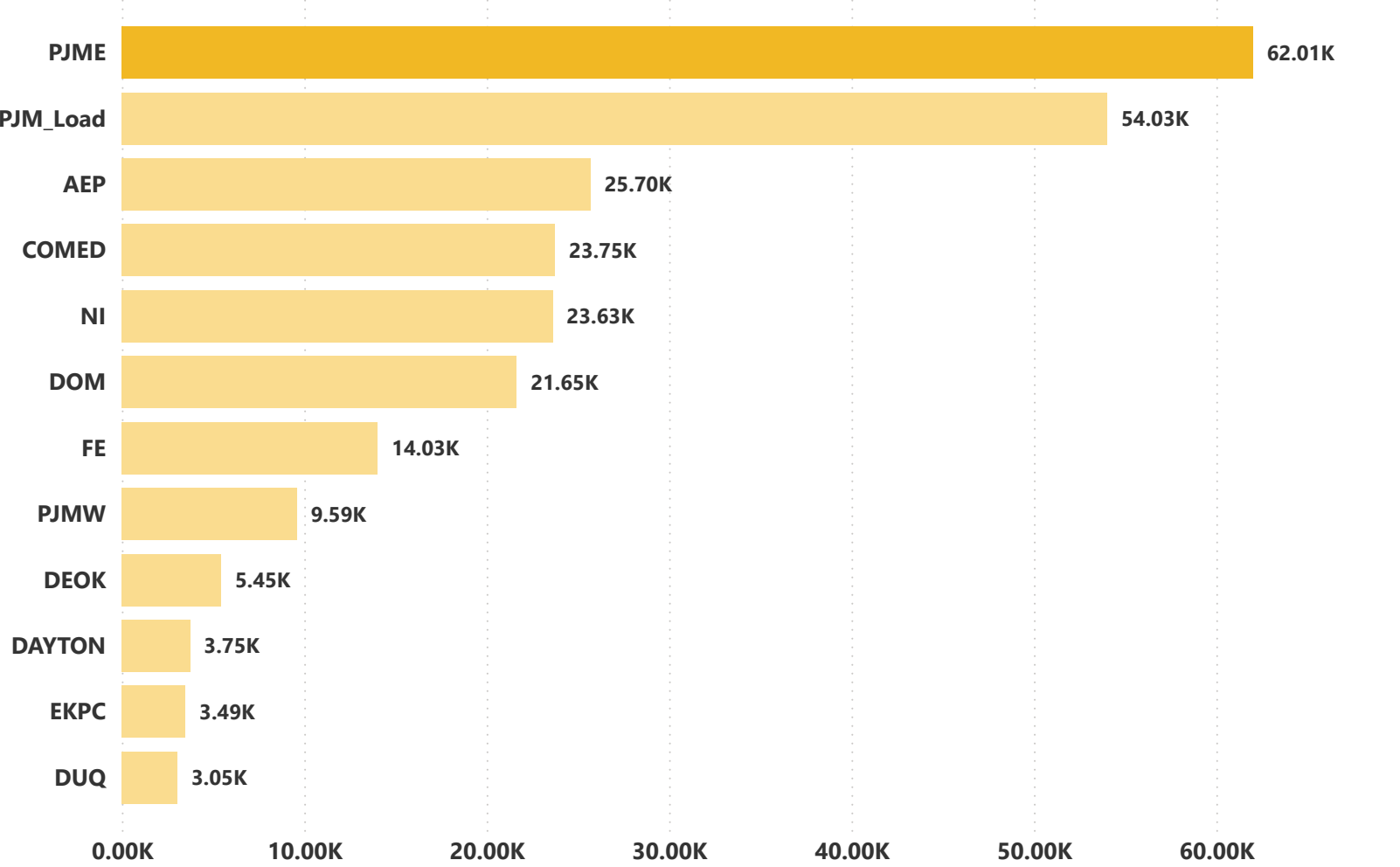
Bar chat 2 Displays the peak hourly consumption (in MW) for each company, representing the highest single-hour demand recorded.

PJME experiences the highest demand spikes at 62k MW, critical for capacity planning, while AEP (25.70k MW) and COMED (23.75k MW) also require significant peak management. Smaller companies have manageable peaks. Before its discontinuity, PJM\_load recorded, the second biggest hourly consumption at 54.03k MW

Total MW Usage by Company



Max Hourly MW Usage by Company



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YoY MW Change

### HOURLY PATTERNS:

**Peak Hours:** Most companies peak between 10:00–22:00 (10:00 AM–10:00 PM), likely due to industrial/commercial activity or cooling/heating demands.

