



Midcontent LDC Gas Forum

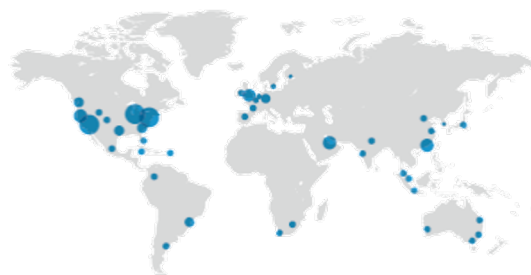
# Benefits of Expanding Pipeline Infrastructure in the Northeast

Cost Savings to Consumers with additional Mid-Atlantic and Northeast Pipeline Capacity

# FTI Consulting - Experts with Impact

FTI Consulting is an independent global business advisory firm dedicated to helping organizations manage change, mitigate risk and resolve disputes. Due to our unique mix of **EXPERTISE, CULTURE, BREADTH OF SERVICES** and **INDUSTRY EXPERIENCE**, we have a tangible impact on our clients' most complex opportunities and challenges.

A global advisory firm that provides multidisciplinary solutions to **complex challenges**. Combines unparalleled **expertise** and **industry knowledge** to address critical challenges for clients.



With over 6,400 employees on six continents, our breadth and depth extends across every major social, political and economic hub around the globe



Our largest industry groups are: Energy, Power & Products, Financial Institutions & Insurance, Healthcare, Life Science, Real Estate, Retail & Consumer and Telecom, Media & Technology



Advisor to the world's top 10 bank holding companies



Advisor to 97 of the world's top 100 law firms



56 of Global 100 corporations are clients

## FTI Consulting's 5 Global Segments

Technology

Forensic and  
Litigation  
Consulting

Strategic  
Communications

Economic and  
Financial  
Consulting

Corporate  
Finance

### Power, Renewables & Utilities Practice

- FTI Consulting's Power, Renewables & Utilities Practice covers the **complete suite of conventional and renewable technologies** ranging from established generation technologies such as oil, natural gas, coal, wind and solar PV, to emerging technologies, such as storage and electric vehicles.
- We maximize value for our clients by combining FTI's **global footprint** and core competencies with deep **Power & Renewables expertise** and extensive industry contacts.

# Power, Renewables & Utilities - Core Service Offerings

FTI has broad capabilities in the energy space including the financial, economic, and regulatory aspects of utility strategy. Our breadth of expertise spans the entire energy supply chain from generation to T&D, retail supply and DERs.

## State Regulatory Advisory

- Expert testimony
- Disputes
- Rate case advisory
- Gas modeling & procurement
- Management audit

## Federal Regulatory Advisory

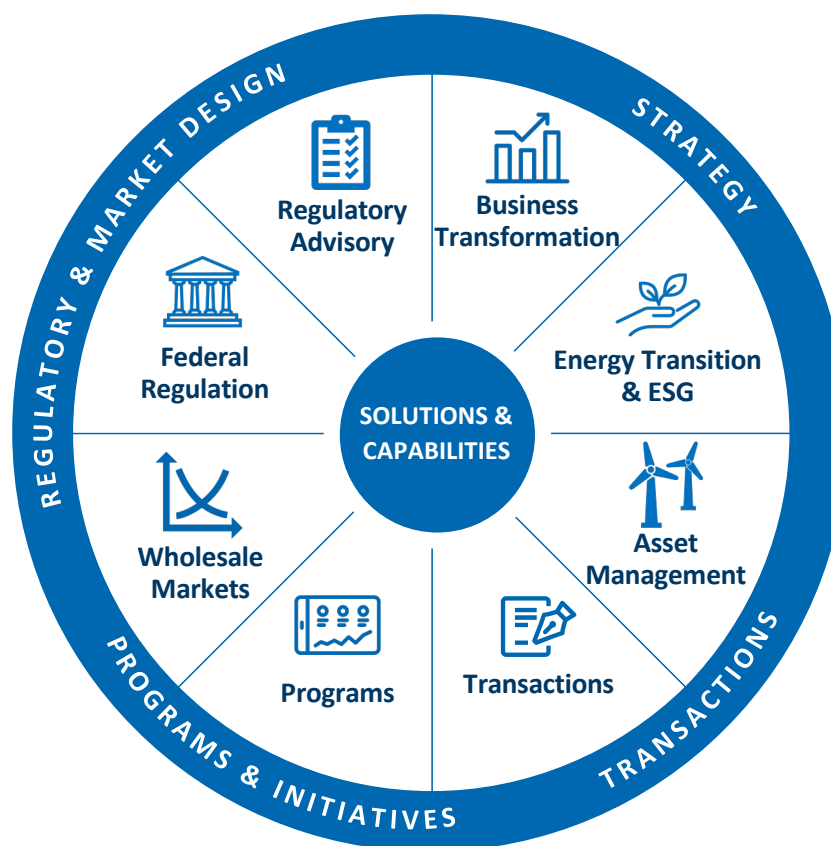
- Rates tariffs/terms advisory
- Policy analysis
- FERC rulemaking
- Compliance

