

**Pennsylvania Public Utility Commission**

# **Annual Winter Reliability Assessment Meeting**

Remarks by

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# Introduction

The **Energy Association of Pennsylvania** represents the interests of its

## Member NGDCs:

Columbia Gas of Pennsylvania  
Equitable Gas  
National Fuel Gas Distribution Corp.  
PECO Energy Company  
Peoples Natural Gas Co.  
Philadelphia Gas Works  
Pike County Light & Power  
UGI Central Penn Gas, Inc.  
UGI Penn Natural Gas, Inc.  
UGI Utilities, Inc. - Gas Division  
Valley Energy



# Supply and Demand

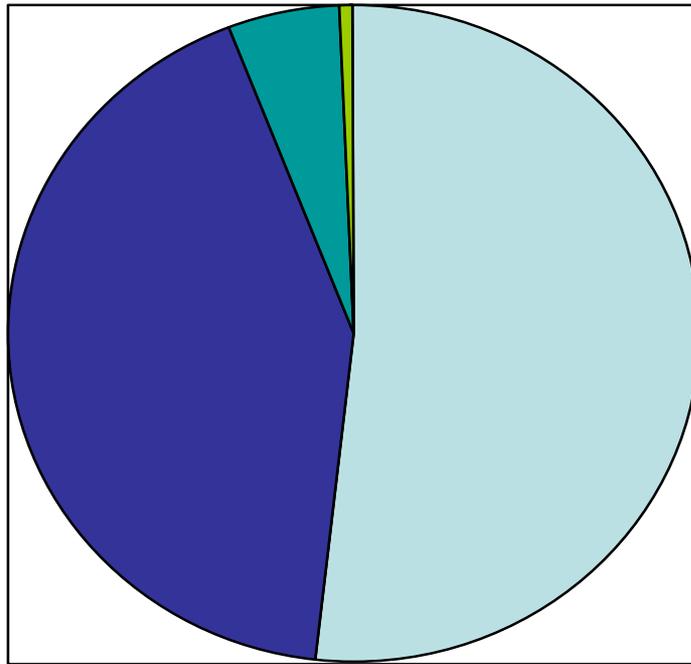
Winter 2011-2012

*(all natural gas volumes in billions of cubic feet)*

Expected Demand	<b>214.2 Bcf</b>
Expected Supply	
Flowing Interstate Gas	110.9
Storage Withdrawals	91.0
Local Production	11.1
Peak Shaving	1.2
<b>TOTAL</b>	<b>214.2</b>



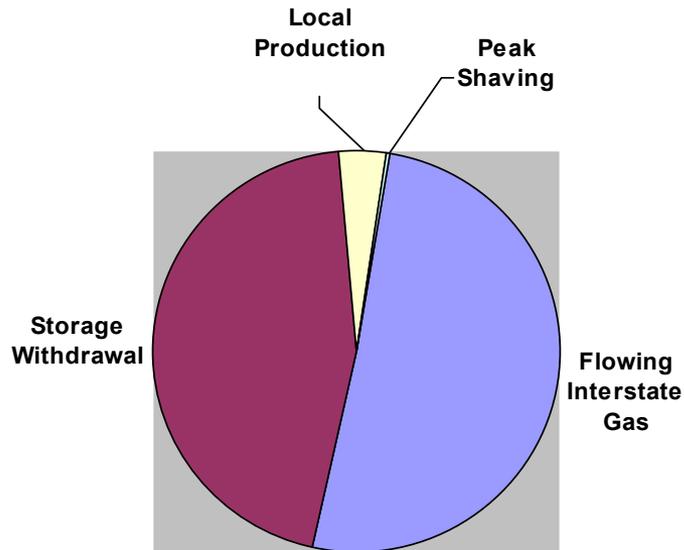
# Winter 2011-2012: Supply Sources



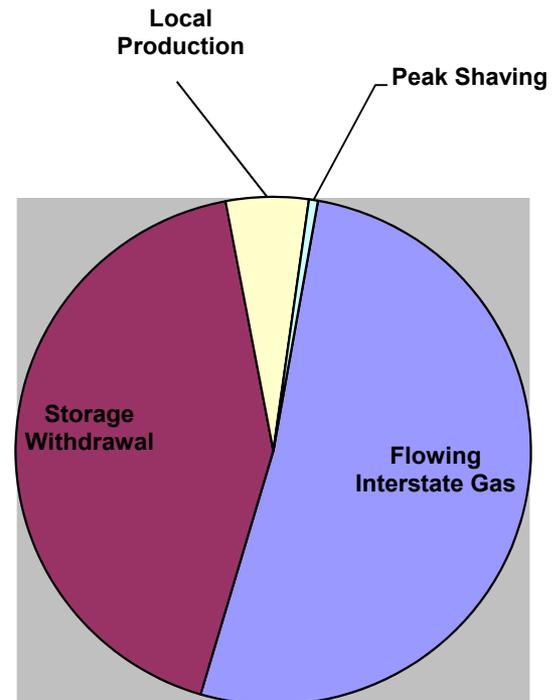
- Flowing Interstate Gas
- Storage Withdrawals
- Local Production
- Peak Shaving

# Comparison of Forecasts Last Winter and This Winter

**Winter 2010-2011:  
Supply Sources by Type  
220.4 Bcf**



**Winter 2011-2012:  
Supply Sources by Type  
214.2 Bcf**



# System Planning Strategies

Objective: To identify supply resources (including upstream transportation and storage capacity) that will be necessary to preserve service reliability at anticipated levels of firm demand

# System Planning Strategies

Capacity and Supply Assets: NGDCs commit to capacity and supply assets as necessary to meet firm customer needs, including operational swings. Commitments may include a reserve, but do not include service to interruptible customers. These assets include:

