2025 Polar Vortex: Gas Data Request

EGCS

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Monitoring Analytics

Data Collection

- **Following the 2025 Polar Vortex a data request was sent to participants with units that ran on natural gas during the period of January 18-24.**
- **Records of gas transactions/times, prices, volumes, and suppliers.**
- **Responses received from 86 participants.**
- **Total gas transacted 73,314,281 MMBtu**
  - **Purchases: 68,827,305 MMBtu**
  - **Sales: 4,486,976 MMBtu**
- **About 48,000 MW around the clock for seven days using a 8 MMBtu/MWh heat rate using purchases minus sales.**

Gas Transaction Summary

- **Gas transactions by day**
  - **Transactions peaked on Tuesday with Purchases and Sales totaling 11,875,178 MMBtu.**

Day	Gas Day	Purchase Volume MMBtu	Sale Volume MMBtu	Total Volume MMBtu
Saturday	1/18/2025	8,528,883	1,109,523	9,638,406
Sunday	1/19/2025	10,217,430	569,857	10,787,287
Monday	1/20/2025	11,093,341	482,854	11,576,195
Tuesday	1/21/2025	11,348,616	526,562	11,875,178
Wednesday	1/22/2025	10,535,121	573,551	11,108,672
Thursday	1/23/2025	9,525,858	718,211	10,244,069
Friday	1/24/2025	7,578,056	506,418	8,084,474

Purchase Timing

- **Timing of purchases sorted into three categories.**
  - **Prior to event (16,189,373 MMBtu).**
    - Gas purchase before Jan 17 for the days of event.
      - **Monthly baseload or hedges.**
  - **Next day purchases (46,700,217 MMBtu).**
    - Next day weekend package.
    - Next day gas purchased Friday.
      - **Purchased Friday for Sunday, Monday, etc.**
    - True next day gas.
      - **Purchased Sunday for Monday, Monday for Tuesday, etc.**
  - **Same day purchases (5,937,715 MMBtu).**

Purchase Timing

- **Majority of purchases from Jan 18 – Jan 24 were next day transactions.**

Day	Gas Day	Purchase Volume MMBtu	Prior to Event	Next Day	Same Day
Saturday	1/18/2025	8,528,883	28.9%	68.4%	2.7%
Sunday	1/19/2025	10,217,430	22.6%	72.1%	5.3%
Monday	1/20/2025	11,093,341	21.1%	70.5%	8.4%
Tuesday	1/21/2025	11,348,616	21.0%	69.2%	9.8%
Wednesday	1/22/2025	10,535,121	21.6%	70.6%	7.9%
Thursday	1/23/2025	9,525,858	23.2%	64.6%	12.2%
Friday	1/24/2025	7,578,056	29.2%	55.8%	15.1%

Next Day Transactions

- **Over 2/3 of next day gas purchases during weekend was via weekend packages.**
- **Some participants were able to purchase individual days instead of the weekend package.**

Day	Gas Day	Next Day Purchases MMBtu	Weekend Package	Next day Friday	True Next Day
Saturday	1/18/2025	5,836,364	90.8%	9.2%	0.0%
Sunday	1/19/2025	7,362,711	72.0%	26.0%	2.0%
Monday	1/20/2025	7,822,247	67.8%	26.0%	6.2%
Tuesday	1/21/2025	7,858,697	67.5%	25.8%	6.7%
Wednesday	1/22/2025	7,436,918	0.0%	5.4%	94.6%
Thursday	1/23/2025	6,156,725	0.0%	1.3%	98.7%
Friday	1/24/2025	4,226,555	0.0%	1.9%	98.1%

