ISO new england

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New England's Wholesale Electricity Prices in 2017 Were the Second-Lowest Since 2003

Total value of region's wholesale electricity market was $4.5 billion

Holyoke, MA—March 6, 2018—New England's wholesale electricity prices in 2017 were the second-lowest in 15 years, following 2016, which holds the record for the lowest average annual price since 2003, according to ISO New England Inc., the operator of the region's bulk power system and wholesale electricity marketplace.

The 2017 electricity and natural gas prices and the total market value ranked second-lowest since March 2003, when New England's current competitive electricity markets were established. The average annual real-time price for wholesale power in New England last year was **$33.94 per megawatt-hour** (MWh). The total value of New England's wholesale electric energy market in 2017 was **$4.5 billion**, about 9% higher than 2016's record-low value of $4.1 billion. The average price of natural gas—the fuel used to generate 48% of the electricity produced by New England generators, or 41% of the region's total energy mix, including imports—was $3.72 per million British thermal units (MMBtu) in 2017. (See table for year-by-year comparisons.)

The price of natural gas is typically the major driver of wholesale electricity prices in New England because it is the predominant fuel used in power plants here, and the price of fuel is generally the biggest cost for power plants. Nearly half (45%) of New England's power plant capacity uses natural gas as their primary fuel and 11% use it as a secondary fuel.

Wholesale electricity prices are also affected by the weather, consumer demand, and transmission system conditions.

- **Mild weather** during most of 2017 was a factor in New England's low prices by reducing demand for electricity and demand for natural gas for heating.
- **During extreme cold weather in December**, demand increased for natural gas for heating, leading to pipeline constraints that resulted in spiking natural gas prices. The total cost of wholesale electricity in the last week of December was about $396 million, which was almost half of the total cost ($856 million) for the entire month, and the most costly week of the year. Reliability was maintained with heavy use of oil-fired power plants, but operations became tenuous as their oil supplies were depleted and some neared their emissions limits.
- **Consumer demand for electricity was down** in 2017. Preliminary figures indicate demand for electricity fell by 2.7% to about 121,097 gigawatt-hours in 2017. Consumer demand is influenced by the economy, weather, and energy-efficiency measures.
- **Transmission congestion has been significantly reduced** with completion of about $10 billion in transmission upgrades since 2002. The cost of congestion and related reliability costs has dropped from more than $700 million in 2006 to about $57 million (preliminary) last year. An unconstrained transmission system allows power to flow around the region from the least expensive power plants to meet demand across New England.

"Wholesale power prices were low in 2017 because of low fuel costs and relatively low consumer demand for power during most of the year," said Gordon van Welie, president and CEO of ISO New England. "However, the last week of December illustrates the impact of constrained natural gas supplies on electricity prices. The challenging operating conditions also highlighted a growing need for competitive markets to more transparently signal the potential costs of inadequate fuel security, which creates the potential for significant reliability risks to the region."

2017 New England price highlights, based on preliminary data (comparisons back to March 2003; see tables below):

- Second-lowest annual average price of wholesale electric energy: $33.94/MWh
- Second-lowest annual natural gas price: $3.72/MMBtu
- Second-lowest annual electric energy market value: $4.49 billion
- August and June 2017 were among the 10 lowest-price months since 2003: $23.77/MWh during August and $23.93/MWh during June
    - All but one of the 10 months with the lowest average monthly power prices since 2003 occurred in 2015, 2016, and 2017. The exception was March 2012, which had the 10th-lowest average price
    - By comparison, the highest average monthly prices occurred during January and February 2014, at $162.88/MWh and $152.84/MWh, respectively

Wholesale electricity prices rise and fall in real time based primarily on fuel prices. The retail default service rates paid by consumers are generally set for longer intervals by state utility regulators and include other charges in addition to the cost of wholesale power. The time 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 2017[a])

	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
2017	**$33.94**	**$3.72**	**$4.5**
% Change 2016 to 2017	+17.3%	+20.4%	+8.9%
% Change 2004 to 2017[f]	*-34.9%*	*-45.5%*	*-39.7%*

[a] 2017 figures are preliminary; [b] One megawatt-hour of electricity can serve about 700 to 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 (per MWh)	Natural gas (per 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	**August 2017**	$23.77	$2.34
8	**June 2017**	$23.93	$2.46
9	November 2016	$24.30	$2.57
10	March 2012	$25.39	$2.82

Underlying natural gas data furnished by:

ICE Global markets in clear view

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.

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