



Rhode Island Energy™

a PPL company

Northeast Natural Gas Supply Constraints: Challenges and Outlook

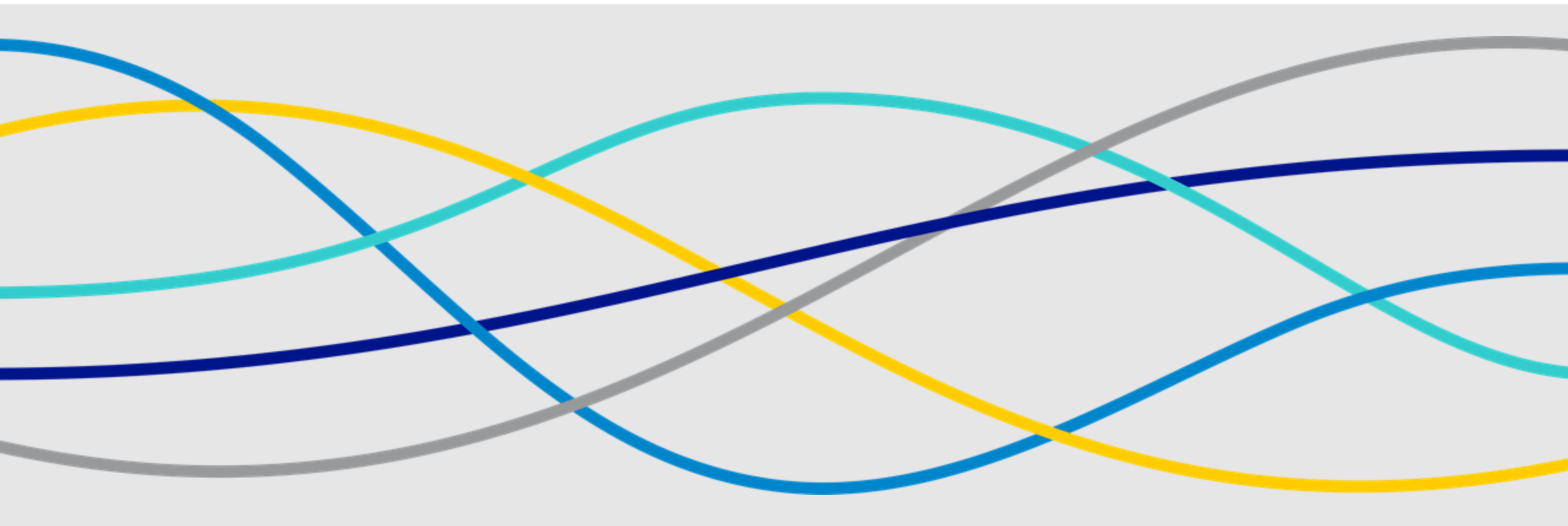
NGA Gas School 2026

Agenda



Rhode Island Energy™
a PPL company

1. PPL/Rhode Island Energy Overview
2. U.S. Natural Gas Market
3. Northeast Natural Gas Market
4. LDC Gas Supply Planning Practices
5. LDC Procurement Execution






PPL/Rhode Island Energy Overview

PPL Overview



Rhode Island Energy™
a PPL company



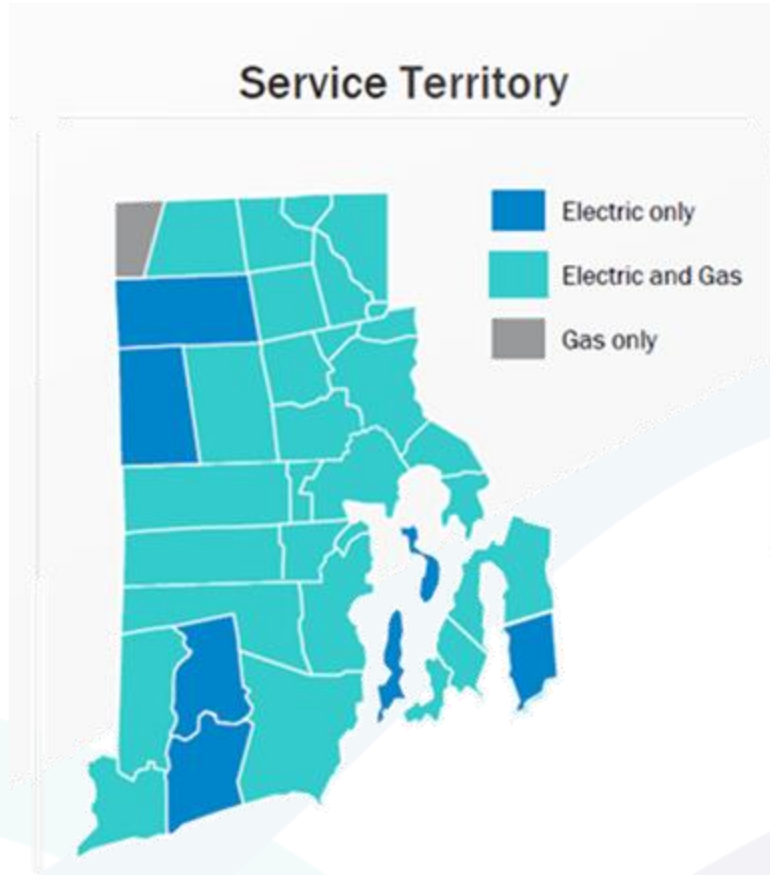
	Pennsylvania	Kentucky	Rhode Island
Utility	PPL Electric Utilities	LG&E and KU	Rhode Island Energy
Coverage Area			
Service Area	10,000mi ²	8,000mi ²	1,200mi ²
Customers	1.5M Electric	1.0M Electric 0.3M Gas	0.5M Electric 0.3M Gas
Services	Electric Distribution Electric Transmission	Electric Distribution Electric Transmission Gas Distribution Gas Transmission Regulated Generation	Electric Distribution Electric Transmission Gas Distribution

