

# Winter Gas Demand Impacts on Wholesale Electricity Prices

## Overview

As winter weather impacts much of the nation, demand for natural gas is on the rise, leading to an increase in the cost of electricity. While wholesale electricity markets are designed to deliver the lowest-cost electricity to consumers, rising gas prices lead to higher costs for generators, placing upward pressure on wholesale prices.

## State, national, & global factors

Competitive wholesale electricity markets in New York are impacted by fossil fuel markets, which are influenced by a number of factors, including the weather. Fossil fuel prices get factored into electricity production costs and reflected in wholesale prices.

In New York, the cost of natural gas and the price of electricity are closely correlated based on the current resource fleet — gas-fired generation often establishes the clearing price for electricity in the NYISO’s wholesale electricity markets.

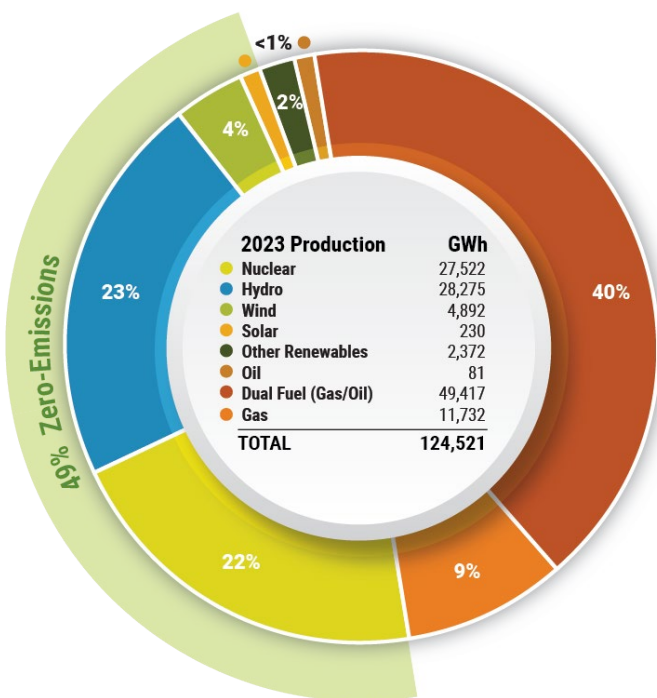
Natural Gas Spot Prices (Henry Hub)

Dollars per million British thermal units



Data source: Natural Gas Intelligence

Diverse Fuel Mix 2023 Energy Production for New York Control Area (NYCA)



## January 2025 polar vortex fueled 9X increase in gas prices

The [Energy Information Administration](#), a nonpartisan federal agency stated, “Colder-than-normal temperatures across much of the U.S. in mid-January increased natural gas consumption, resulting in the fourth-largest reported weekly withdrawal from natural gas storage in the Lower 48 states.”

The [Natural Gas Weekly Report](#) found that the January polar vortex caused natural gas prices in New York to increase nine-fold.

## New York’s diverse generation fleet

Fuel mix variety gives competitive electric markets ample opportunity to seek out the lowest cost solution for consumers. Dual fuel units, for example, can switch from natural gas to oil during periods of extreme cold and high demand for electricity. This flexibility can provide a cost-benefit to consumers and a significant reliability benefit to the grid.

# Winter gas demand and impact on electricity prices

NYISO does not set the price of electricity. Our role is to oversee the competitive wholesale markets and ensure that buyers and sellers operate within the markets according to rules and regulations governed by the Federal Energy Regulatory Commission, other regulatory bodies, and state and regional reliability organizations.

As electricity prices rise and more attention is paid to how the electric system works, it's important to understand the two main parts of the typical electric bill:

- 1) **Delivery**, charged by electric utilities, and approved by the New York State Public Service Commission, and...
- 2) **Supply**, which is determined by the market price of electricity

## What goes into consumer bills?

The retail rates paid by energy consumers in New York are designed to capture both the wholesale price for electricity that the utilities pay, as well as the costs of distributing that electricity through vast networks of substations, wires, and transformers.



## Monitoring markets and competition

The NYISO's Market Mitigation and Analysis (MMA) team examines data on market transactions and operating behaviors of generating assets to verify that prices reflect competitive market circumstances.

If MMA detects anomalies or a trend that raises questions, they have authority to investigate and request additional information from market participants.

MMA team members regularly crisscross the state to visit generators and observe their operations first-hand. This helps team members understand and analyze trading or bidding behavior in the markets.

The NYISO must ensure that least-cost solutions to provide electricity are balanced with consumer demand – especially when demand rises during extreme cold. **As we have for 25 years, the NYISO will continue to actively manage the impact of the cold weather on the grid throughout the winter season.**

“ At the end of the day, electric markets are here to ensure consumers are getting reliable power at the least cost. We make sure entities are following the market rules. ”

- Josh Boles, NYISO Director of Market Mitigation & Analysis

## Additional resources



### Demand for Natural Gas is Up, Impacting Electricity Prices in New York

As winter weather continues to impact much of the nation, demand for natural gas is on the rise, leading to an increase in the cost of electricity for New York consumers.

[Read more](#)



### Podcast Ep. 23: NYISO's Market Monitor – Guarding Competition for the Benefit of Consumers

Every five minutes, 24 hours a day, electricity in New York State is bought and sold through competitive wholesale electric markets administered by the NYISO.

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