OE ENERGY
MARKET SNAPSHOT
East Version – March 2016 Data

Office of Enforcement
Federal Energy Regulatory Commission
April 2016
Natural Gas and Fuels Markets

East
## Northeast Day-Ahead Prices
### Averaged Annually/Seasonally

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Day Ahead Prices ($/MMBtu)</th>
<th>Algonquin Citygates</th>
<th>Transco Zone 6 NY</th>
<th>Transco Zone 6 Non-NY</th>
<th>Columbia Appalachia</th>
<th>Henry Hub</th>
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**Notes:**
- Updated Apr-2016

**Source:** Derived from ICE data
Northeast Natural Gas Market: Day-Ahead Prices

Northeast Day-Ahead Prices

Source: Derived from ICE data

Updated: Apr-2016
Northeast Natural Gas Market: Yearly Hub Prices

Notes:
Source: Derived from ICE data

Updated Apr-2016
Source: Derived from Bentek Energy data

Note: Northeast is defined as Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, West Virginia, Ohio and Kentucky

Updated: Oct 2015
Northeast Natural Gas Market Overview: NG Consumption for Power Generation

Northeast Natural Gas Consumption for Power Generation

Source: Derived from Bentek Energy data

Note: Northeast is defined as Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, West Virginia, Ohio and Kentucky

Updated: Oct 2015
## Southeast Day-Ahead Prices
Averaged Annually/Seasonally

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Day Ahead Prices ($/MMBtu)</th>
<th>FGT Z3</th>
<th>Tetco-M1</th>
<th>Transco St 65</th>
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**Notes:**
- Updated Apr-2016
- Source: Derived from ICE data
Southeast Natural Gas Market: Day-Ahead Prices

Southeast Day-Ahead Prices

Spot Day-Ahead Prices ($/MMBtu)

- Tetco-M1
- FGT Z3
- Transco St 65
- Transco Zone 5
- Henry Hub

30 Day Moving Avg

Source: Derived from ICE data

Updated Apr-2016
Southeast Day-Ahead Basis

- Tetco-M1 Basis
- FGT Z3 Basis
- Transco St 65 Basis
- Transco Zone 5 Basis

Source: Derived from ICE data

Updated Apr-2016
Southeast Monthly Average Basis Value To Henry Hub

Source: Derived from ICE data

Updated Apr-2016
Southeast Natural Gas Market: Daily Demand

Daily Southeast Natural Gas Demand All Sectors

Source: Derived from Bentek Energy data

Note: Southeast is defined as North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Arkansas, and Tennessee.

Updated: Oct 2015
Southeast Natural Gas Market: NG Consumption for Power Generation

Source: Derived from Bentek Energy data

Note: Southeast is defined as North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Arkansas, and Tennessee.

Updated: Oct 2015
Electricity Markets

East
Northeast Electricity Market: PJM Real Time Prices

PJM Real Time Prices—Two Year History

- Prior Year
- Last 30 days PJM Western Hub Daily Avg Real Time Price was $30.42.
- Last 30 days PJM Eastern Hub Daily Avg Real Time Price was $28.69.
- Last 30 days PJM Dayton Hub Daily Avg Real Time Price was $28.24.
- Last 30 days PJM Dominion Hub Daily Avg Real Time Price was $30.64.

Source: Genscape via Bloomberg

Updated: Oct 2015
Last 30 days average on peak load was 110 GW.
Last 30 days average off peak load was 97 GW.

Source: Genscape via Bloomberg

Updated: Oct 2015
Current open interest for next month is 3280 contracts.

Yesterday’s forward curve range was $31 to $55.

One week ago the forward curve range was $31 to $55.

One month ago the forward curve range was $32 to $62.

Six months ago the forward curve range was $36 to $68.

Source: NYMEX Clearport via Bloomberg

Updated: Oct 2015
Northeast Electricity Market: PJM On-Peak Spark & Dark Spreads

PJM On-Peak Spark & Dark Spreads – One Year History

- Last 30 Days Avg On-Peak Spark Spread was $26.76 per MWh.
- Last 30 Days Avg On-Peak Dark Spread was $18.02 per MWh.

Assumptions:
- Electricity Price = PJM Western Hub Peak DA
- NG Price Point = TETCO M3 spot
- NG Heat Rate = 7000 mmBtu/kWh
- Coal Type = Central Appalachian
- Coal Heat Content = 12000 Btu/lb
- Coal Heat Rate = 10000 mmBtu/kWh

Sources (all via Bloomberg): Electricity Price: Genscape; Coal Price: NYMEX

Updated: Oct 2015
Northeast Electricity Market: NYISO Real Time Prices

NYISO Real Time Prices—Two Year History

Prior Year

Last 30 days Long Island Daily Avg Real Time Price was $35.96.

Last 30 days NYC Daily Avg Real Time Price was $27.09.

Source: Genscape via Bloomberg

Updated: Oct 2015
Last 30 days average on peak load was 21 GW. Last 30 days average off peak load was 17 GW.
Current open interest for next month is 900 contracts.
Yesterday’s forward curve range was $32 to $86.
One week ago the forward curve range was $32 to $87.
One month ago the forward curve range was $33 to $90.
Six months ago the forward curve range was $37 to $101.

