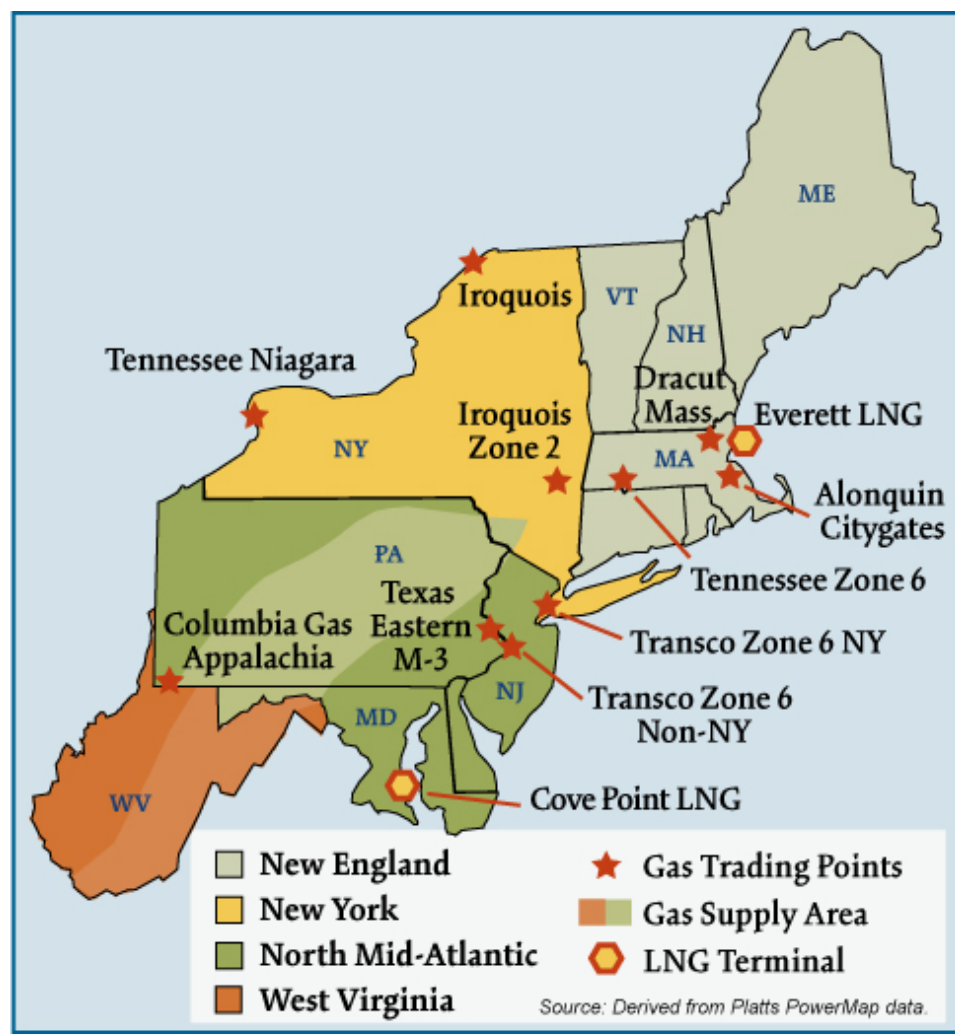


## Northeast Natural Gas Regions



## Northeast Natural Gas Market: Overview and Focal Points

Federal Energy Regulatory Commission • Market Oversight @ FERC.gov

### Overview:

#### Market Description

Natural gas use is increasingly important to the Northeast. Though traditionally the Northeast has been a winter peaking region, increased reliance on natural-gas fired generation has evened out annual gas use. Increased dual requirements for natural gas as a space heat fuel and utilization of gas-fired plants has imposed greater challenges on the Northeast, compared to other regions, in aligning commercial and operating conditions between the gas and power industries. The Northeast has little indigenous production (mainly in the Appalachian basin) and none in New England. The Northeast relies upon conventional and LNG storage to meet peak-day gas needs. Despite increased gas use for power generation, pipeline utilization remains highly seasonal; major regional pipelines often operate at high load factors during the winter resulting in basis differentials to upstream liquid trading points that may greatly exceed firm transportation tariff levels. LNG plays a critical role in the overall supply mix and accounts for up to 30 percent of peak-day gas needs in New England. Market participants in the Northeast can draw upon the nation's most extensive portfolio of dual, gas-oil fired power plants to flexibly respond to market price and load changes.

#### Geography

**States covered:** Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, West Virginia, and Vermont.

#### Major Trading Hubs

Algonquin Citygates, Columbia Gas Appalachia, Texas Eastern M3, Transco Zone 6 NY, and, Transco Zone 6 Non-NY.

*Updated May 4, 2007*

2028

## Northeast Natural Gas Market: Overview and Focal Points

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#### Storage

**State Capacity:** New York, Pennsylvania, and West Virginia accounted for 100 percent of total conventional storage capacity in the Northeast in 2005. New England has no conventional storage capacity, but it has about 18.4 Bcf of LNG storage capacity – 3.4 Bcf at the Everett terminal and the remainder at satellite storage locations throughout New England. New York and New Jersey add about 3.2 Bcf and 3.7 Bcf of LNG related storage capacity, respectively.

Aquifer Capacity: 0%

Depleted Field Capacity: 99%

Salt Cavern: 1%

Total Capacity: Northeast has 18 percent of total US storage capacity.

Major Storage Pipelines and Capacity:

Columbia System: 246 Bcf

Dominion: 290 Bcf

National Fuels: 69 Bcf

#### Demand by Sector (2005):

- Residential: 38%
- Commercial: 21%
- Industrial: 33%

**State:** New York, New Jersey, and Pennsylvania make up 68 percent of total Northeast demand and about 12 percent of total U.S. demand.