## Wholesale Markets

- Market design
- RTO entry/exit
- Stakeholder representation
- Market rule examination

## Programs

- Customer/Demand-side products and services
- Tariffed products and services
- Resiliency initiatives
- Cybersecurity



## Business Transformation

- Merger integration and carve outs
- Interim management
- Office of the CFO
- Business plan review

## Energy Transition & ESG

- Decarbonization
- Materiality assessment
- ESG assessment
- Sustainability & climate reporting

## Asset Management

- Performance analysis
- Portfolio strategy
- Project management/delivery
- Uneconomic retirements/stranded cost recovery

## Transactions

- M&A Advisory
- Due Diligence
- Economic Analysis
- Capital Raise



## Power & Renewables: Why FTI?

FTI brings a team of restructuring and industry experts with deep expertise in power and renewables and with experience specific to complex multi layered operational and financially challenged situations. Our team provides advisory services which maximize stakeholder value and mitigate risk.

### Qualifications

**Industry Expertise:** FTI brings a team of senior advisors with experience in operations, transactions, and restructuring in the P&R and broader energy sectors. Our strong network of in-house experts understand the value drivers and complexities of electricity and gas markets, including significant experience with related commodity and derivative exposure.

**Operational & Financial Expertise** Our professionals understand the complexities of the energy value chain and are deeply experienced in providing strategic advisory, operational advisory, and transaction advisory across the globe.

**Actionable Advice:** We are deal experts, steeped in the knowledge gained as bankers, business leaders and consulting advisors. Our ability to propose actionable solutions to operational and strategic issues, including during implementation, is a key differentiator.

### Representative Power & Utility Mandates

 Economic Advisory	 Financial Advisor to Unsecured Creditors	 Regulatory Strategy	 M&A/strategic advisory
 Interim Management (Treasurer / VP Finance)	 Financial Advisor to Unsecured Creditors	 Renewables Procurement & Long Duration Storage	 Advisor to the PREPA
 Regulatory Support for Utility Privatization	 Utility rate case expert witness testimony	 Coal-Fired Power Plant Valuation	 T&D Solicitation
 Utility rate case expert witness testimony	 Debt restructuring advisory	 Advised during Integrated Resource Planning process	 Expert Testimony

# GPCM Modeling Tool

The GPCM platform offers significant flexibility to take on a wide range of analytical exercises, but some applications require more customization and adjustment than others. The development of long-run, equilibrium forecasts of prices, supplies, demand, and flows is a core function that can be run efficiently "out of the box."

Other applications, such as stochastic analyses or the modeling of short timestep market dynamics require customization, either within GPCM or via the pairing of the model with some other platform.

FTI can recommend model configuration based on specific project needs.

Ideally suited	Well suited	Requires customization
<p>Identifying equilibrium solutions over the medium- to long-term.</p> <ul style="list-style-type: none"> <li>Price forecasting with a high degree of temporal and geographic specificity.</li> </ul> <p>Specific applications</p> <ul style="list-style-type: none"> <li>Investment analysis:</li> <li>Benefits of new infrastructure Sensitivity analysis</li> <li>Support for integrated modeling (electric model interface)</li> <li>Policy analysis Regulatory support</li> </ul>	<p>High level market dynamics:</p> <ul style="list-style-type: none"> <li>Macro-scale pipeline flow trends and the disposition of gas patterns across large regions</li> <li>Long-run production and demand fundamentals</li> </ul> <p>Specific applications:</p> <ul style="list-style-type: none"> <li>Investment analysis RA planning</li> <li>Market suitability testing</li> <li>Regulatory support (depreciation studies)</li> <li>Policy analysis</li> </ul>	<p>Support for other applications may require customization or the use of other platforms:</p> <ul style="list-style-type: none"> <li>Short time step analyses</li> <li>Daily/hourly analyses of changing or peak conditions</li> </ul> <p>Specific applications:</p> <ul style="list-style-type: none"> <li>Peak hour gas-electric interface</li> <li>Stochastic analysis of daily or sub-daily prices</li> <li>Intraday effects</li> </ul>