RIE Overview



Rhode Island Energy™

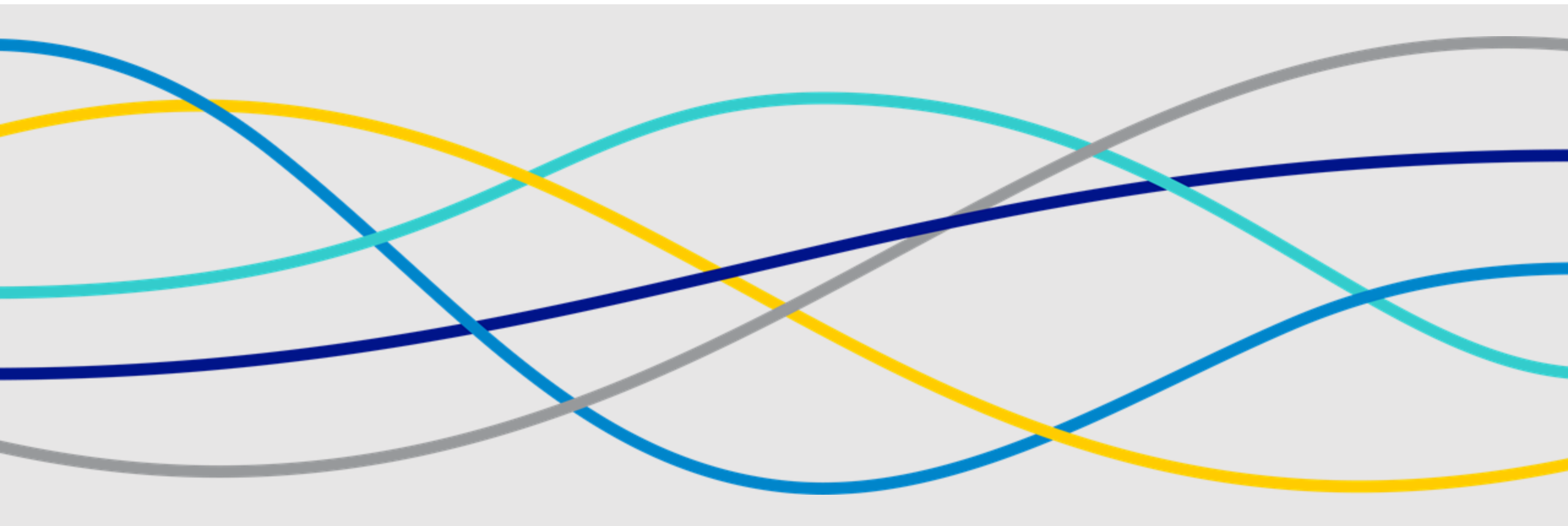
a PPL company





Rhode Island Energy™

a PPL company

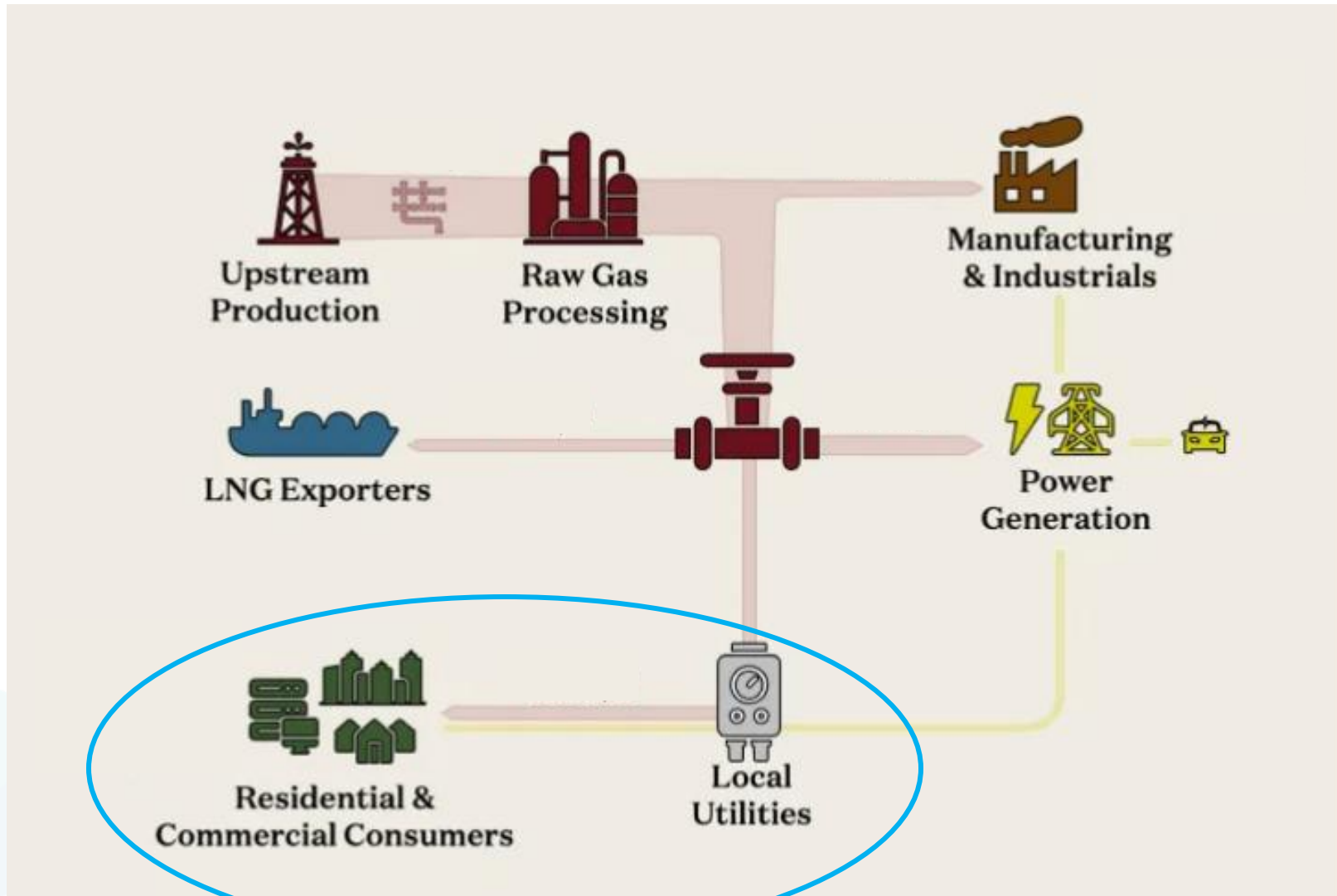


U.S. Natural Gas Market Overview

Natural Gas Value Chain



Rhode Island Energy™
a PPL company

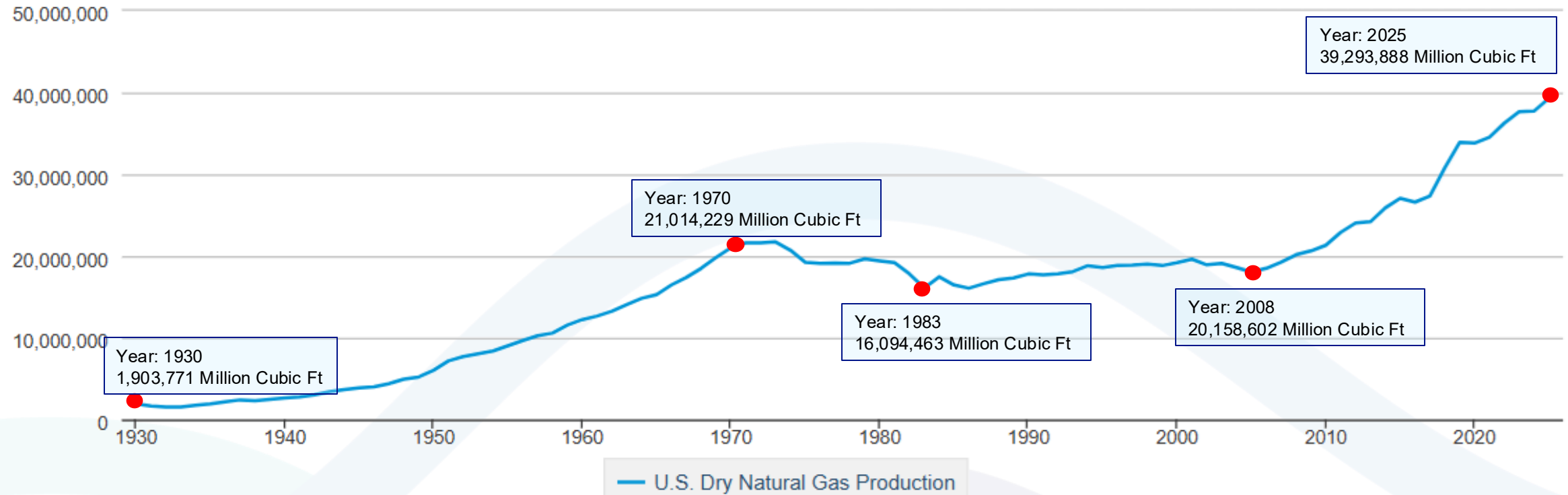


U.S. Dry Natural Gas Production



Rhode Island Energy™
a PPL company

Million Cubic Feet

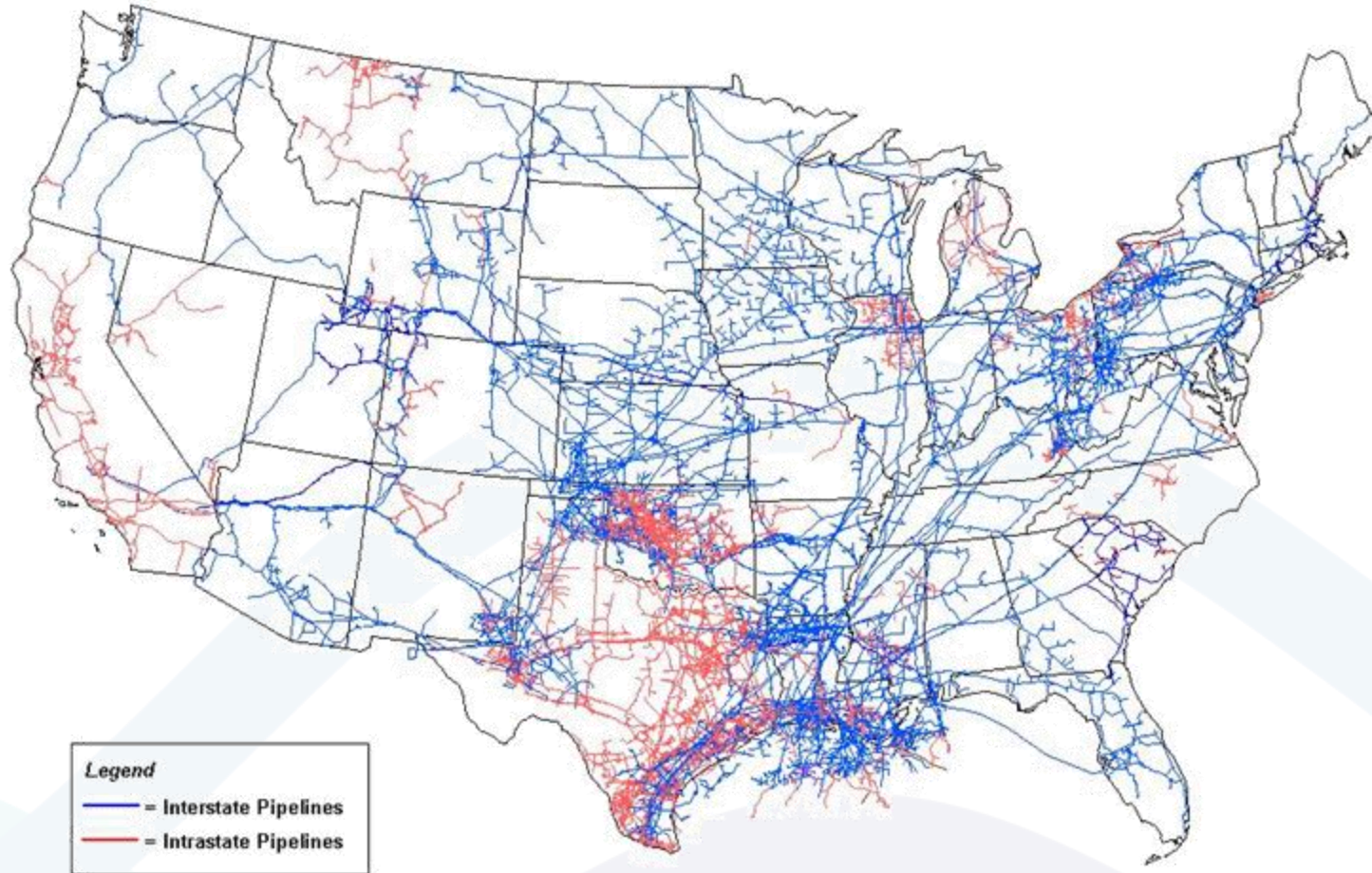


Data source: U.S. Energy Information Administration

U.S. Natural Gas Pipelines Map



Rhode Island Energy™
a PPL company



Source: Energy Information Administration, Office of Oil & Gas, Natural Gas Division, Gas Transportation Information System