- Pipeline deliveries per firm transportation agreements
- Underground storage withdrawals (on-system, off-system)
- Pennsylvania production (where available)
- Peak shaving facilities

# System Planning Strategies

- Proved reserves of natural gas have grown significantly over the past several years. The Energy Information Administration projects that natural gas production from unconventional resources in the U.S. will increase 35% between 2007 and 2030.
- The combination of two technologies—horizontal drilling and hydraulic fracturing—made it possible to produce shale gas economically.
- From 2006 to 2010 U.S. shale gas production grew by an average of 48% per year. The largest production gains have occurred in Northeastern Pennsylvania with noticeable increases also in Southwestern Pennsylvania and West Virginia. Further increases in shale gas production are expected, with total production growing almost fourfold from 2009 to 2035.
- EIA expects that overall production will continue to grow in 2012, but at a slower pace, increasing 1.4 billion cubic feet per day (2.1%) to an average of 67.4 Bcf/d.

(Short-Term Energy and Winter Fuels Outlook, US Energy Information Administration, October 12, 2011; Annual Energy Outlook 2011, Executive Summary, US EIA, April 26, 2011; EIA's Natural Gas Year- In-Review 2009, released July 2010; Expansion of the U.S. Natural Gas Pipeline Network: Additions in 2008 and Projects through 2011, US EIA-Office of Oil and Gas, September 2009; Today in Energy, US EIA, August 30, 2011)



# System Planning Strategies - Price

- EIA expects the 2012 Henry Hub natural gas spot price to average \$4.32 per MMBtu (million British thermal units) with the expectation of a slowing in the rate of growth in domestic production. The projected spot price averages \$4.15 per MMBtu in 2011.
- As the start of the winter heating season approaches, conditions of strong supply, growing underground storage volumes and moderate consumption contributed to a November Henry Hub spot price that settled at \$3.59 per MMBtu on Wednesday, October 26, 2011.
- Natural gas prices nationally fell to their lowest level in seven years in 2009. The wellhead price averaged \$3.71 per thousand cubic feet (Mcf) during 2009, compared with \$7.96 per Mcf in 2008.

*(Short-Term Energy and Winter Fuels Outlook, US EIA, October 12, 2011; Natural Gas Market Indicators, AGA, 10/28/11; EIA's Natural Gas Year- In-Review 2009, released July 2010)*



# System Planning Strategies - Pipeline Infrastructure

- More than 20,000 miles of new natural gas transmission pipeline, representing more than 97 billion cubic feet per day of capacity, were placed in service in the United States over the 1998 – 2008 time period.
- Additions to the national pipeline grid totaled close to 3,000 miles in 2009, representing 43 natural gas pipeline projects.
- EIA notes that the scale of natural gas pipeline projects was also exceptional in 2008, with nearly 3,900 miles of pipe adding 44.6 Bcf per day of cumulative capacity.

*(Natural Gas Year-In-Review 2009, US EIA, Released: July 2010; Expansion of the U.S. Natural Gas Pipeline Network: Additions in 2008 and Projects through 2011, EIA, September 2009; Major Changes in Natural Gas Transportation Capacity 1998-2008, J. Tobin, EIA, Office of Oil & Gas)*



# Storage Management

- Inventories must be maintained at the levels necessary to fulfill obligations per planning criteria. Aggregate projected storage levels on Nov. 1, 2011 are sufficient to meet anticipated winter demand
- Warmer than normal weather affects storage utilization, given the need to meet minimum turnover requirements for the integrity of fields and to comply with pipeline tariff provisions

# Storage Management

- Where contractually and operationally permissible, an NGDC may leave gas in storage if projected replacement costs exceed current prices, or an NGDC may use storage in lieu of firm transportation if replacement costs are favorable
- Storage inventory is managed to prevent deliverability from being reduced before potential design day occurrence, and to prevent firm markets from going unserved for some part of the remainder of the season
- Nationally, near record volumes of gas directed into storage are now above the five year average and close to the all time record set last year. EIA expects that working gas inventories will approach last year's high levels by the end of the injection season. On October 21, 2011, inventories increased to 3,716 billion cubic feet - 4.4% ahead of the five year average and only 0.7% behind the record set last year.
- According to AGA, the range of market indicators suggest an environment that will be able to supply adequate volumes of gas to meet U.S. demand this winter heating season.

*(AGA Natural Gas Market Indicators –10/28/11 and 10/14/11; Short-Term Energy and Winter Fuels Outlook, US EIA, October 12, 2011 )*



# Ability to contract for interstate pipeline capacity

- Firm capacity assets are used to transport supplies and manage storage to serve firm customers and operationally balance system requirements
- Members routinely review the interstate capacity market to try to obtain the optimum portfolio of assets to meet their needs
- The temperature sensitive loads of residential and human needs customers require dedicated, firm interstate transportation and storage services: There is no substitute
- Members do not report difficulty contracting for firm interstate capacity **when it is available**

# Injections into LNG Facilities

- Two Association members inject into member-owned facilities
- Total volume injected: 4.1 Bcf
- PECO Energy anticipates using LNG to meet 1% of winter day requirements, PGW anticipates using LNG to meet 2% of winter requirements
- Management of LNG facilities is primarily a matter of preparedness

# Gas Price Volatility: Hedging

- Based on a weighted average of the members, **51.9%** of this winter's supplies are hedged
- Supplies are considered hedged if they are
  - Already purchased and in storage
  - If they are contracted for delivery under:
    - Fixed-price contracts
    - Forward-priced contracts
    - Price caps

# Conclusion: Supply

- Members are well prepared to accommodate the conditions forecasted in their winter season planning design.
- Underground storage and peak shaving inventories will be adequate to handle design conditions.

Thank you.