**Recognizing model strengths and limitations is critical to developing effective results**

## What If? Maybe the Multiverse does exist!

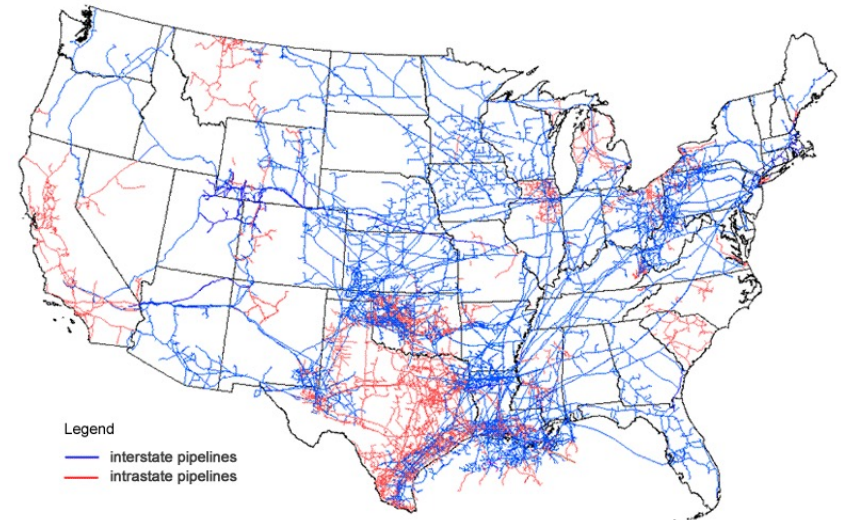
### ■ Utilized GPCM to Model 4 Scenarios:

- Scenario 1: Base Case
  - Limited Expansion Opportunities in the Northeast and Mid-Atlantic Census Regions
  - Normal Weather Assumptions
- Scenario 2: Weather continues to be a factor
  - Climate Change is Global Warming and More Frequent Extreme Weather
  - Utilized 2014 Weather Assumptions in both 2023 and 2024 to Simulate Colder-than-Normal Weather
- Scenario 3: Scenario 1 Weather, but Allow for Expansion in the Northeast and Mid-Atlantic Census Regions
  - Turn on Auto-expansion Feature in GPCM in the Census Regions
  - Accelerate Expansion – Assumes Approval and Implementation as early as November 2023
- Scenario 4: Expansion Assumptions from Scenario 2, but Normal Weather

# North American Natural Gas System

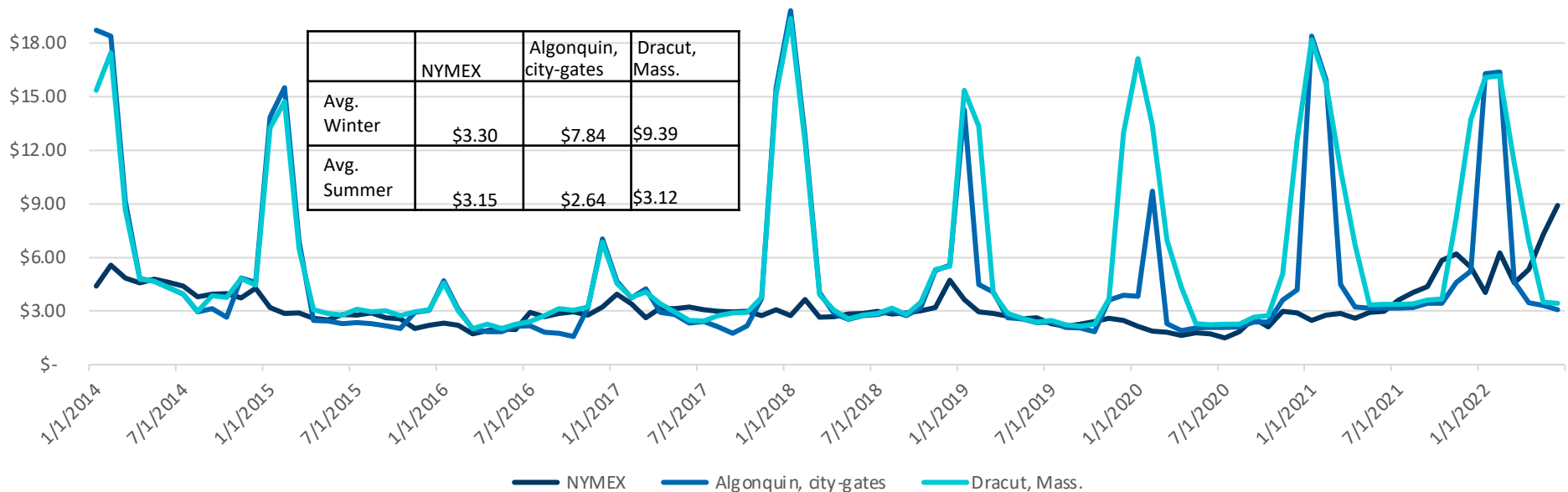
- Highly Integrated
- 12.5% Increased Demand Since 2014 (per EIA)
- Incremental Pipeline Capacity of 15,212 MMcf/d in Northeast (per EIA)\*
- Only 983 MMcf/d Incremental Capacity in New England states\*