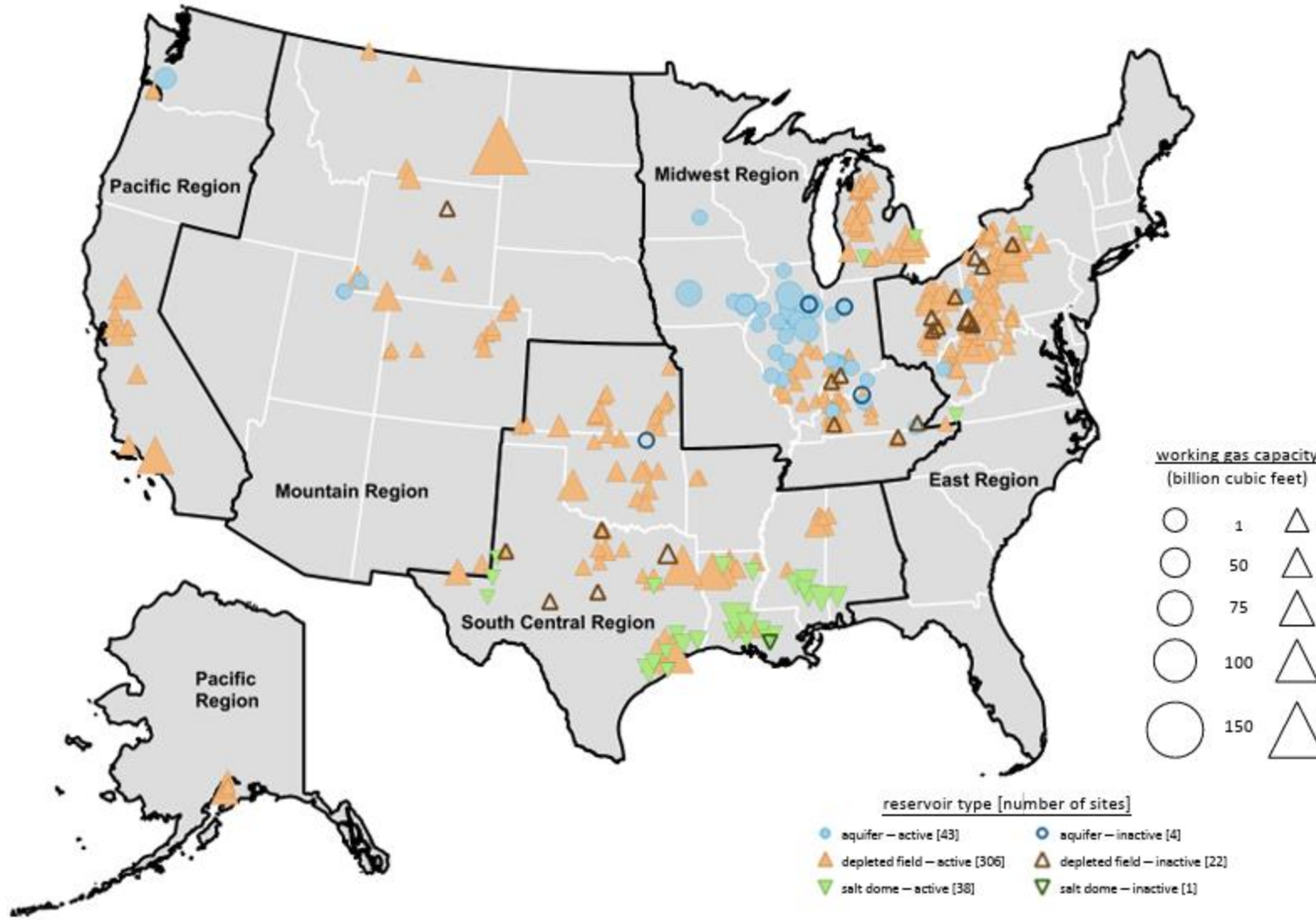
U.S. Natural Gas Underground Storage



Rhode Island Energy™

a PPL company

Figure 13. Locations of existing natural gas underground storage fields in the United States, 2024

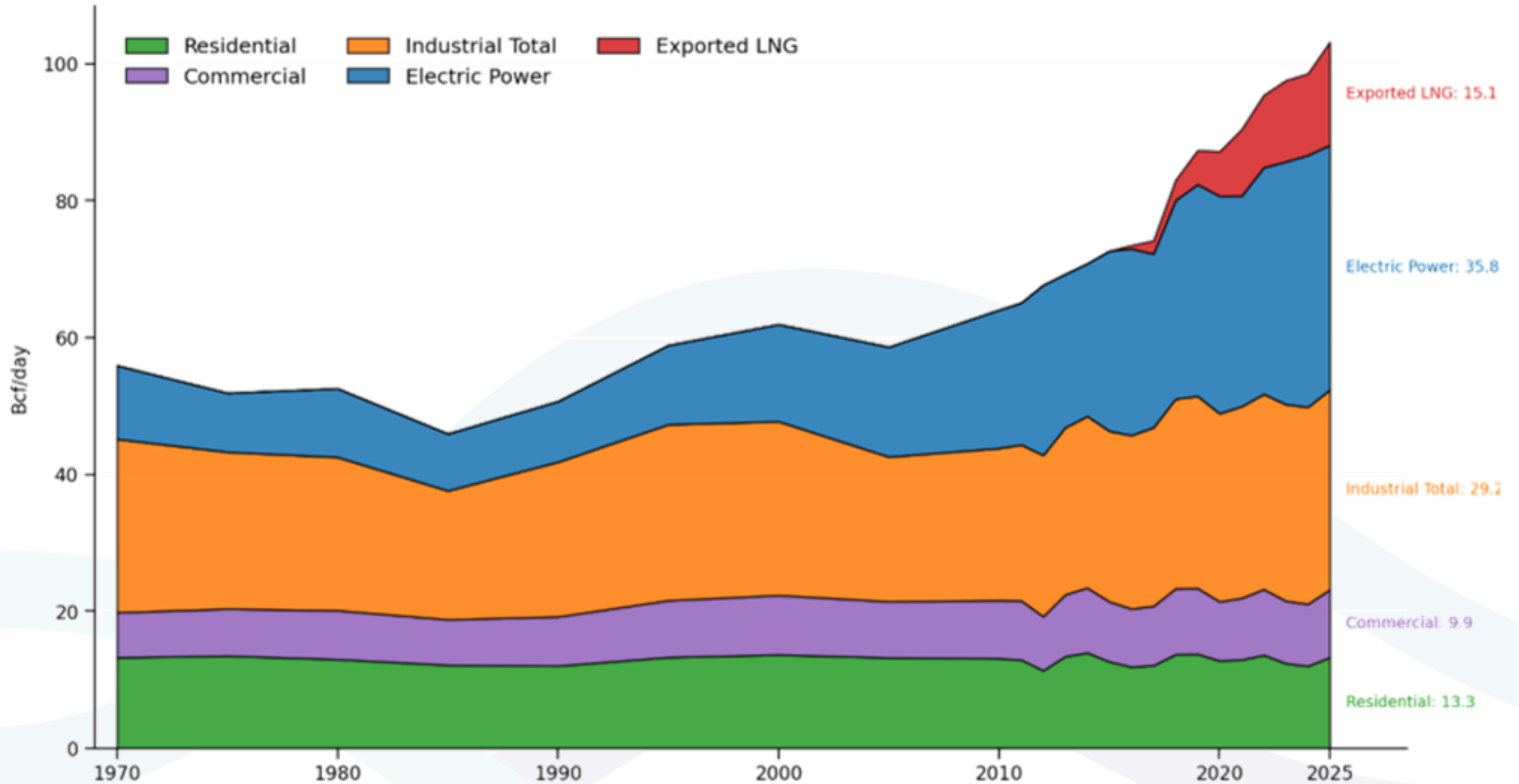


Source: U.S. E.I.A., Maps

U.S. Natural Gas Demand by Sector



Rhode Island Energy™
a PPL company



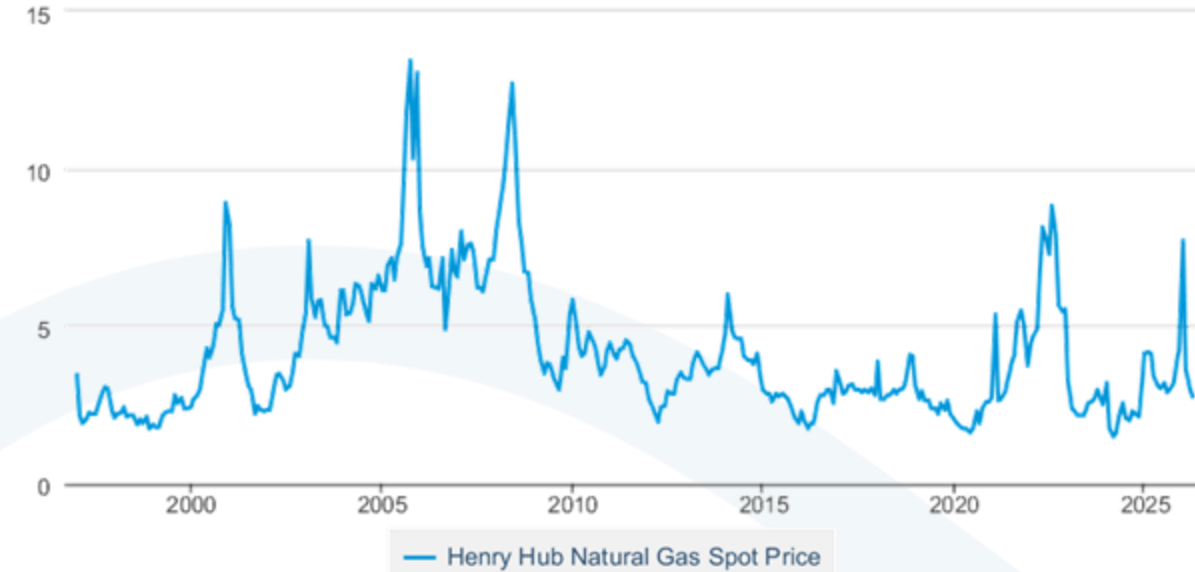
Natural Gas Price Index and Basis Terminology