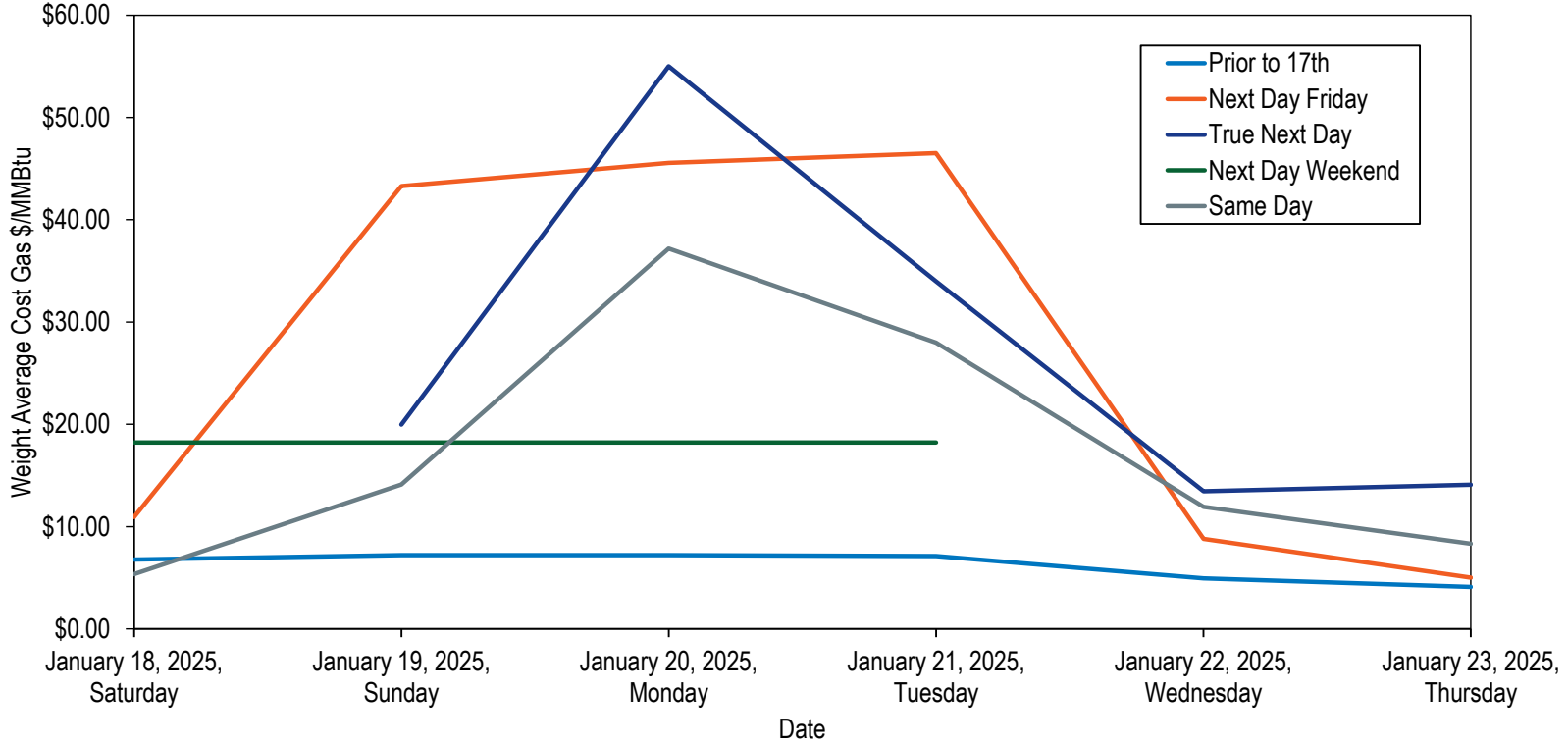
Weighted Average Cost of Purchases

- True next day gas (Sun for Mon, Mon for Tues, etc)
  - Weekend purchases 115,328 MMBtu
  - Weekend average of $36.32/MMBtu
  - Peaked on Monday at $55.01/MMBtu
- Next day gas purchased Friday (Fri for Sun, etc)
  - Weekend purchases 6,515,967 MMBtu
  - Weekend average $36.57/MMBtu
  - Peaked on Tuesday at $46.51/MMBtu
- Weekend package
  - Weekend purchases 21,204,724 MMBtu
  - WAC$18.23/MMBtu

Weighted Average Cost of Purchases

- **Prior to event**
  - **Weekend purchases 9,500,512 MMBtu**
  - **Weekend average $7.08/MMBtu**
- **Same day gas**
  - **Weekend purchases 2,807,739 MMBtu**
  - **Weekend average $21.16/MMBtu**
  - **Peaked on Monday at $37.18/MMBtu**

WAC of Purchases



Type of Gas Purchased

- **Index Gas Daily accounted for over half of the gas purchased.**
  - **Inside FERC most used index other than Gas Daily.**
- **Fixed Gas purchases increased through the weekend peaking on Tuesday.**

		Purchase Volume	Index Gas		
Day	Gas Day	MMBtu	Fixed	Daily	Index Other
Saturday	1/18/2025	8,528,883	28.2%	66.0%	5.8%
Sunday	1/19/2025	10,217,430	33.7%	61.5%	4.8%
Monday	1/20/2025	11,093,341	38.3%	57.2%	4.4%
Tuesday	1/21/2025	11,348,616	38.9%	56.7%	4.3%
Wednesday	1/22/2025	10,535,121	33.7%	61.6%	4.7%
Thursday	1/23/2025	9,525,858	27.8%	67.1%	5.2%
Friday	1/24/2025	7,578,056	30.3%	63.2%	6.5%

Unburned Gas

- **Based on the information provided, the IMM calculated about 3,063,129 MMBtu of unburned gas sold at a loss.**
  - **Included volume sold from reported purchases.**
  - **Only sales that had corresponding weekend purchases at same location were included.**
  - **No imbalances or cash outs are included. Data was not requested.**
- **Average buy / sell spread was $10.76/MMBtu.**
- **Estimated loss was $33 million (about a third on Sat 1/18).**

Participant Commentary

- **Data request also included a written portion.**
  - **Confidence level in gas procurement.**
  - **Concerns and other issues seen during event.**
- **Confidence level of being able to procure the needed gas was moderate.**
  - **Small number of situations where gas was thought unable to be purchased.**

Participant Commentary

- **Concerns**
  - **Weekend Package complicated by warmer Saturday had to buy a 4 day package at elevated pricing to ensure gas for Sunday through Tuesday.**
  - **General confusion around advance commitment process.**
    - Limited information on how units would run
      - **Buying gas for eco max and running on eco min, etc.**
      - **How uplift worked for prior commitments**
  - **High imbalances and uneconomic sellbacks.**
  - **High variance in quoted prices around identical products.**

Conclusion

- **This data is vital to understanding the actions taken by generators as a result of advanced commitments.**
  - **Less reliance on anecdotal discussions.**
- **Collecting the data helps inform changes in procurement strategies in the market as a whole.**
- **Some data (individual next day purchases over the weekend and same day purchases) tend to be bilateral deals outside of an exchange (e.g. ICE). Buyers and sellers become the only source of the data.**

Next Steps

- **Data collection during events has been shown to be useful, developing a standardized data collection process would be beneficial.**
  - **Ease for participants.**
  - **Consistency in event look back.**
  - **Efficient data processing for all parties.**
- **The IMM is exploring creating a MIRA module for the collection of these data instead of relying on emails.**

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