Map of U.S. interstate and intrastate natural gas pipelines



Source: U.S. Energy Information Administration, About U.S. Natural Gas Pipelines

Historical Pricing since 2014



\*EIA End Region and End State for Natural Gas Pipeline Projects

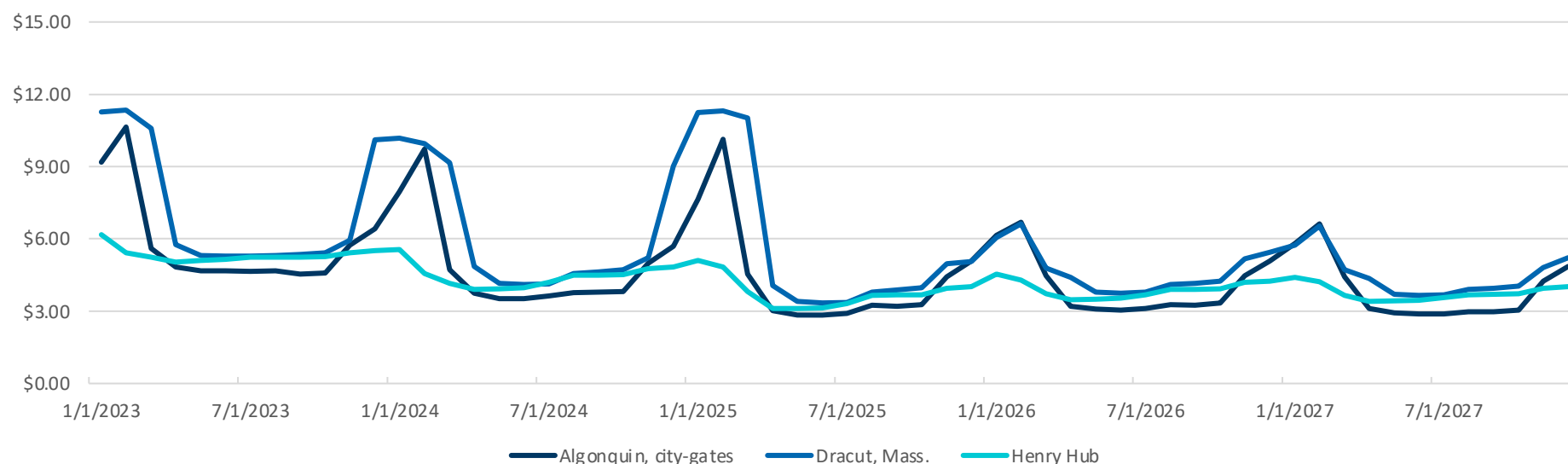
## Scenario 1: Current Forecast

- Limited Expansion Opportunities
  - No expansion in New England Census Region
  - High Hurdle Rate to Expand in the Mid-Atlantic Census Region
  - 1<sup>st</sup> Expansion in April 2025
- Significant Exposure to Winter Price Spikes

FirstPeriod	Pipeline	Location
Aug-2025	Stagecoach Hub	StageCoach S Lat
Jan-2026	Eastern Gas	E Gas N SYS Leidy Supply
Jan-2026	Tennessee Gas Pipeline	Tenn Z4 PA
Jan-2026	Transcontinental	Transco Z6 NE Connector
Feb-2027	Transcontinental	Transco Z6 PA Sup
Aug-2029	Transcontinental	Transco Z6 Leidy East
Jan-2032	Tennessee Gas Pipeline	Tenn Z4 PA Sup Rcpt
Feb-2034	Eastern Gas	E Gas S Sys PA

2023-2024	NYMEX	Algonquin, city-gates	Dracut, Mass.
Avg. Winter	\$5.16	\$7.07	\$9.28
Avg. Summer	\$4.70	\$4.17	\$4.92

2023-2027	NYMEX	Algonquin, city-gates	Dracut, Mass.
Avg. Winter	\$4.59	\$6.21	\$7.66
Avg. Summer	\$4.01	\$3.51	\$4.29