**Northeast Total:** 3.5 Tcf annually (or 9.9 Bcfd) which makes up 18 percent of total U.S. daily demand.

**Consumer Total:** 14.4 million, which is approximately 21 percent of total consumers in the U.S.

**Key Consuming States:** New York, New Jersey, and Pennsylvania make up 71 percent of total consumers in the Northeast and about 15 percent of total consumers in the U.S.

**Residential Consumers:** 91%

## Northeast Natural Gas Market: Overview and Focal Points

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### Production

**State:** Northeast gas production concentrated in Pennsylvania and West Virginia; together they account for 87 percent of total Northeast production. Nationally, however, these supplies equal about 2 percent of total U.S. production.

**Total:** Total Northeast production equals 0.4 Bcfd; it makes up 2 percent of total U.S. daily production.

**Yearly Change:** Northeast regional gas production in 2005 declined about 4 percent from 2004; much of this decline is attributable to declines in Pennsylvania production which declined 15 percent.

### Pipeline Flows

**Average Daily Northwest Deliveries to the Midwest:** 6.9 Bcfd (2005) 6.6 Bcfd (2006)

**Major Pipelines:** Transco, Texas Eastern and Columbia carry a significant amount of gas from the Gulf coast to the Northeast.

**Average Daily Midwest Deliveries to the Northeast:** 1.6 Bcfd (2005) 1.6 Bcfd (2006)

**Major Pipelines:** Columbia, Texas Eastern and Dominion move gas from the Midwest to the Northeast.

## Imports and Exports

### Average Daily Imports from Canada into the Northeast:

2005: 2.8 Bcfd

2006: 2.7 Bcfd

**Major Importers:** Maritimes and Northeast pipeline, Tennessee Gas Pipeline and Iroquois Gas Transmission System flow the majority of the gas from Canada to the Northeast. Together, they represent the following percentages of pipeline gas imports:

2005: 83%

2006: 85%

### Average Daily LNG Send out:

2005: 0.3 Bcfd

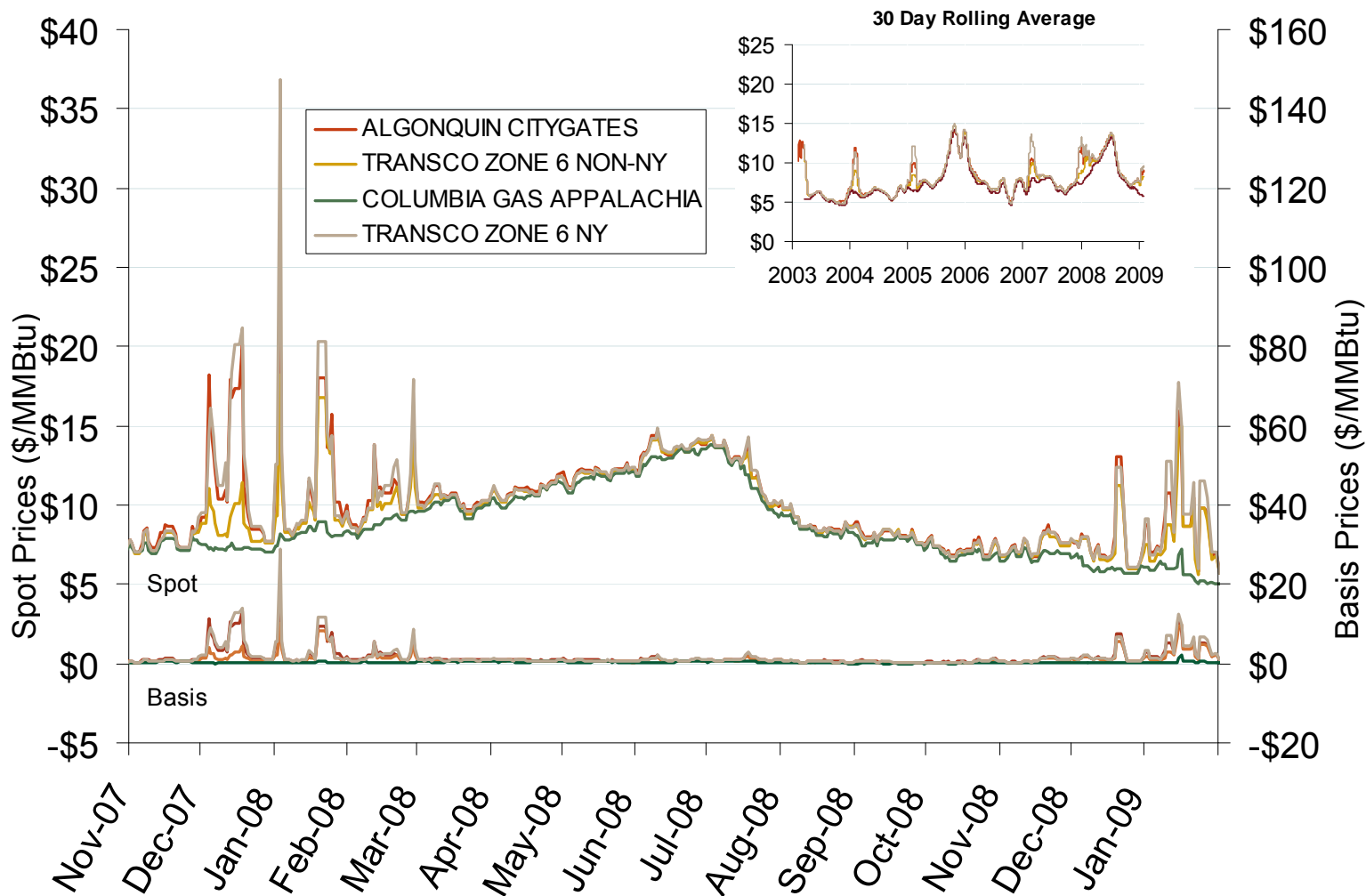
2006: 0.3 Bcfd

Note: Represents daily receipts from Everett to Tennessee and Algonquin. Excludes volumes delivered via truck, consumed at Mystic or other distribution.