- A natural gas price reflects the wholesale market price or spot market value of natural gas at a specific location for a specific time.
- Henry Hub is the pricing point for natural gas futures on the New York Mercantile Exchange (NYMEX).
- Basis is the price difference between a local hub and a benchmark (i.e., Henry Hub).

Henry Hub Natural Gas Spot Price

Dollars per Million Btu

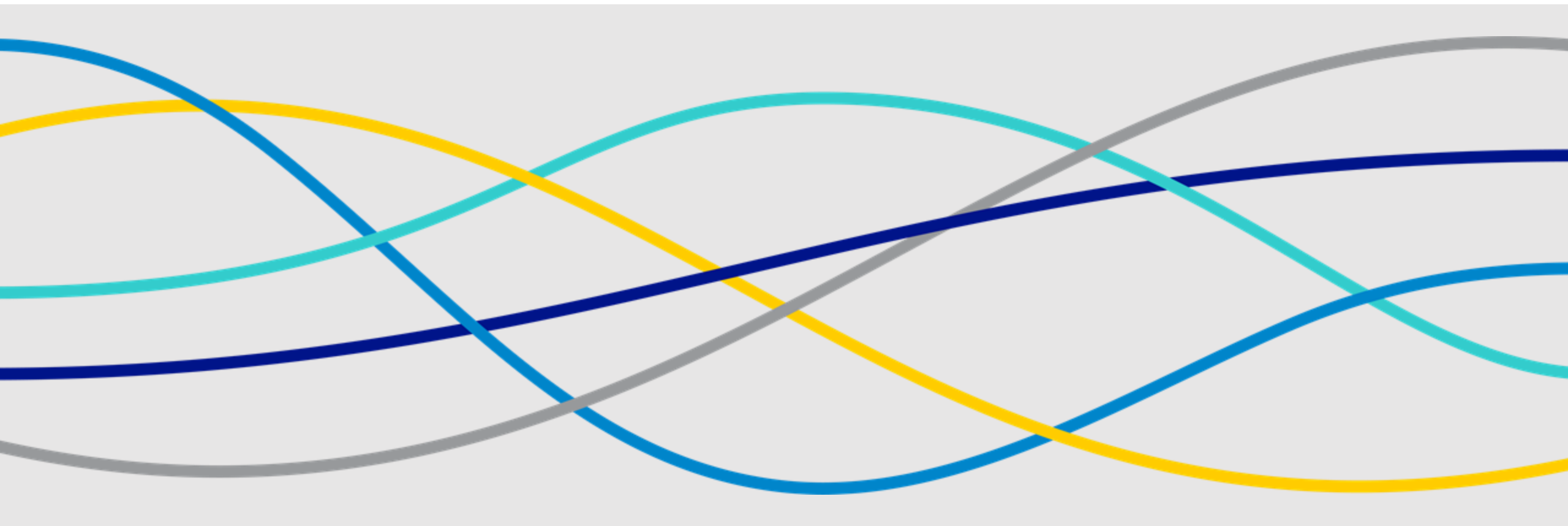


Example
Henry Hub: \$3.00/MMBtu
Chicago Hub: \$3.40/MMBtu
Basis = +\$0.40



Rhode Island Energy™

a PPL company



Northeast Natural Gas Market Overview

Primary Energy Source Used for House Heating (Share of Households)



Rhode Island Energy™
a PPL company

Region	Natural Gas	Electricity	Fuel Oil	Propane	Other / None
United States	46.6%	41.5%	3.5%	4.7%	4.2%
Connecticut	36.2%	20.2%	35.0%	5.7%	3.0%
Maine	8.3%	13.5%	50.3%	16.0%	11.9%
Massachusetts	52.0%	20.5%	20.2%	4.4%	2.9%
New Jersey	74.0%	16.7%	5.6%	1.9%	1.8%
New Hampshire	22.2%	11.9%	37.0%	20.4%	8.5%
New York	59.8%	16.5%	14.6%	4.7%	4.4%
Rhode Island	53.4%	14.2%	25.4%	4.9%	2.1%

Data changes year-to-year

Source and year used: U.S. E.I.A., 2024

Electric Generation Fuel Mix



Rhode Island Energy™
a PPL company

Region	Natural Gas	Coal	Nuclear	Renewables	Other
U.S.	43%	16%	19%	21%	2%
NY-ISO	51%	0%	21%	27%	1%
MISO	34%	25%	12%	20%	9%
ISO-NE	55%	0%	23%	23%	1%
CA ISO	34%	2%	10%	52%	2%

Data changes year-to-year

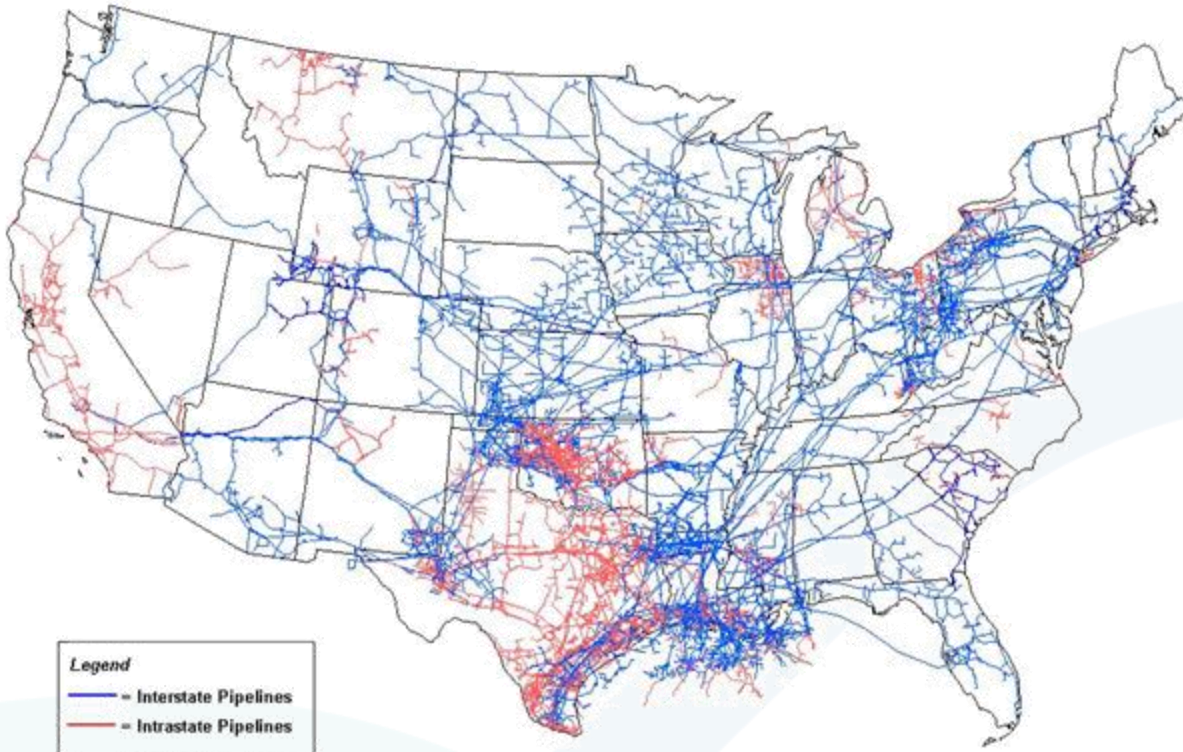
Source and year used: U.S. E.P.A., 2023

Northeast Gas Pipelines Compared to the U.S.

