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New England's Wholesale Electricity Prices in 2016 Were the Lowest Since 2003

Low power prices were driven by the lowest US natural gas prices since 1999

Holyoke, MA—February 27, 2017—New England's wholesale electricity prices in 2016 were the lowest in 13 years, due largely to low natural gas prices, as well as mild weather that dampened energy demand, according to ISO New England Inc., the operator of the region's bulk power system and wholesale electricity marketplace.

The 2016 electricity and natural gas prices and the total market value were the lowest since 2003, when New England's current competitive electricity markets were established. The average annual wholesale power price in New England last year was \$28.94 per megawatt-hour (MWh). The total value of New England's wholesale electric energy market in 2016 was \$4.1 billion, \$1.1 billion less than the \$5.2 billion value for wholesale electricity in 2012, the previous year with the lowest market value. The average price of natural gas—the fuel used to generate 49% of the electricity produced in the region—was \$3.09 per million British thermal units (MMBtu) in 2016. (See table for year-by-year comparisons.)

Because the price of fuel is generally the biggest cost for power plants, the price of natural gas is typically the major driver of wholesale electricity prices in New England. Nationally, natural gas prices have been low for the last two years. Last month, the US Energy Information Administration (EIA) reported that US 2016 gas prices were the lowest since 1999; 2015 had previously held that record. The EIA also reported in January that low wholesale power prices in 2016 were driven by low natural gas prices.

Mild winter weather also was a factor in New England's low prices. The mild weather reduced demand for natural gas for heating. That left more room in New England's pipeline network to transport low-priced natural gas to power plants. Pipeline constraints during cold weather can lead to spiking natural gas and wholesale electricity prices; mild weather minimizes those constraints and the associated price volatility.

Wholesale prices also are affected by consumer demand for power as well as transmission system conditions. Consumer demand is influenced by the economy, weather, and energy-efficiency efforts. Preliminary figures indicate demand for electricity fell in New England in 2016, dropping 2.1% to about 124,323 gigawatt-hours (GWh). An unconstrained transmission system allows the least expensive power plants to be used to meet demand across the region; congestion has been virtually eliminated in New England with \$8 billion in transmission upgrades since 2002.

"When New England's natural-gas power plants can access low-cost fuel, wholesale power prices tend to remain low," said Gordon van Welie, president and CEO of ISO New England. "By comparison, extremely cold temperatures three winters ago resulted in pipeline constraints and caused natural gas—and wholesale electricity—prices to hit record highs. January and February 2014 still stand as the two highest-priced months for wholesale power in New England."

2016 New England price highlights, based on preliminary data (comparisons back to March 2003; see tables below):

- Lowest annual average price of wholesale electric energy: \$28.94/MWh
 - Second-lowest annual average price: \$36.09/MWh in 2012
- Lowest annual natural gas price: \$3.09/MMBtu
 - Second-lowest: \$3.94/MMBtu in 2012



- Lowest annual electric energy market value: \$4.13 billion
 - o Second-lowest: \$5.19 billion in 2012
- Lowest and third-lowest average monthly power prices: March at \$17.20/MWh and June at \$21.24/MWh
 - Five of the 10 months with the lowest monthly power prices since 2003 occurred in 2016
 - o By comparison, the highest average monthly prices occurred during January and February 2014, at \$162.88/MWh and \$152.84/MWh, respectively

While wholesale electricity prices rise and fall in real time based primarily on fuel prices, retail default service rates are generally set for longer intervals by state utility regulators, and include other charges in addition to the cost of wholesale power. The lag between wholesale prices and retail rates varies depending on each state's approach to procurement.

Average annual natural gas and wholesale electricity prices in New England (Nominal dollars, from 2003 to 2016^a)

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	Avg. wholesale electricity price (per MWh ^b)	Avg. natural gas price (per MMBtu ^c)	Wholesale electric energy market value ^d (in billions)
2003 ^e	\$48.59	\$5.93	\$5.6
2004	\$52.13	\$6.82	\$7.5
2005	\$76.64	\$9.78	\$11.5
2006	\$59.68	\$7.34	\$8.9
2007	\$66.72	\$7.98	\$10.2
2008	\$80.56	\$9.97	\$12.1
2009	\$42.02	\$4.79	\$5.9
2010	\$49.56	\$5.26	\$7.3
2011	\$46.68	\$4.99	\$6.7
2012	\$36.09	\$3.94	\$5.2
2013	\$56.06	\$6.92	\$8.0
2014	\$63.32	\$8.04	\$9.1
2015	\$41.00	\$4.64	\$5.9
2016	\$28.94	\$3.09	\$4.1
% Change 2015-2016	-29.4%	-33.4%	-30.2%
% Change 2004-2016 ^f	-40.4%	-21.8%	-26.9%

^a 2016 figures are preliminary; ^b One megawatt-hour of electricity can serve about 1,000 average homes in New England for one hour; ^c A British thermal unit (Btu) is used to describe the heat value of fuels, providing a uniform standard for comparison. One Btu is the amount of heat required to raise the temperature of a pint of water by one degree Fahrenheit. One million British thermal units are shown as MMBtu; ^d Value of the electric energy market only; does not include the capacity or ancillary services markets; ^e Partial year—current wholesale electricity markets commenced in March 2003; ^f 2004 was the first full year of competitive wholesale markets in their current locational-pricing form.





10 Lowest Average Monthly Power Prices since March 2003

Rank	Month and Year	Wholesale electricity (\$/MWh)	Natural gas (\$/MMBtu)
1	March 2016	17.20	1.87
2	June 2015	19.61	1.71
3	June 2016	21.24	2.30
4	May 2016	21.29	2.10
5	December 2015	21.35	2.22
6	October 2016	22.72	2.19
7	November 2016	24.30	2.57
8	March 2012	25.39	2.82
9	July 2015	25.40	1.98
10	April 2012	25.41	2.38

Underlying natural gas data furnished by:



ABOUT ISO NEW ENGLAND

Created in 1997, ISO New England is the independent, not-for-profit corporation responsible for the reliable operation of New England's electric power generation and transmission system, overseeing and ensuring the fair administration of the region's wholesale electricity markets, and managing comprehensive regional electric power planning.