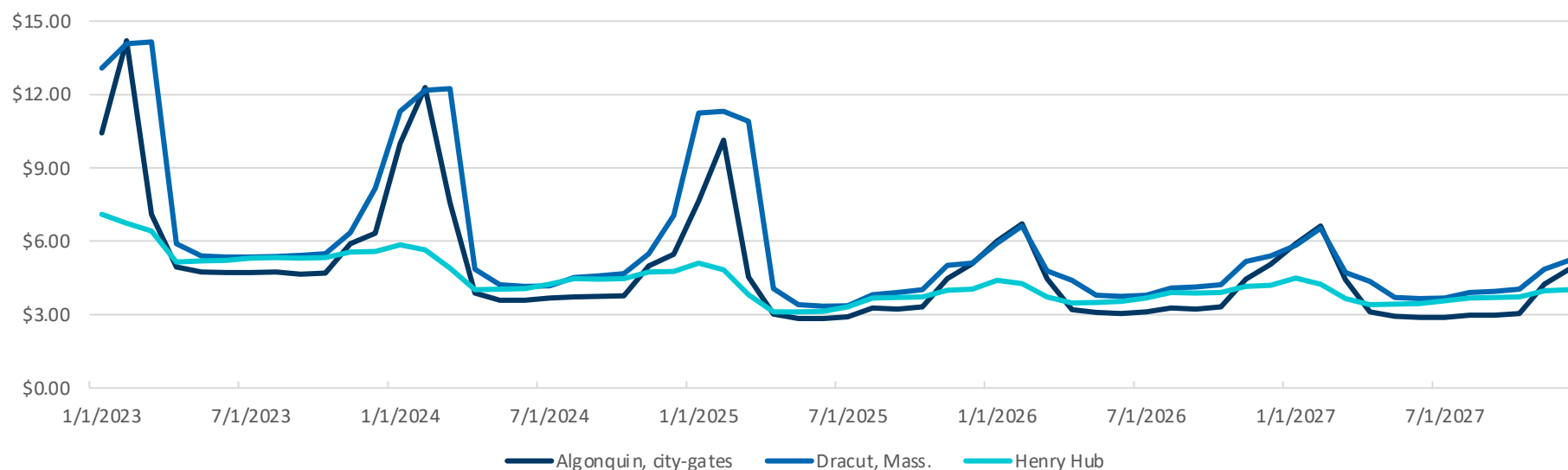
## Scenario 2: Weather Impact

- Still Limited Expansion Opportunities
- CTN Weather (based on 2014 ) for January 2023 through December 2024
  - Jan 104%; Feb 109%; March 123%
  - Nov 107%; Dec 86%
- Significant Exposure to Winter Price Spikes

FirstPeriod	Pipeline	Location
Aug-2025	Stagecoach Hub	StageCoach S Lat
Jan-2026	Eastern Gas	E Gas N SYS Leidy Supply
Jan-2026	Columbia Gas Transmission	Col Gas (4) E PA
Jan-2026	Tennessee Gas Pipeline	Tenn Z4 PA
Jan-2026	Transcontinental	Transco Z6 NE Connector
Feb-2027	Transcontinental	Transco Z6 PA Sup
Aug-2029	Transcontinental	Transco Z6 Leidy East
Jan-2032	Tennessee Gas Pipeline	Tenn Z4 PA Sup Rcpt
Feb-2034	Eastern Gas	E Gas S Sys PA

2023-2024	NYMEX	Algonquin, city-gates	Dracut, Mass.
Avg. Winter	\$5.73	\$8.43	\$10.41
Avg. Summer	\$4.76	\$4.23	\$4.96

2023-2027	NYMEX	Algonquin, city-gates	Dracut, Mass.
Avg. Winter	\$4.81	\$6.75	\$8.11
Avg. Summer	\$4.03	\$3.53	\$4.31