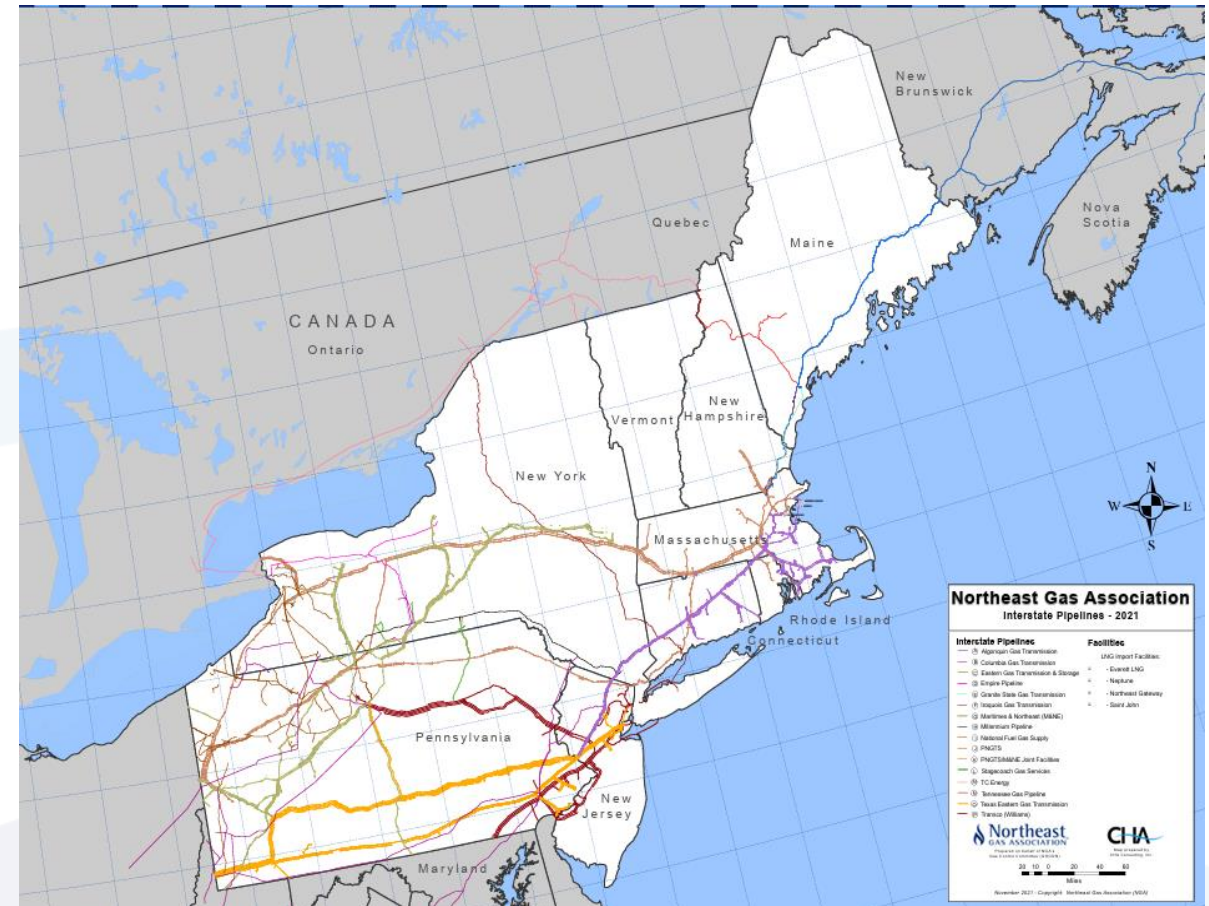


Rhode Island Energy™

a PPL company



Source: Energy Information Administration, Office of Oil & Gas, Natural Gas Division, Gas Transportation Information System



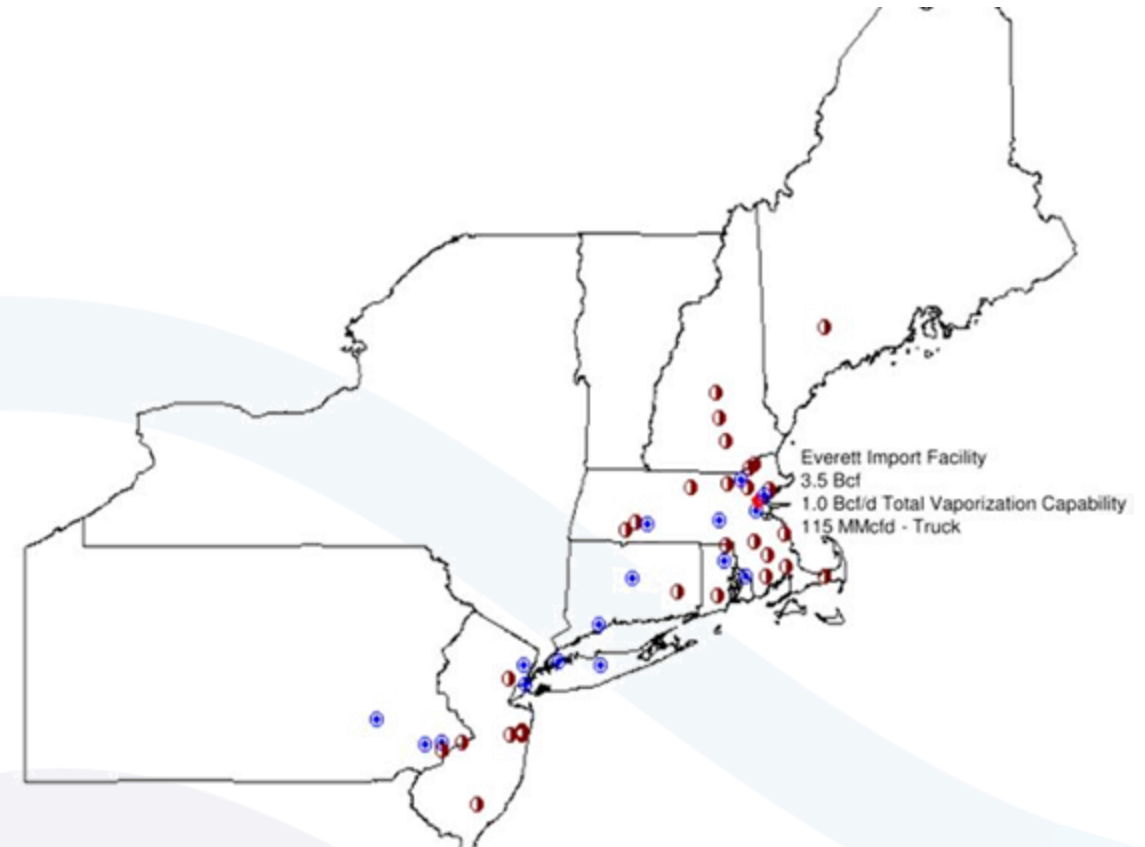
Regional LNG Storage Capacity



Rhode Island Energy™
a PPL company

Region	LNG Storage Capacity
New England (MA, CT, RI, NH, ME, VT)	16 Bcf
New York	3 Bcf
New Jersey	4 Bcf
Pennsylvania	4 Bcf

Source: Northeast Gas Association



Regional Infrastructure Differences



Rhode Island Energy™
a PPL company

- Pipeline Capacity Limitations
 - Existing pipelines are often fully utilized during the winter.
 - Limited Expansion
- Regional Storage
 - There is no underground storage in New England.
 - There is a heavy reliance on LNG peaking.
- LNG Importation
 - New England is the only region that relies on imported LNG.

AGT OFO Critical Notice:

As previously posted AGT, requests that customers/point operators on AGT be aware of the impact non-ratable hourly takes from the system may have in causing delivery pressures reaching lower than desired levels. As a reminder, AGT's system is not designed to sustain delivery pressures above contract levels while making non-ratable/accelerated deliveries above scheduled quantities for more than 6 consecutive hours, to be followed by flows below scheduled quantity for the balance of any 24-hour period.

Furthermore, if customers/point operators don't manage hourly takes from the system, 1) delivery pressures will be impacted and /or 2) AGT may be required to impose further restrictions or courses of action in order to maintain the operational integrity of the system.