## Annual Average Spot Hub Prices

Annual Average Day Ahead Prices (\$/MMBtu)						
	2004	2005	2006	2007	2008	5-Year Avg
Algonquin Citygates	\$6.86	\$9.75	\$7.40	\$8.18	\$10.06	\$8.45
Transco Z6 NY	\$6.82	\$10.03	\$7.37	\$8.46	\$10.13	\$8.56
Transco Z6 non-NY	\$6.55	\$9.63	\$7.30	\$7.77	\$9.85	\$8.22
Columbia-Appalachia	\$6.14	\$9.18	\$6.97	\$7.20	\$9.18	\$7.73
Niagara	\$6.20	\$8.88	\$6.96	\$7.32	\$9.25	\$7.72

## Northeastern Spot Prices and Basis



Source: Derived from *Platts* data.

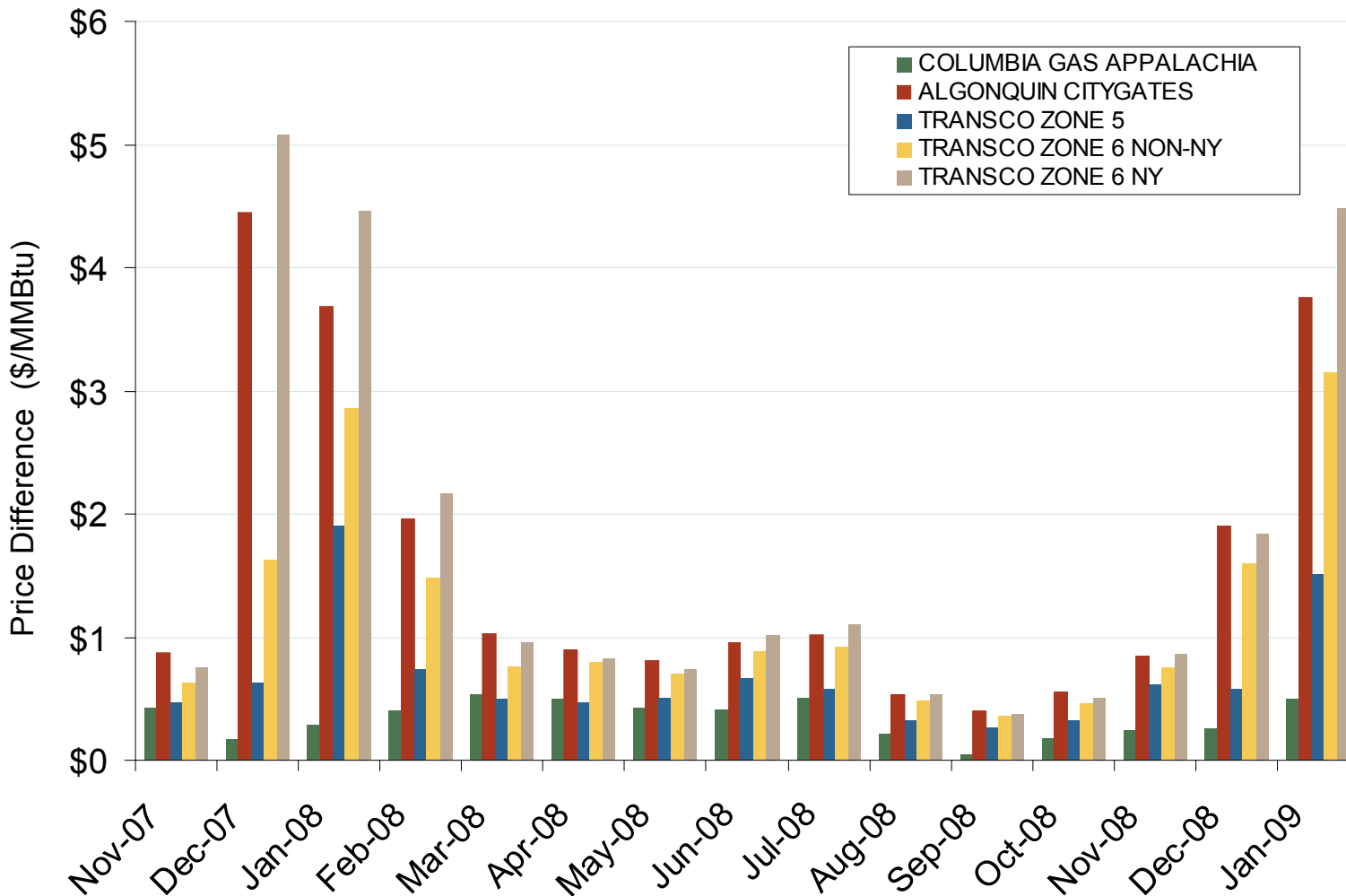
Updated February 6, 2009

2030

Northeast Natural Gas Market: Average Basis to Henry Hub

Federal Energy Regulatory Commission • Market Oversight @ FERC.gov

# Northeastern Monthly Average Basis Value to Henry Hub



Source: Derived from *Platts* data.