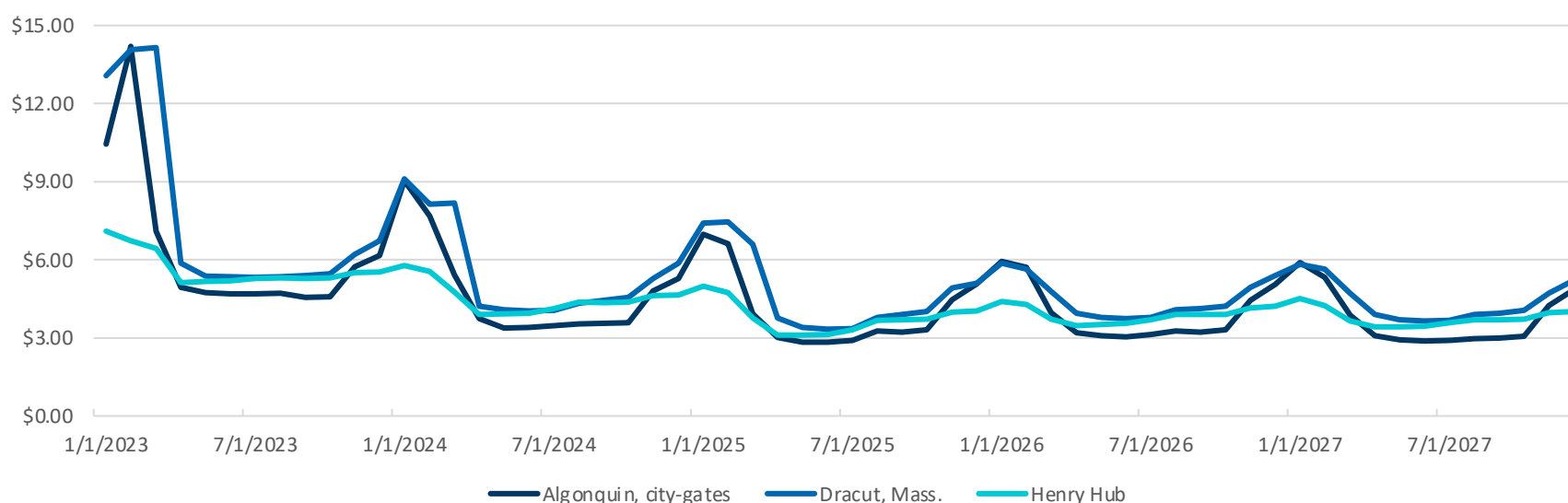
## Scenario 3: Weather Impact & Expansion

- Allow for Expansion on all Projects in New England and Mid-Atlantic Census Regions
- CTN Weather (based on 2014 ) for January 2023 through December 2024
  - Jan 104%; Feb 109%; March 123%
  - Nov 107%; Dec 86%

2023-2024	NYMEX	Algonquin, city-gates	Dracut, Mass.
Avg. Winter	\$5.66	\$7.59	\$9.08
Avg. Summer	\$4.69	\$4.11	\$4.84

2023-2027	NYMEX	Algonquin, city-gates	Dracut, Mass.
Avg. Winter	\$4.77	\$6.09	\$7.00
Avg. Summer	\$4.01	\$3.48	\$4.22

FirstPeriod	Pipeline	Location
Nov-2023	Tennessee Gas Pipeline	Tenn Z5 Niagara Import
Nov-2023	Tennessee Gas Pipeline	Tenn Z5 Niagara Export
Dec-2023	Eastern Gas	E Gas S Sys PA Supply
Jan-2024	Eastern Gas	E Gas N Sys Leidy Supply
Jan-2024	Eastern Gas	E Gas N Sys PA Sup
Jan-2024	Eastern Gas	E Gas N Sys W NY
Jan-2024	Columbia Gas Transmission	Col Gas (4) E PA
Jan-2024	Tennessee Gas Pipeline	Tenn Z4 PA
Jan-2024	Texas Eastern	Tx E M3 to NYC
Jan-2024	Transcontinental	Transco Z6 NE Connector
Jan-2024	Transcontinental	Transco Z6 Leidy to LI Leg 2
Jan-2024	Stagecoach Hub	StageCoach S Lat
Jan-2024	Tennessee Gas Pipeline	Tenn Z6 NH
Apr-2024	Tennessee Gas Pipeline	Tenn Z6 CT
Jan-2026	Vermont Gas System	Vermont Gas Sys
Feb-2026	Transcontinental	Transco Z6 PA Sup
Sep-2029	Transcontinental	Transco Z6 Leidy East
Jan-2031	Tennessee Gas Pipeline	Tenn Z4 PA Sup Rcpt
Feb-2035	Eastern Gas	E Gas S Sys PA