**Regular Hours:** Nighttime and early morning (0:00–9:00) show lower usage, reflecting reduced activity.

Average Hourly Usage												
Hour	AEP	COMED	DAYTON	DEOK	DOM	DUQ	EKPC	FE	NI	PJM_Load	PJME	PJMW
0	14,651.19	11,271.85	1,901.71	2,918.52	10,028.61	1,546.72	1,403.42	7,305.12	11,626.88	27,346.36	29,523.61	5,230.37
1	13,891.48	10,487.46	1,786.80	2,744.60	9,392.33	1,458.18	1,313.68	6,905.93	10,718.36	25,255.37	27,535.59	4,940.49
2	13,432.06	9,911.37	1,710.88	2,629.00	9,019.37	1,403.90	1,261.62	6,651.79	10,068.93	24,078.26	26,344.06	4,779.15
3	13,184.05	9,541.34	1,664.26	2,559.37	8,827.25	1,372.17	1,234.23	6,507.73	9,655.25	23,455.98	25,679.10	4,697.12
4	13,095.19	9,304.75	1,643.77	2,527.66	8,777.06	1,356.90	1,225.83	6,439.62	9,400.45	23,160.22	25,414.92	4,672.54
5	13,240.54	9,215.15	1,663.04	2,551.41	8,941.71	1,367.57	1,241.78	6,501.00	9,296.95	23,391.28	25,749.43	4,734.93
6	13,802.40	9,347.62	1,749.79	2,671.46	9,469.09	1,422.82	1,300.42	6,774.42	9,422.23	24,672.31	27,162.85	4,958.21
7	14,781.67	9,816.18	1,906.27	2,878.62	10,301.96	1,517.34	1,405.09	7,252.94	9,904.93	27,158.38	29,611.05	5,323.43
8	15,478.83	10,578.08	2,020.90	3,021.87	10,857.95	1,593.99	1,454.34	7,633.82	10,734.10	29,296.55	31,490.83	5,571.17
9	15,822.65	11,159.38	2,077.82	3,104.57	11,124.92	1,655.39	1,467.02	7,871.55	11,406.28	30,663.80	32,628.89	5,708.67
10	16,084.28	11,569.59	2,132.14	3,187.69	11,328.60	1,710.63	1,483.05	8,085.01	11,881.47	31,619.28	33,497.40	5,818.22
11	16,306.32	11,893.32	2,178.30	3,268.54	11,518.86	1,756.98	1,491.66	8,279.06	12,225.77	32,328.30	34,197.64	5,904.12
12	16,398.18	12,178.44	2,198.39	3,313.79	11,650.69	1,787.26	1,497.24	8,373.11	12,538.37	32,648.97	34,588.62	5,947.52
13	16,477.79	12,340.65	2,216.24	3,348.27	11,742.42	1,806.28	1,508.97	8,434.75	12,704.11	32,661.71	34,759.57	5,959.95
14	16,534.66	12,438.95	2,224.82	3,374.00	11,818.81	1,820.87	1,518.50	8,499.30	12,794.08	32,716.88	34,916.60	5,970.94
15	16,492.81	12,540.01	2,220.52	3,385.24	11,868.71	1,824.73	1,521.16	8,473.38	12,884.71	32,613.25	34,940.67	5,953.16
16	16,444.51	12,559.72	2,206.33	3,395.00	11,947.40	1,825.67	1,533.00	8,441.17	12,892.25	32,564.34	35,065.39	5,957.64
17	16,542.04	12,573.49	2,216.12	3,417.57	12,128.59	1,836.20	1,568.31	8,465.82	12,899.49	32,927.25	35,596.05	6,031.23
18	16,762.94	12,708.98	2,245.92	3,459.72	12,426.62	1,853.80	1,618.34	8,546.88	13,051.29	33,669.78	36,421.93	6,158.81
19	16,868.73	12,828.56	2,257.96	3,468.52	12,467.07	1,845.18	1,652.44	8,558.77	13,186.22	33,674.08	36,426.63	6,199.29
20	16,821.34	12,715.99	2,240.58	3,434.89	12,346.34	1,823.79	1,654.38	8,498.63	13,110.46	33,329.74	36,106.84	6,183.57
21	16,763.81	12,601.97	2,222.44	3,402.84	12,192.32	1,805.38	1,648.21	8,443.18	13,024.25	33,125.15	35,741.06	6,152.21
22	16,468.97	12,456.35	2,173.85	3,323.55	11,710.73	1,760.50	1,616.03	8,258.94	12,918.30	32,147.93	34,453.15	5,982.30
23	15,632.59	12,039.57	2,048.11	3,134.42	10,885.60	1,658.34	1,522.22	7,806.89	12,485.50	29,854.06	32,047.50	5,618.23