Updated February 6, 2009

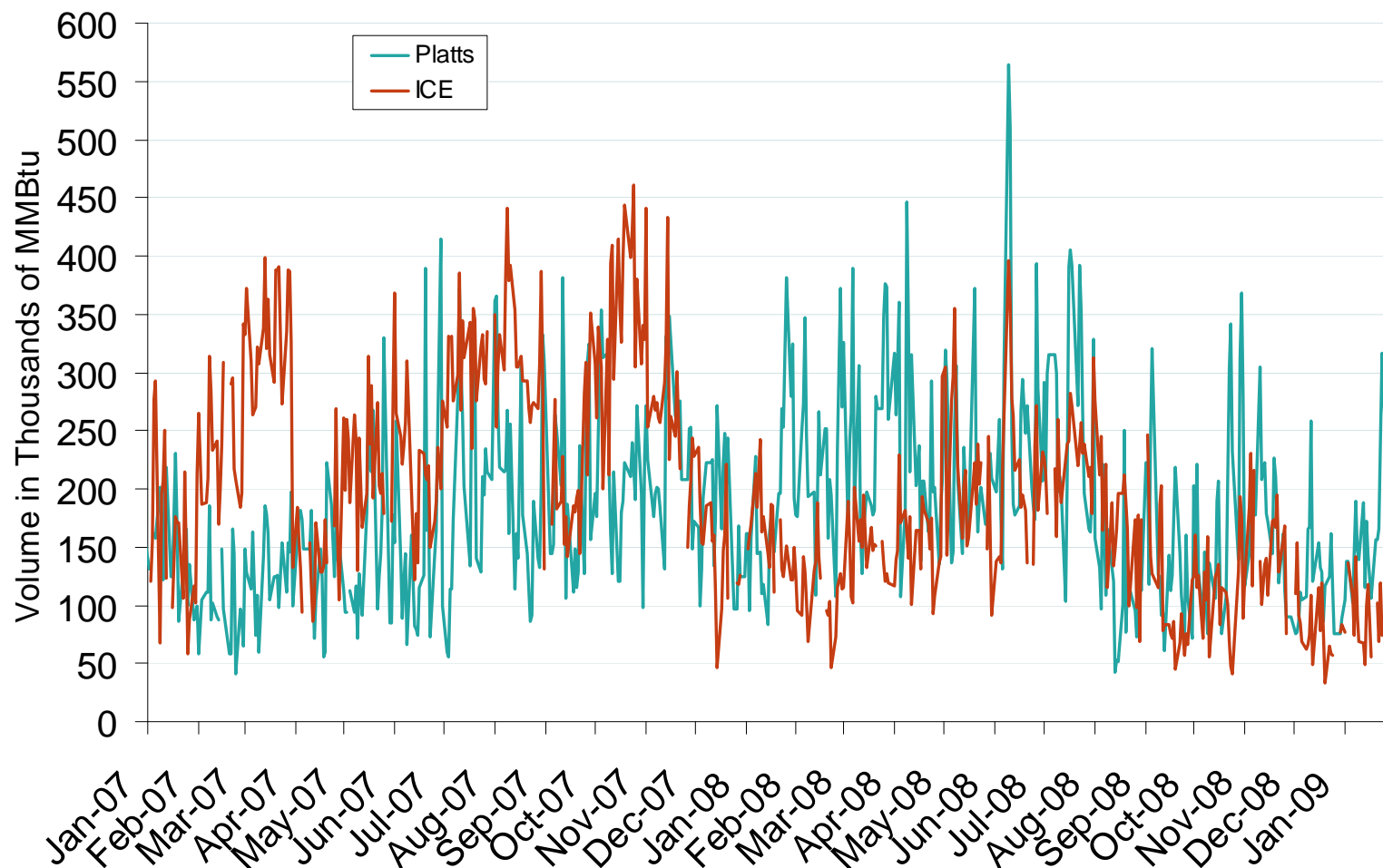
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## Northeast Natural Gas Market: Trading Volumes at Algonquin

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## Published and Traded Daily Spot Volumes at Algonquin