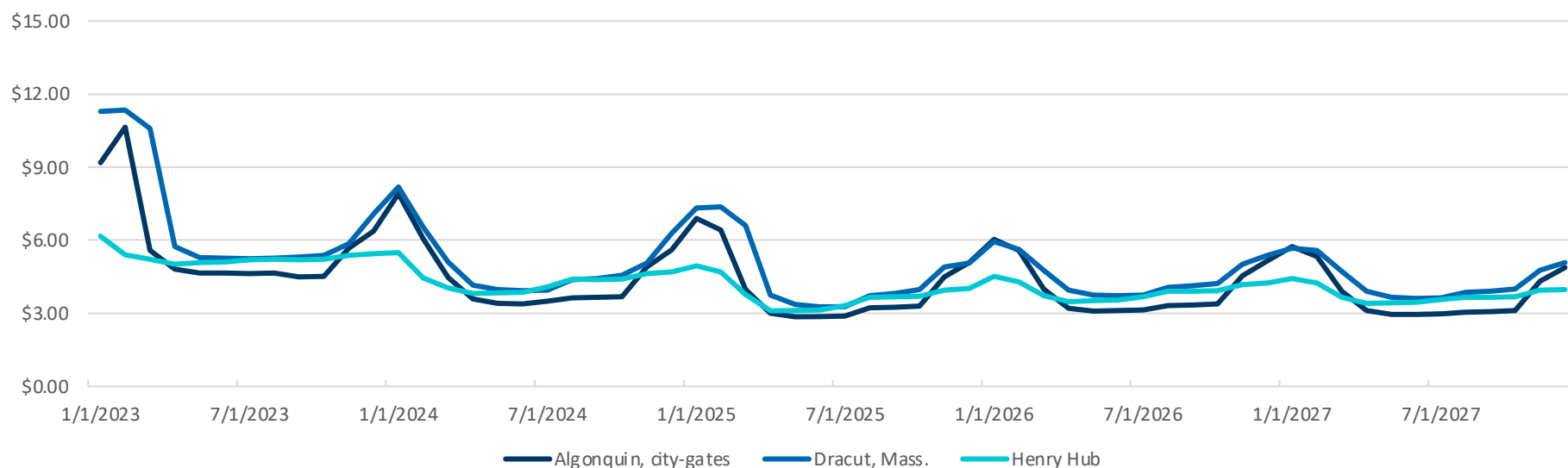
## Scenario 4: Expansion

- Allow for Expansion on all Projects in New England and Mid-Atlantic Census Regions
  - All Expansions from Prior Scenario except Texas Eastern

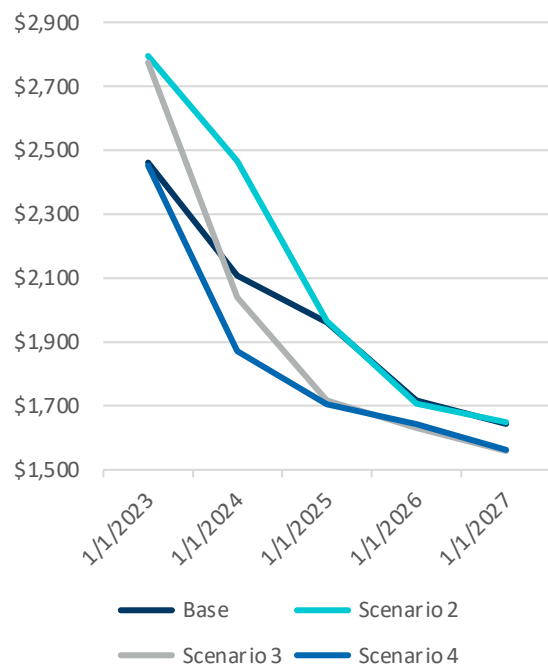
2023-2024	NYMEX	Algonquin, city-gates	Dracut, Mass.
Avg. Winter	\$5.09	\$6.64	\$7.73
Avg. Summer	\$4.63	\$4.09	\$4.78

2023-2027	NYMEX	Algonquin, city-gates	Dracut, Mass.
Avg. Winter	\$4.54	\$5.71	\$6.44
Avg. Summer	\$3.98	\$3.50	\$4.18

FirstPeriod	Trans_Code	Trans_Loc
Nov-2023	Tennessee Gas Pipeline	Tenn Z5 Niagara Import
Nov-2023	Tennessee Gas Pipeline	Tenn Z5 Niagara Export
Dec-2023	Tennessee Gas Pipeline	Tenn Z6 NH
Jan-2024	Eastern Gas	E Gas N SYS Leidy Supply
Jan-2024	Eastern Gas	E Gas N Sys PA Sup
Jan-2024	Eastern Gas	E Gas S Sys PA Supply
Jan-2024	Eastern Gas	E Gas N Sys W NY
Jan-2024	Columbia Gas Transmission	Col Gas (4) E PA
Jan-2024	Tennessee Gas Pipeline	Tenn Z4 PA
Jan-2024	Transcontinental	Transco Z6 NE Connector
Jan-2024	Transcontinental	Transco Z6 Leidy to LI Leg 2
Jan-2024	Stagecoach Hub	StageCoach S Lat
Apr-2024	Tennessee Gas Pipeline	Tenn Z6 CT
Jan-2026	Vermont Gas System	Vermont Gas Sys
Feb-2026	Transcontinental	Transco Z6 PA Sup
Jul-2030	Transcontinental	Transco Z6 Leidy East
Jan-2031	Tennessee Gas Pipeline	Tenn Z4 PA Sup Rcpt
Feb-2035	Eastern Gas	E Gas S Sys PA