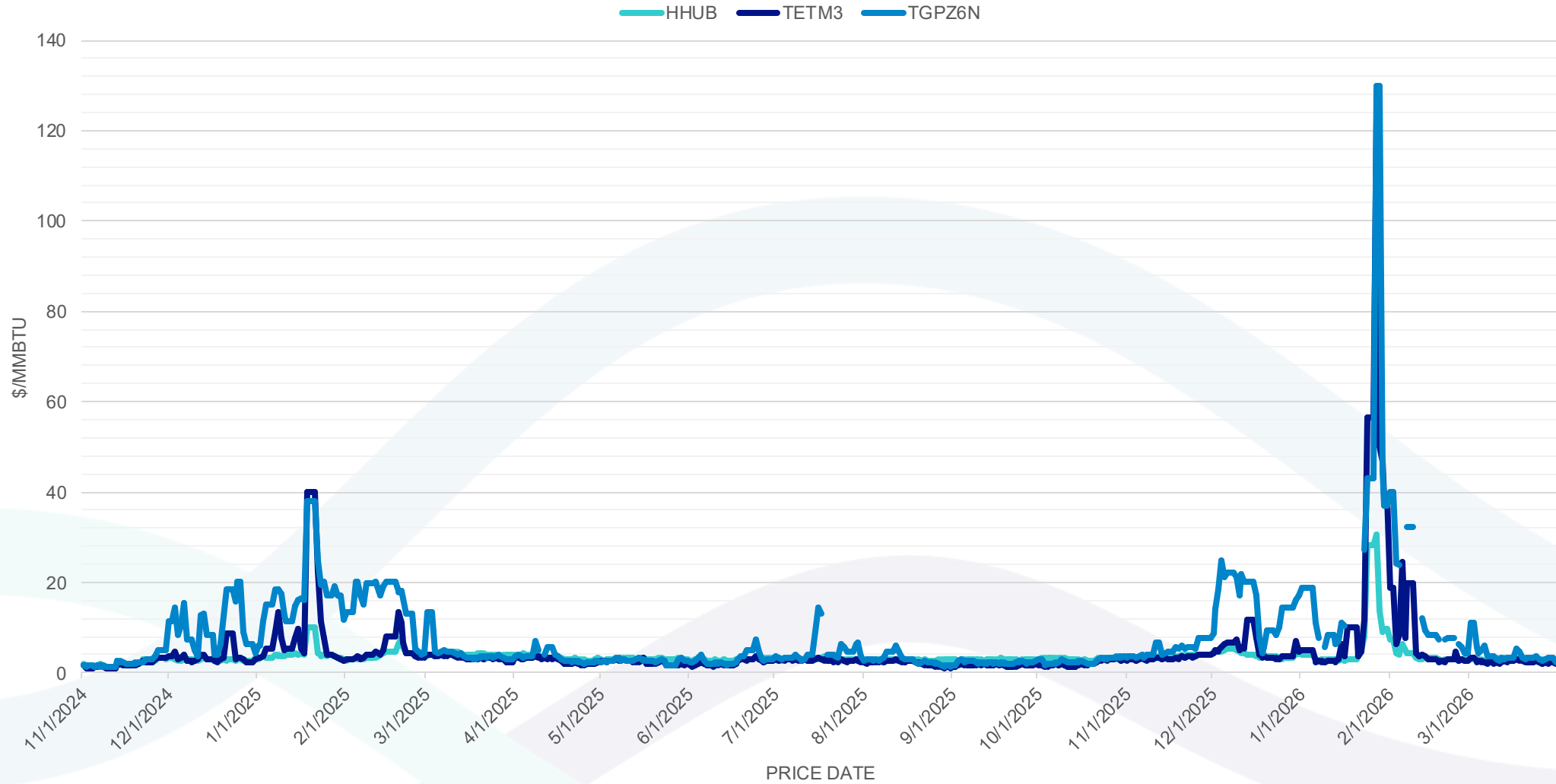
AGT may be required to issue system specific and/or hourly OFO's pursuant to General Terms and Conditions Section 26.7(d) to impose further restrictions in order to maintain the operational integrity of the system.

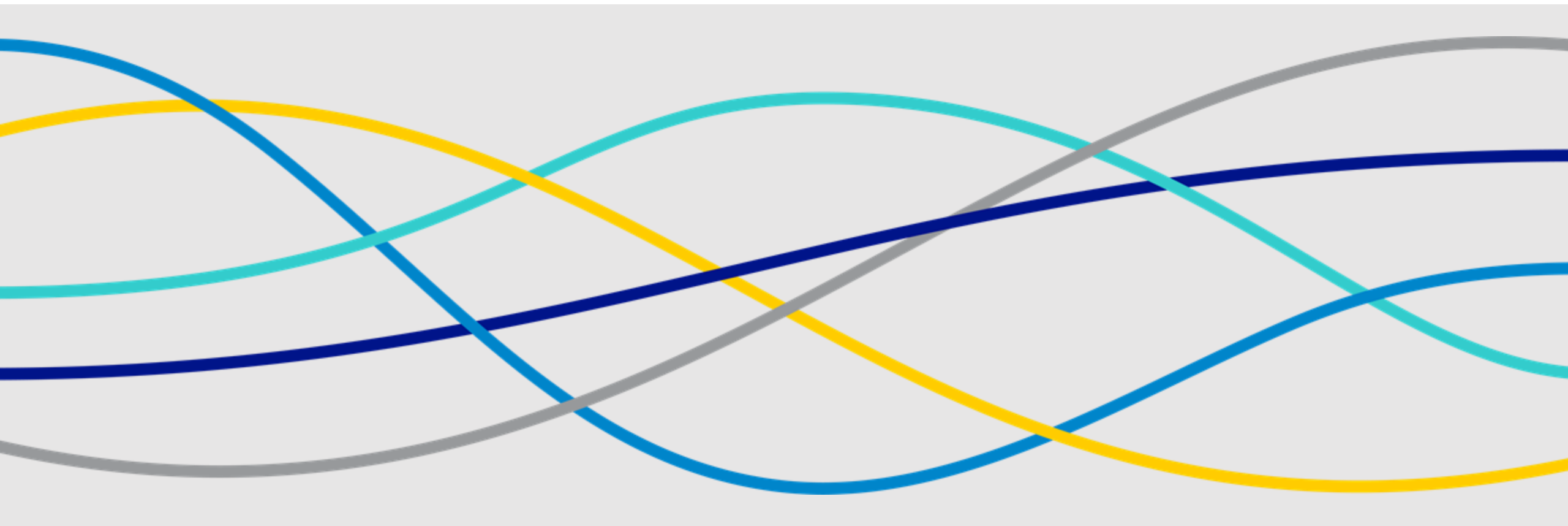
Regional Gas Prices – Seasonal Volatility



Rhode Island Energy™
a PPL company

Spot Gas Price Nov24-Mar26





LDC Planning Practices

Gas Procurement Overview



Rhode Island Energy™
a PPL company

- Natural gas procurement is the process of acquiring natural gas supply to meet the demand of our firm customers.
- The gas supply planning process involves:
 - Forecasting customer demand based on historical usage and weather.
 - Analyzing market conditions.
 - Negotiating pipeline transportation, storage, and supply contracts.
- The Gas Procurement Team's goal is to supply natural gas to customers reliably and safely over various weather conditions, including extreme weather events, in a cost-effective manner.



RIE Long-term Gas Supply Planning Process

1. Demand Forecasting

- Projections by customer class (e.g., residential, commercial, industrial)
- Customer usage, economic, and demographic data

2. Weather-Based Planning Standards

- **Design Day** (extreme peak demand)
- **Design Year and Hour** (severe winter conditions)
- **Cold Snap** (consecutive days of cold weather)
- **Normal Year** (average weather conditions)

3. Portfolio Analysis/Assessment

- Compare demand under various weather conditions to the gas supply portfolio
- Identify gaps, expiring contracts, and required additions (if any)

4. Regulatory & Policy Integration

- Incorporate regulatory policies (e.g., energy efficiency)

5. Ongoing Updates & Reporting

- Plan is updated regularly with new data and market conditions

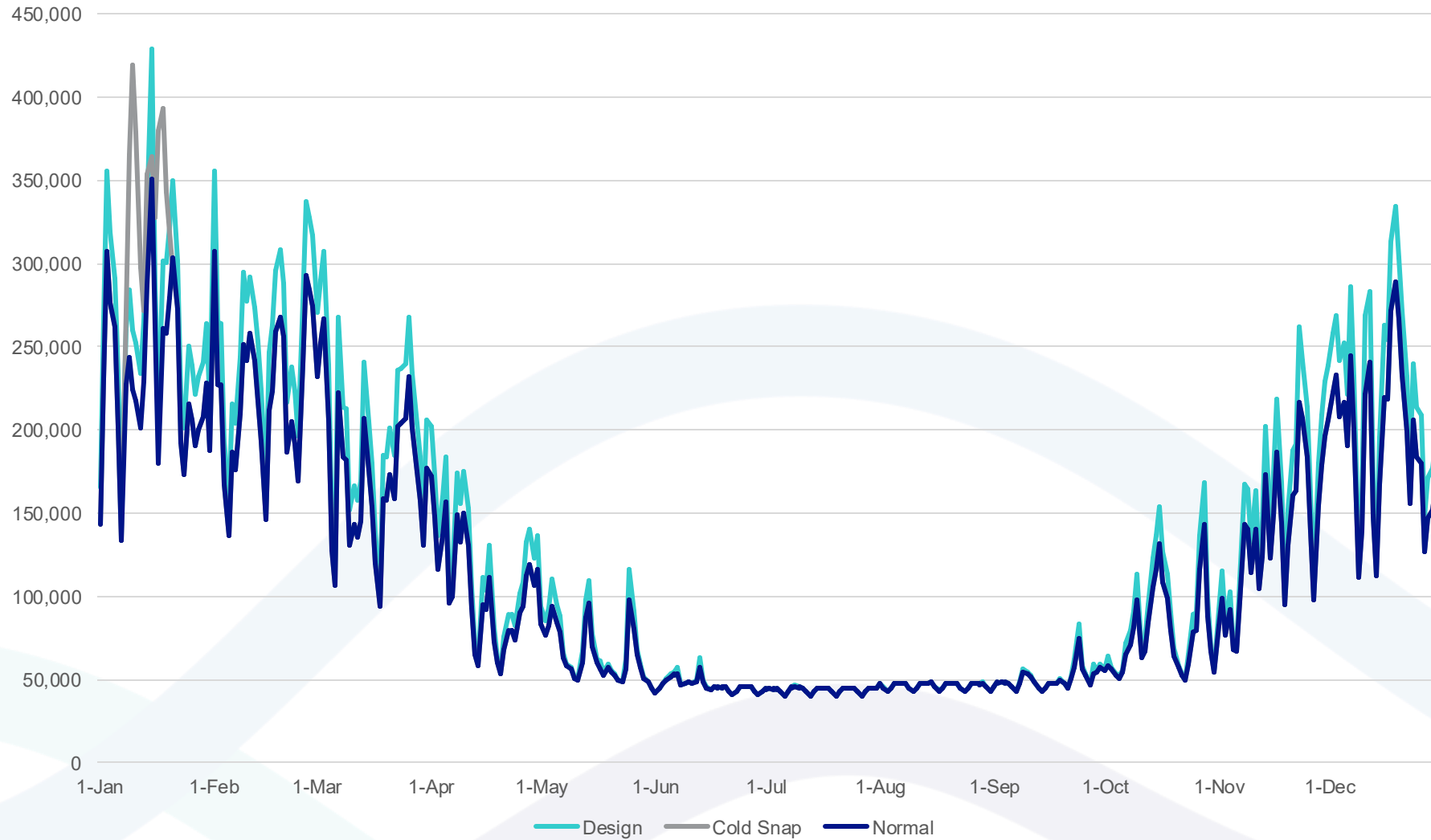
Takeaways

- Five-year (or longer) forecast filed with regulatory agencies.
- Inventory of existing contracts and resources.
- Forecasted portfolio requirements and decisions.