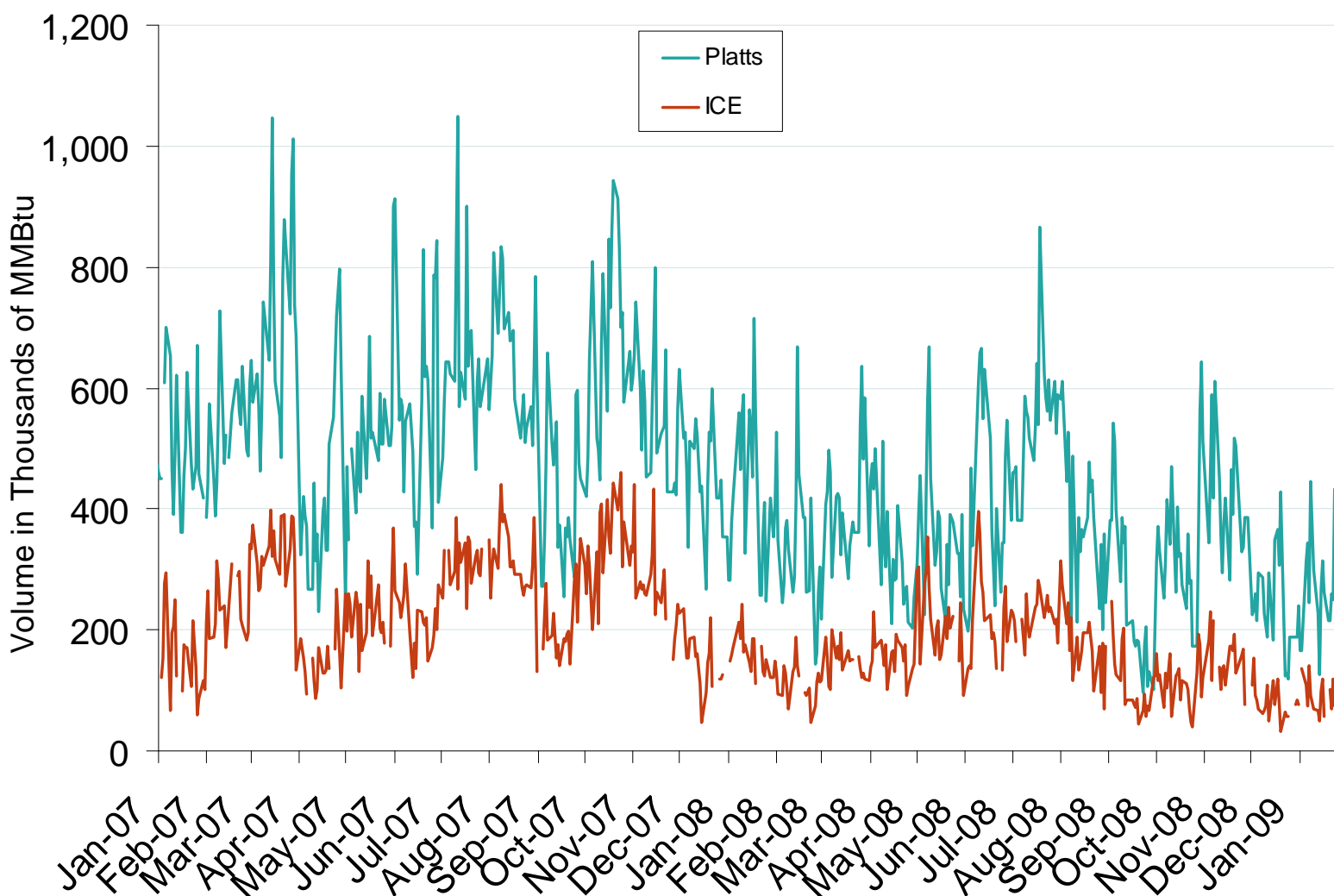
Source: Derived from *Platts* and *ICE* data.

Updated February 6, 2009 2150

## Northeast Natural Gas Market: Trading Volumes at Transco Zone 6

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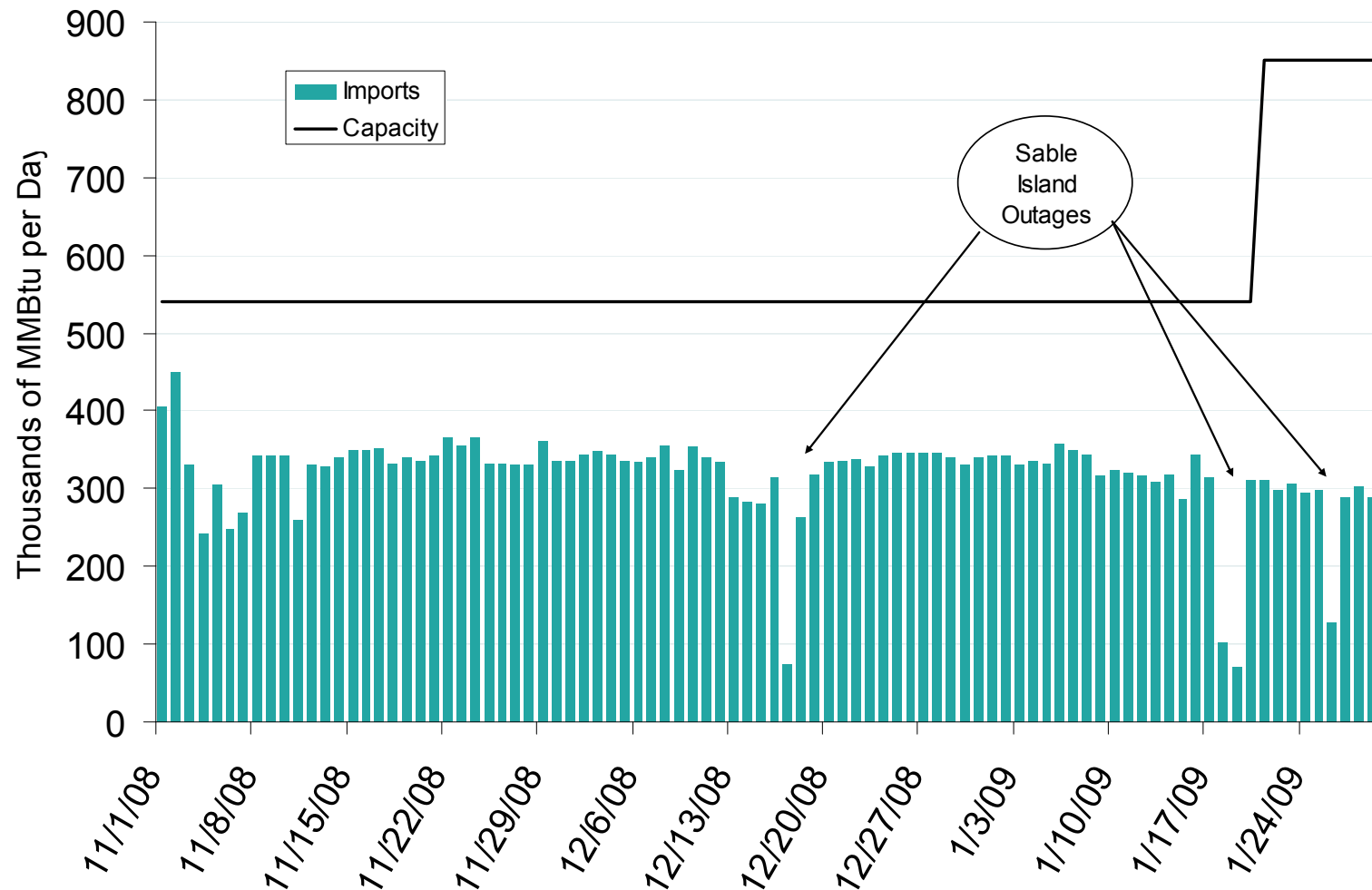
## Published and Traded Daily Spot Volumes at Transco Zone 6

Source: Derived from *Platts* and *ICE* data.