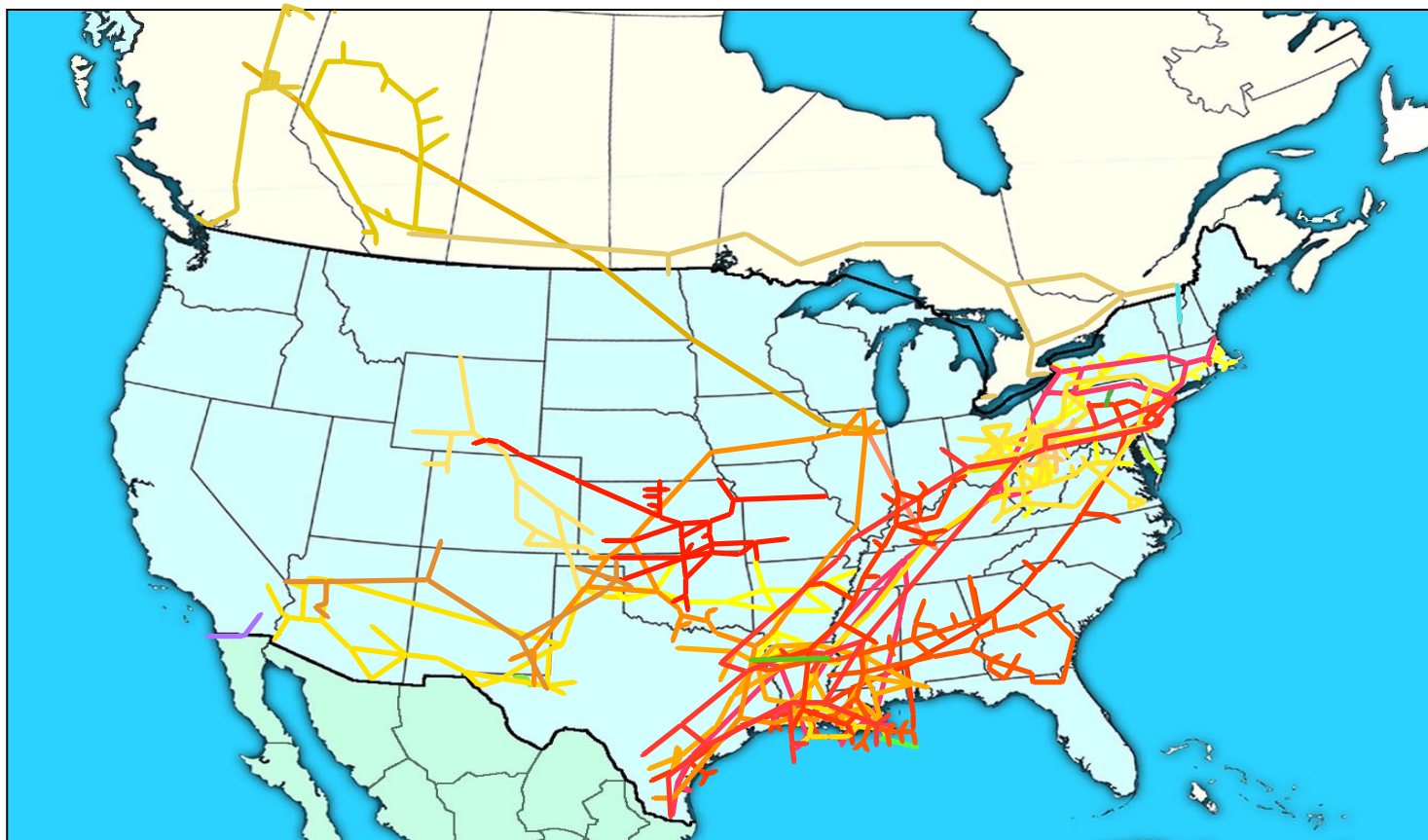


# Expansion Equals Savings for Customers



- Natural Gas Delivered to Consumers in Massachusetts was 374 Bcf during 2021
- Utilizing Algonquin, City-gate which serves Eastern Massachusetts

MODE: MAP REPORT



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