Illustrative Natural Gas Demand Forecast



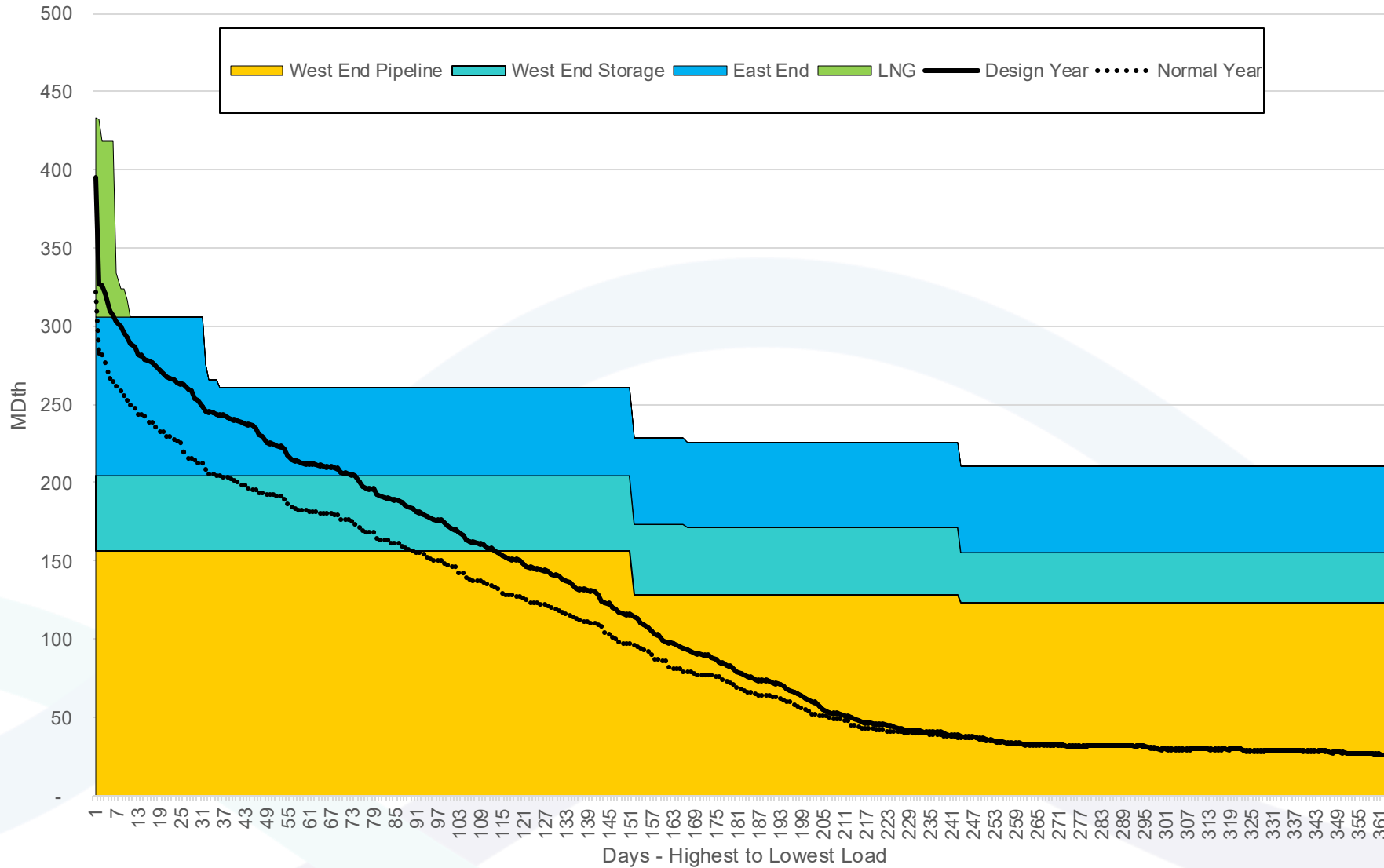
Rhode Island Energy™
a PPL company



Forecasted Demand & Gas Supply Portfolio



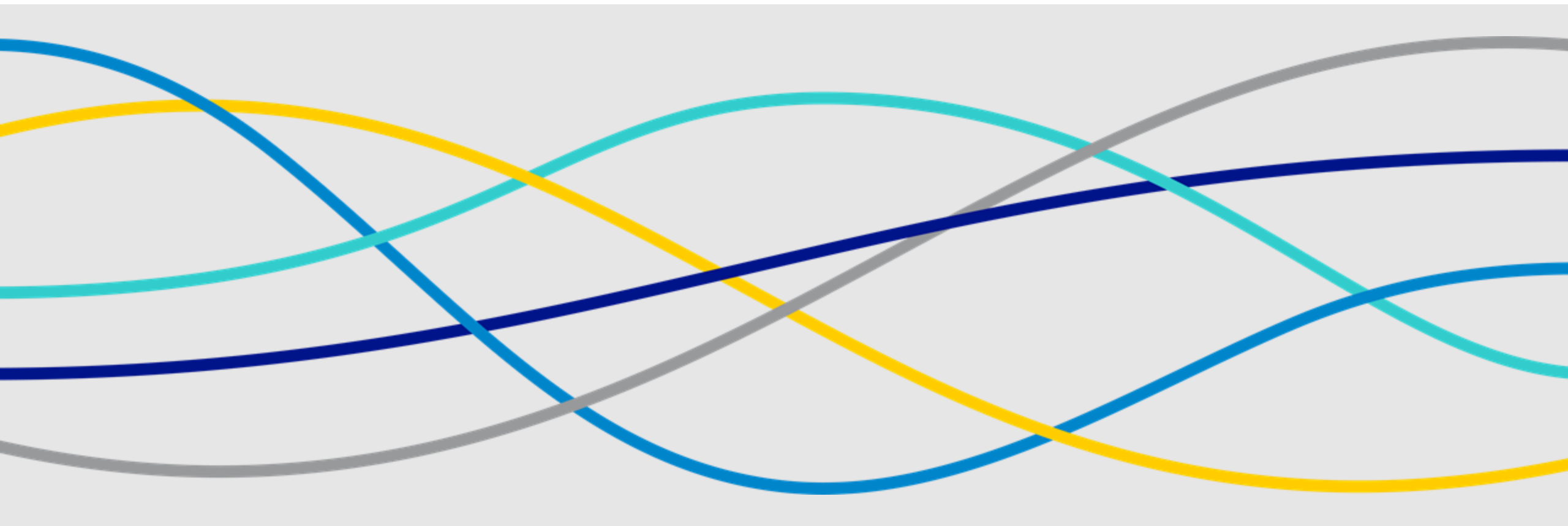
2025/26 Design Load Duration Curve





Rhode Island Energy™

a PPL company



LDC Procurement Execution

RIE Gas Supply Responsibilities



Rhode Island Energy™

a PPL company

- The daily, monthly, and seasonal procurement and delivery of natural gas to the RIE distribution system are managed by the team.
- Bids are solicited and negotiated for the purchase of gas commodities at various locations.
- Physical trades are identified and executed to deliver gas supplies to customers reliably under various weather events.
- Purchase plans are executed to refill the company's gas storage and LNG assets.
- Manage third-party deliveries to customers.