Updated February 6, 2009

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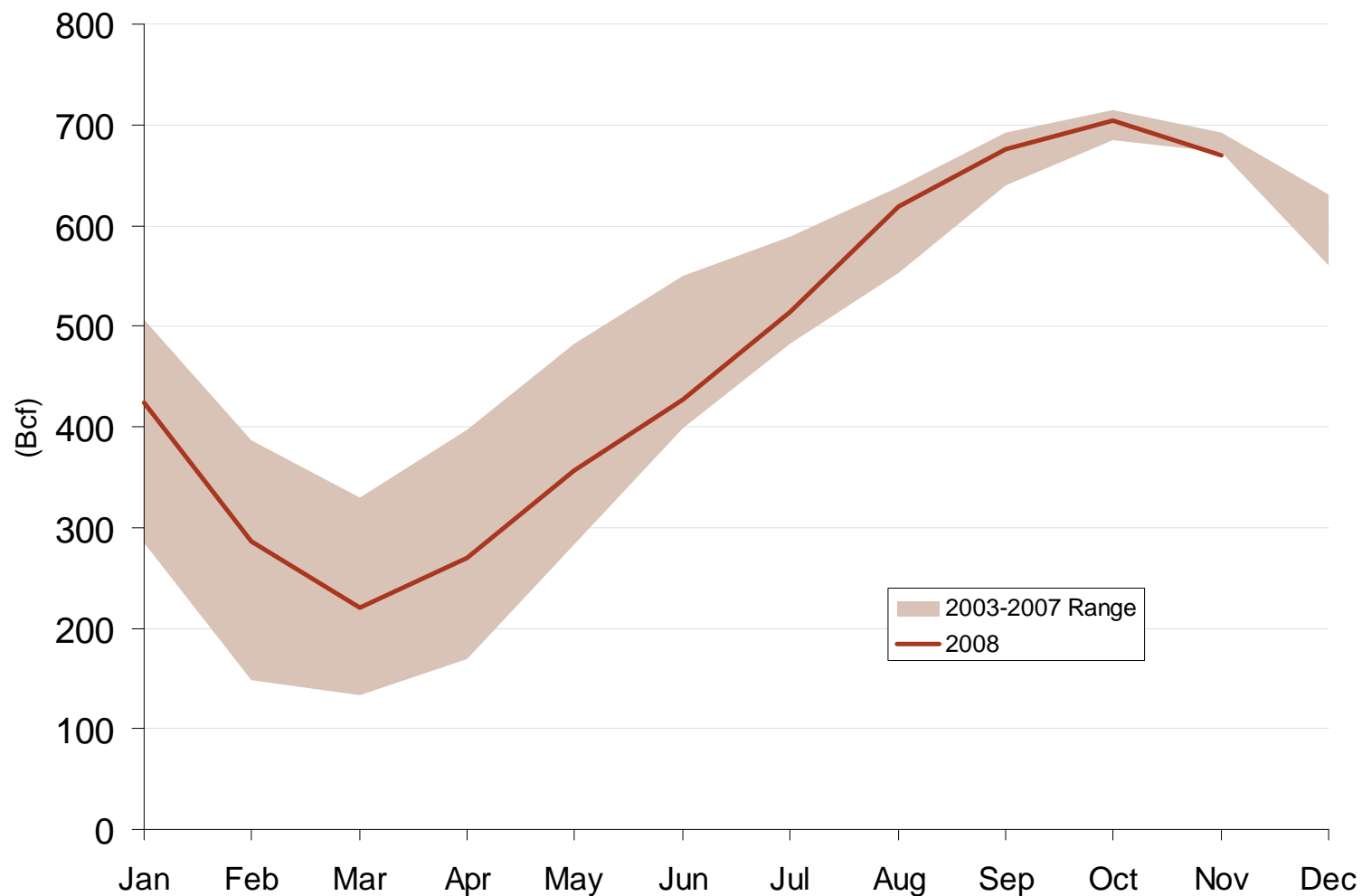
## Daily Imports into the Maritimes and Northeast Pipeline

Source: Derived from *Bentek* data.

Updated February 6, 2009

2173

## Northeast Region Underground Working NG In Storage



Source: Derived from EIA data.