Source: NYMEX Clearport via Bloomberg

Updated: Oct 2015
NYISO NYC On-Peak Spark & Dark Spreads – One Year History

Last 30 Days Avg On-Peak Spark Spread was $18.85 per MWh.
Last 30 Days Avg On-Peak Dark Spread was $16.27 per MWh.

NYISO NYC On-Peak Spark minus Dark Spread

NG more profitable. (Last 30 day avg $1.29 per MWh.) Coal more profitable.

Assumptions:
Electricity Price = NYC Zone J On-Peak DA
NG Price Point = Transco Z6 spot
NG Heat Rate = 7000 mmBtu/kWh
Coal Type = Central Appalachian
Coal Heat Content = 12000 Btu/lb
Coal Heat Rate = 10000 mmBtu/kWh

Sources (all via Bloomberg): Electricity Price: Genscape; Coal Price: NYMEX
Updated: Oct 2015
NYISO Capital Zone On-Peak Spark & Dark Spreads – One Year History

Last 30 Days Avg On-Peak Spark Spread was $10.82 per MWh. Last 30 Days Avg On-Peak Dark Spread was $11.28 per MWh.

NYISO Capital Zone On-Peak Spark minus Dark Spread

NG more profitable. Coal more profitable. (Last 30 day avg $0.23 per MWh.)

Assumptions:
Electricity Price = Capital Zone F On-Peak RT
NG Price Point = Iroquois Zone 2
NG Heat Rate = 7000 mmBtu/kWh
Coal Type = Central Appalachian
Coal Heat Content = 12000 Btu/lb
Coal Heat Rate = 10000 mmBtu/kWh

Sources (all via Bloomberg): Electricity Price: Genscape; Coal Price: NYMEX
Northeast Electricity Market: ISO-NE Real Time Prices

ISO-NE Real Time Prices—Two Year History

- Last 30 days NE Mass/Boston Daily Avg Real Time Price was $31.63.
- Last 30 days Connecticut Zone Daily Avg Real Time Price was $31.05.
- Last 30 days Internal Hub Daily Avg Real Time Price was $31.17.
- Last 30 days Maine Zone Avg Real Time Price was $30.75.

Source: Genscape via Bloomberg

Updated: Oct 2015
ISO-NE System Daily Average Load —Two Year History

Last 30 days average on peak load was 17 GW.
Last 30 days average off peak load was 11 GW.

Source: Genscape via Bloomberg

Updated: Oct 2015
Current open interest for next month is 2340 contracts.

Yesterday's forward curve range was $32 to $94.

One week ago the forward curve range was $31 to $94.

One month ago the forward curve range was $31 to $95.

Six months ago the forward curve range was $36 to $120.

Source: NYMEX Clearport via Bloomberg

Updated: Oct 2015
ISO-NE On-Peak Spark & Dark Spreads – One Year History

Last 30 Days Avg On-Peak Spark Spread was $16.71 per MWh.

Last 30 Days Avg On-Peak Dark Spread was $18.44 per MWh.

ISO-NE On-Peak Spark minus Dark Spread

NG more profitable. Coal more profitable. (Last 30 day avg $0.86 per MWh.)

Assumptions:
Electricity Price = Internal Hub On-Peak DA
NG Price Point = Algonquin Boston City Gate Spot
NG Heat Rate = 7000 mmBtu/kWh
Coal Type = Central Appalachian
Coal Heat Content = 12000 Btu/lb
Coal Heat Rate = 10000 mmBtu/kWh

Sources (all via Bloomberg): Electricity Price: Genscape; Coal Price: NYMEX

Updated: Oct 2015
Gas Generation in Jul '15 was 5345 GWh (52%).
Nuclear Generation in Jul '15 was 3344 GWh (32%).
Coal Generation in Jul '15 was 173 GWh (2%).
Hydro Generation in Jul '15 was 609 GWh (6%).
Othr Renew Generation in Jul '15 was 819 GWh (8%).
Oil Generation in Jul '15 was 40 GWh (0%).
Total Generation in Jul '15 was 10330 GWh.

Source: EIA via Bloomberg
Gas Generation in Jul '15 was 13904 GWh (37%).
Coal Generation in Jul '15 was 6528 GWh (17%).
Nuclear Generation in Jul '15 was 13834 GWh (37%).
Hydro Generation in Jul '15 was 2338 GWh (6%).
Othr Renew Generation in Jul '15 was 956 GWh (3%).
Oil Generation in Jul '15 was 59 GWh (0%).
Total Generation in Jul '15 was 37619 GWh.

Source: EIA via Bloomberg
South Atlantic Generation Mix

- Gas Generation in Jul '15 was 13904 GWh (37%).
- Coal Generation in Jul '15 was 6528 GWh (17%).
- Nuclear Generation in Jul '15 was 13834 GWh (37%).
- Hydro Generation in Jul '15 was 2338 GWh (6%).
- Othr Renew Generation in Jul '15 was 956 GWh (3%).
- Oil Generation in Jul '15 was 59 GWh (0%).
- Total Generation in Jul '15 was 37619 GWh.

Source: EIA via Bloomberg

States: NJ, NY, PA