Gas Scheduling – Upstream Pipeline



Rhode Island Energy™
a PPL company

LINK System Customer Interface LINK Learning Training Tutorials Contact Us Logout

Home Select Business Unit AGT Login: LNKMTHOMPSON Nominations → Nomination Nomination: THE NARRAGANSETT ELECTRIC COMPANY D/B/A RHODE ISLAND ENERGY 8/2/2026 12:26:21 PM CDT

Clear Filters Match Draft Validate Retrieve Clear New Delete Edit Renom Submit

TSP Name *Rec Loc *Del Loc *Act Cd Svc Req Name (Agent)

TSP Rec Loc Name Del Loc Name *TT RR

*Svc Req Name *Up Name *Dn Name Pkg ID Rate Sch

Svc Req Prop Up ID Prop Dn ID Prop Nom Trk ID Fuel Qty

Svc Req Up ID Dn ID Bid Up Fuel%

*Svc Req K Up K Dn K Nom Sub Cycle Backhaul

Beg Date Rec Qty Del Qty Nom Stat

Beg Time Rec Rank Del Rank

End Date

End Time

Exclude Zero Noms Reduced Noms *Svc Req Name *Svc Req K

*Rec Loc *Del Loc Quantity [ALL] Equals 0

Hide Nom

*Svc Req K	RR	Nom Sub Cycle	*Act Cd	*TT	*Rec Loc	Rec Loc Name	*Up Name	Up ID Prop	Up ID	Up K	Rec Qty	Rec Rank	Rec Qty (Sched)	Rec Rank (Sched)	Fuel%	Fuel Qty	Del Qty	Del Qty (Sched)	Del Rank	*Del Loc	Del Loc Name	*Dn Name	Dn ID	Dn ID Prop	Dn K	Pkg ID	Del Rank (Sched)
<input type="text"/>	<input type="text"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Gas Scheduling – On-System



Rhode Island Energy™

a PPL company

FIS | Energy Trading, Risk and Logistics Platform Logged in as 'MTHOMPSON@RIENERGY.COM' on 'PROD' System -

Gas Scheduling : Scheduling 101

Legal Entity* RIE Facility* AGT Commodity* Natural Gas Wizard Select Wizard Cycle Select Cycle As Of* 08/12/2025 10:00 Create Through 08/13/2025 10:00 Deleted Deals Search Balance Create Out of Balance

Supply 16 13:27 [D] [L] [S] [Zeros] [LQ] **Transport** **Market 16 13:27** [D] [L] [S] [Zeros] [LQ]

Drag a column header and drop it here to group by that column

Counterparty	Up Deal/ Inventory	Location	Point	QTY	Avail QTY	Up Ref	Servi	Counterparty	Dn Deal/Inventory	Location	Point	QTY	Avail
--------------	--------------------	----------	-------	-----	-----------	--------	-------	--------------	-------------------	----------	-------	-----	-------

Nomination Plan 14 13:27 Aggregation Options: Single Send EDI Submit to PipeOps

Drag a column header and drop it here to group by that column

Up Reference	Contract	Upstream P...	Cycle	Receipt	Up Deal/ Inventory	Up Qty	Receipt Qua...	Adj %	Adj	Del QTY	Delivery	Dn Deal/Inventory	Begin Date	Enc
--------------	----------	---------------	-------	---------	--------------------	--------	----------------	-------	-----	---------	----------	-------------------	------------	-----

© 2026 FIS User : EDT - 06/02/2026 13:27 Server : EST - 06/02/2026 12:27

RIE EBB: Third Party Shippers and Marketers



Rhode Island Energy™
a PPL company

FIS Pipeline Operations Manager Last login on 06/01/2026 20:00 was successful. Welcome MOROURKE@RIENERGY.COM 06/02/2026 13:56 Logout Help

- Aligne
- Gas Operations
 - Customer Activities
 - Aligne PipeOps Reports
 - Nominations
 - Nomination
 - Nominations
 - Nom File Upload
 - Scheduled Quantity
 - Scheduled Quantity
 - Scheduled Quantity for C
 - Flowing Gas
 - Pre-determined Allocation
 - Imbalance
 - Measurement Information
 - Invoicing
 - Invoice
- About

CYCLE INFORMATION

Today

Facility	Cycle1	Cycle2	Cycle3	Cycle4
RIE_DS	●	●	●	●

Tomorrow

Facility	Cycle1	Cycle2	Cycle3	Cycle4
RIE_DS	●	●	●	●

NOMINATIONS

Nominations

→

SHIPPER INQUIRY

Shipper Imbalance

Scheduled Quantity

→

CAPACITY RELEASE

→

FUTURE USE

→

Welcome

Pipeline

Contact Us

Question?

RIECustomerChoice@RIEnergy.com

Email Us:

RIECustomerChoice@RIEnergy.com

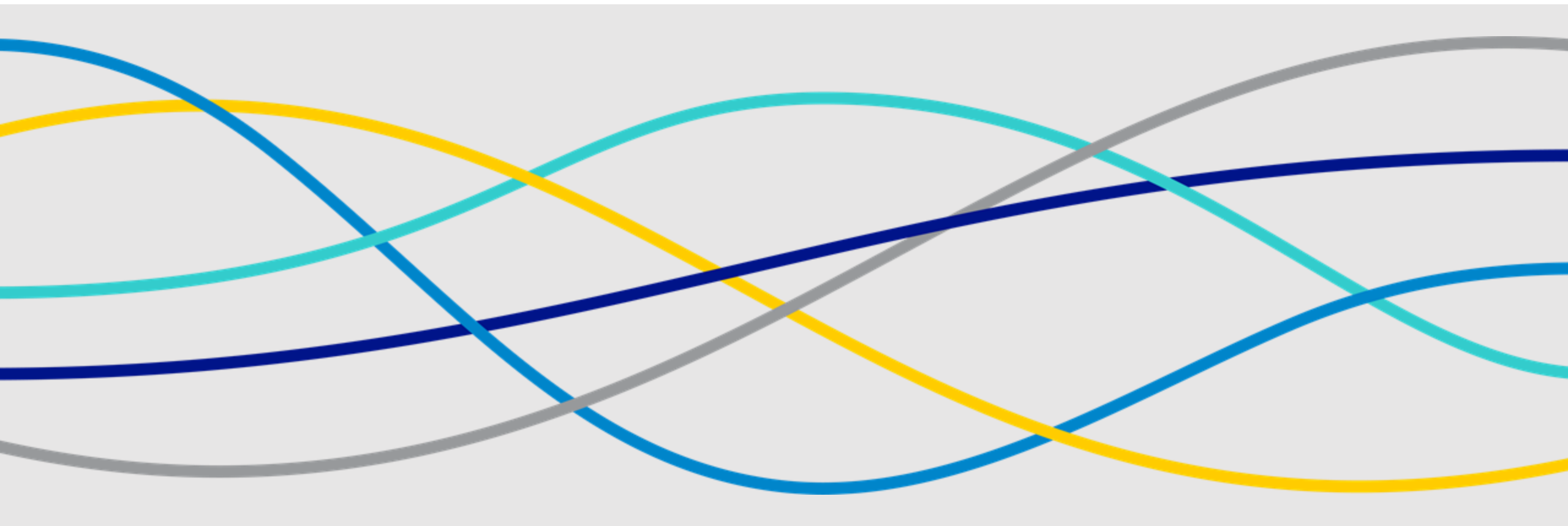
Refresh

© 2026 FIS All Rights Reserved. [Privacy Policy](#) [Terms & Conditions](#)



Rhode Island Energy™

a PPL company



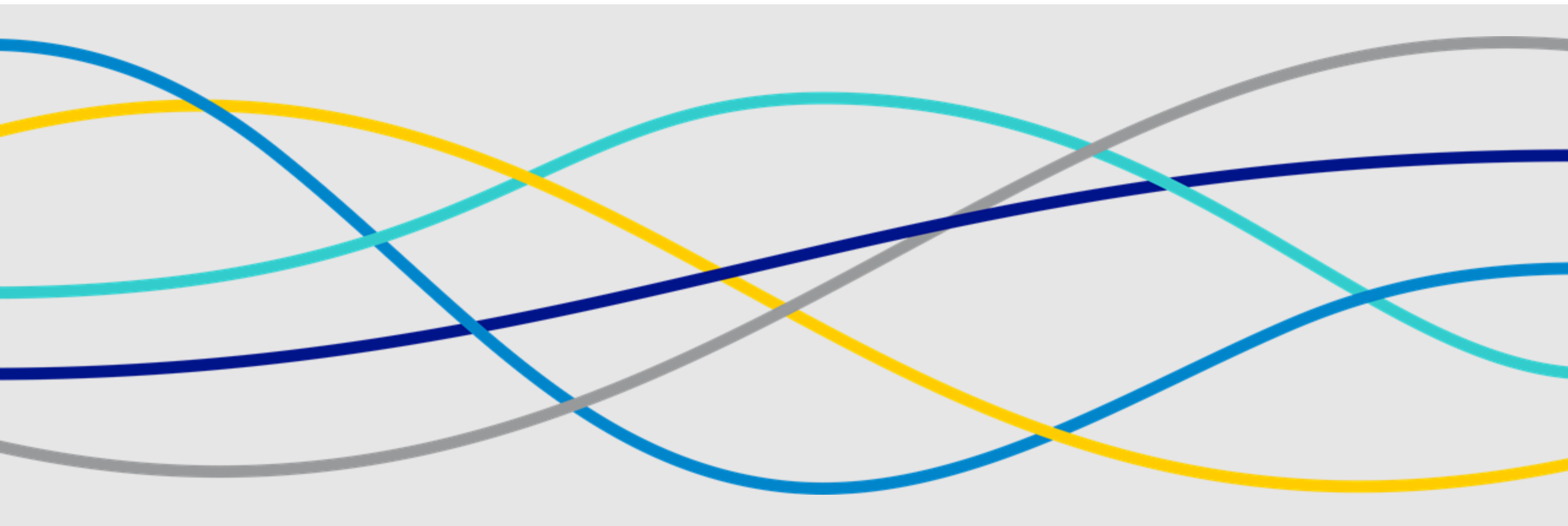
Conclusion

Key Takeaways



Rhode Island Energy™
a PPL company

- The Northeast faces persistent natural gas constraints, especially during peak winter demand.
- Key drivers:
 - Limited pipeline capacity into the Northeast
 - High seasonal heating demand and growing power demand
- Outcomes:
 - High prices
 - Extreme price volatility
 - Dependence on imported LNG and fuel switching
- Gas Supply & Procurement Goal: Work with Gas Control and the LNG teams to ensure safe, reliable, and cost-effective gas supply for customers across all weather conditions, including extreme winter events.



Q & A