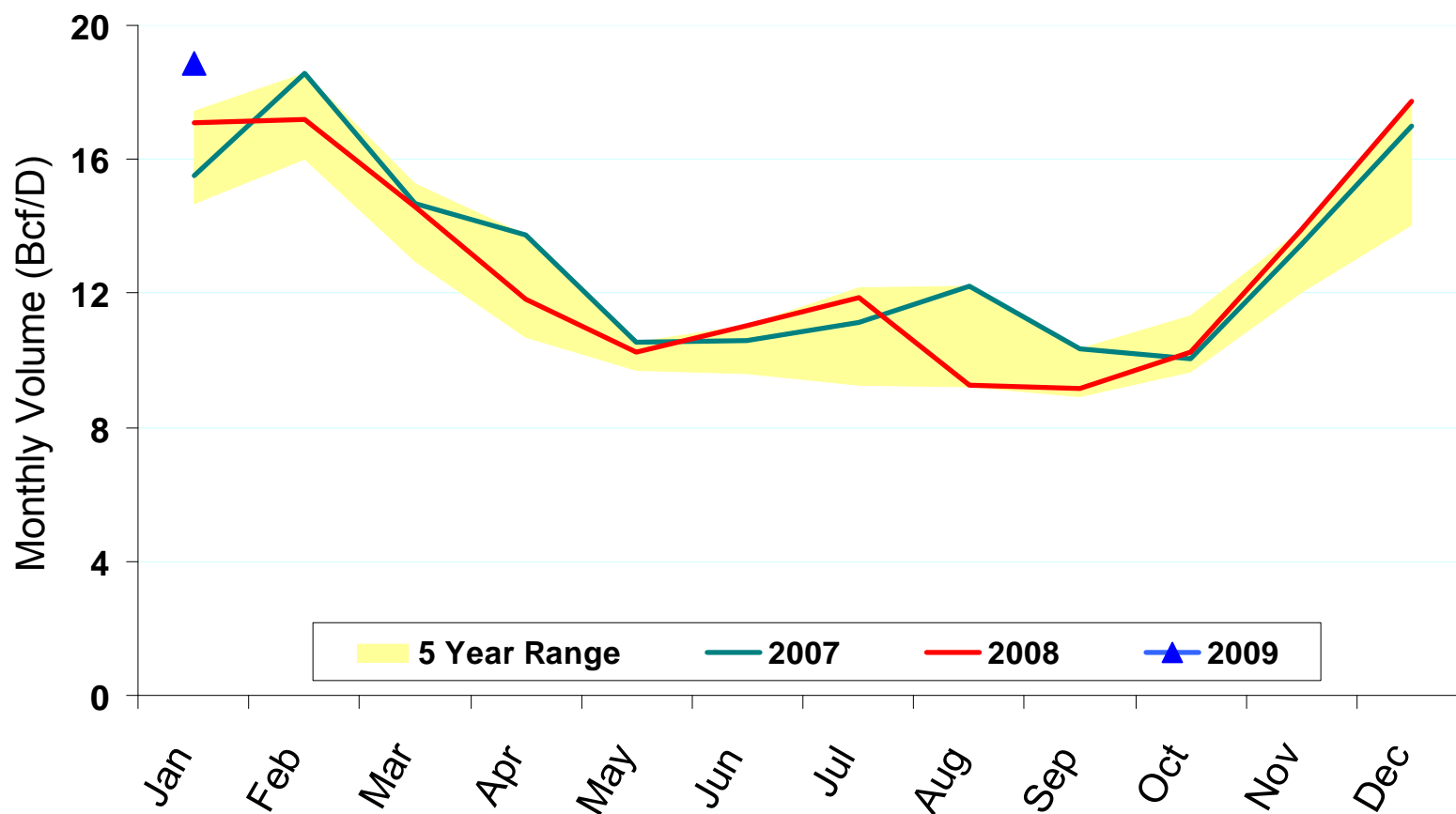
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## Northeast Natural Gas Market: Average Daily Demand

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## Average Daily Northeast Natural Gas Demand All Sectors

Source: Derived from *Bentek* data.

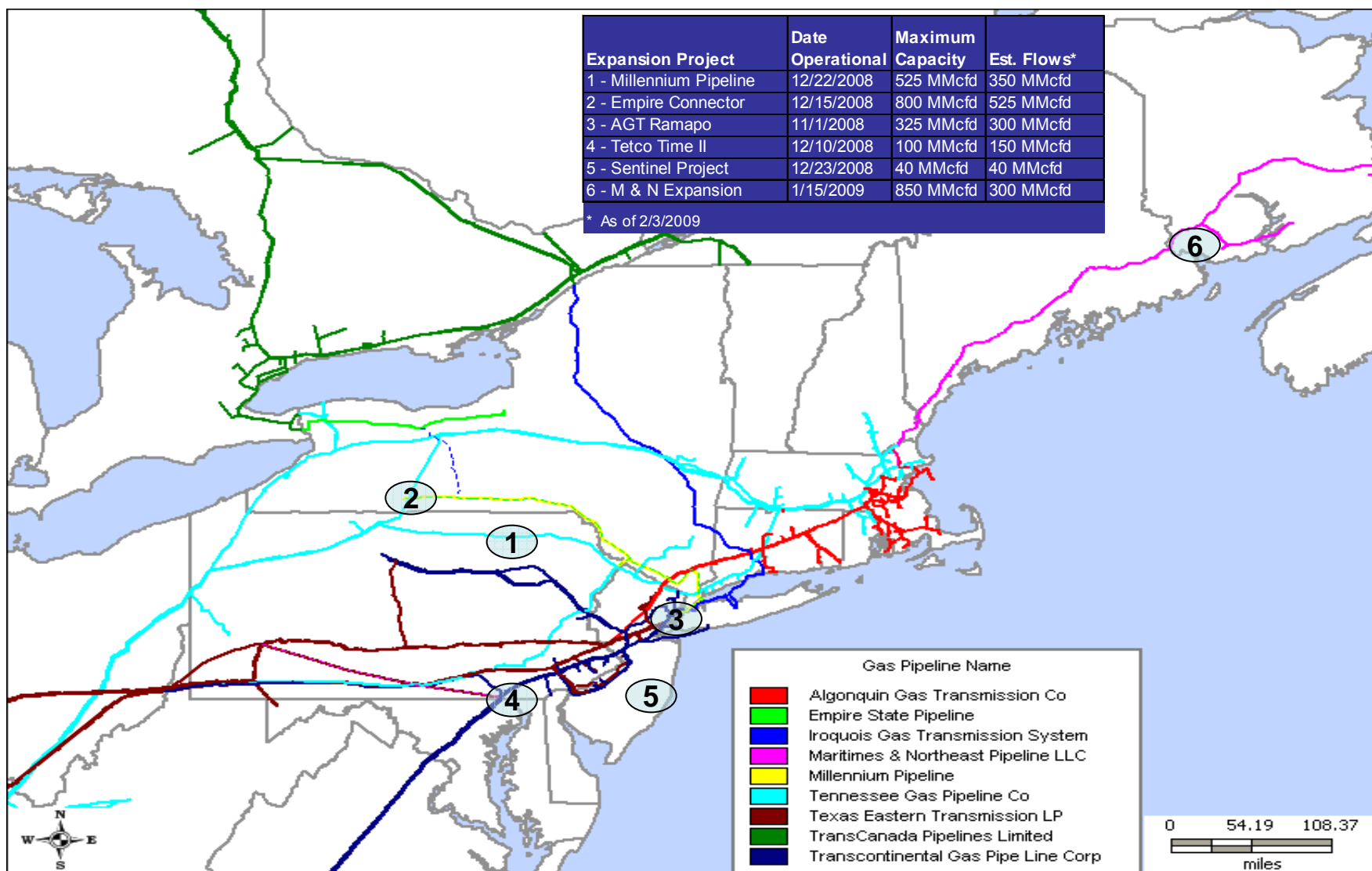
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22050

## Northeast Natural Gas Market : Northeast Infrastructure Additions

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## Natural Gas Infrastructure Additions in 2008



Source: Derived from Bentek data.

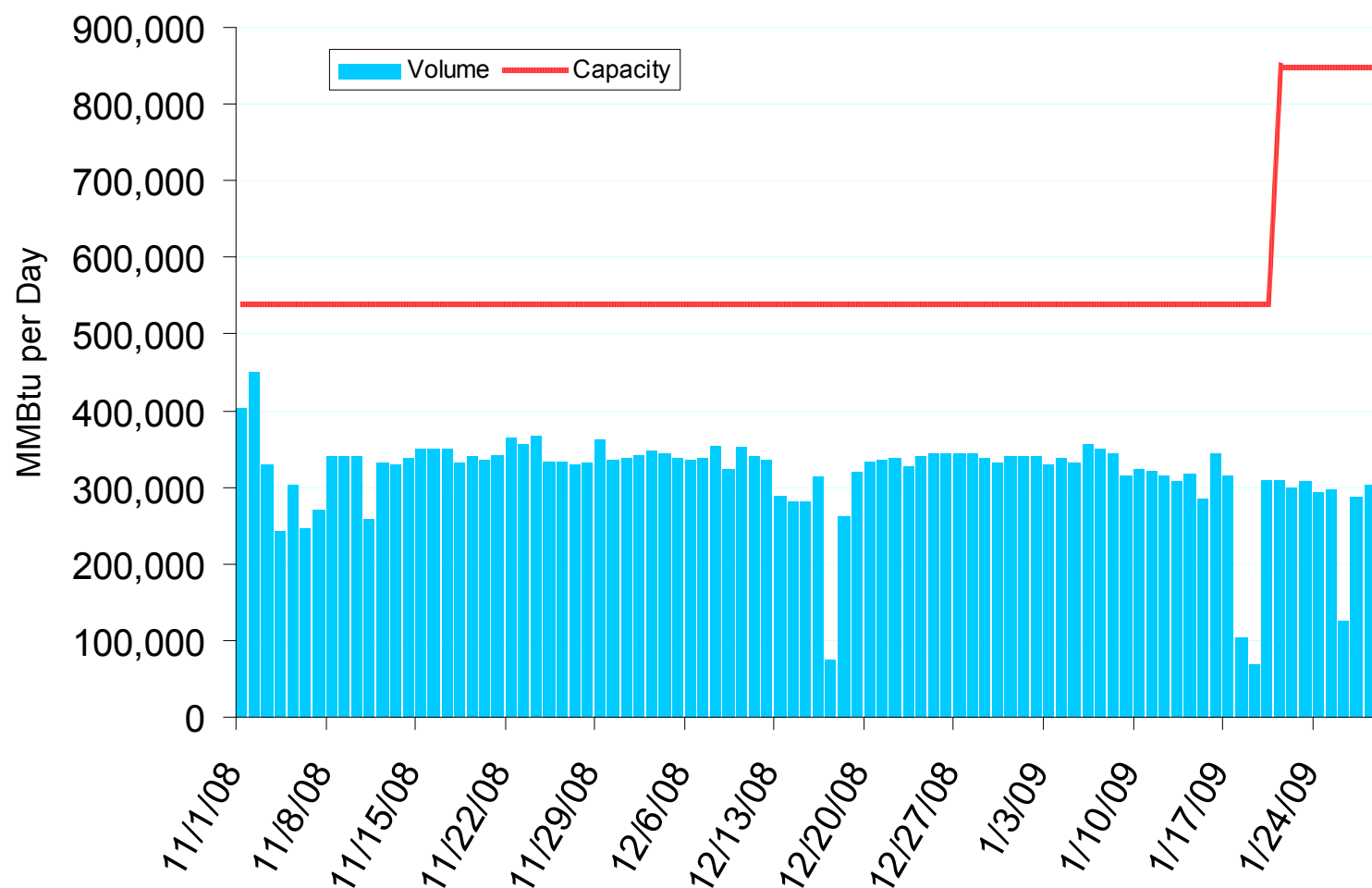
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22051

## Northeast Natural Gas Market : Maritimes Pipeline Capacity Increase

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## Maritimes Pipeline Capacity Increase and Utilization

Source: Derived from *Bentek* data.

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22053