

**Pennsylvania Public Utility Commission**  
**Annual Winter**  
**Reliability Assessment Meeting**

**Remarks by**

**Terrance J. Fitzpatrick**  
**President & Chief Executive Officer**  
**Energy Association of Pennsylvania**

**November 8, 2012**  
**Harrisburg, PA**



# 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.  
Peoples TWP  
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

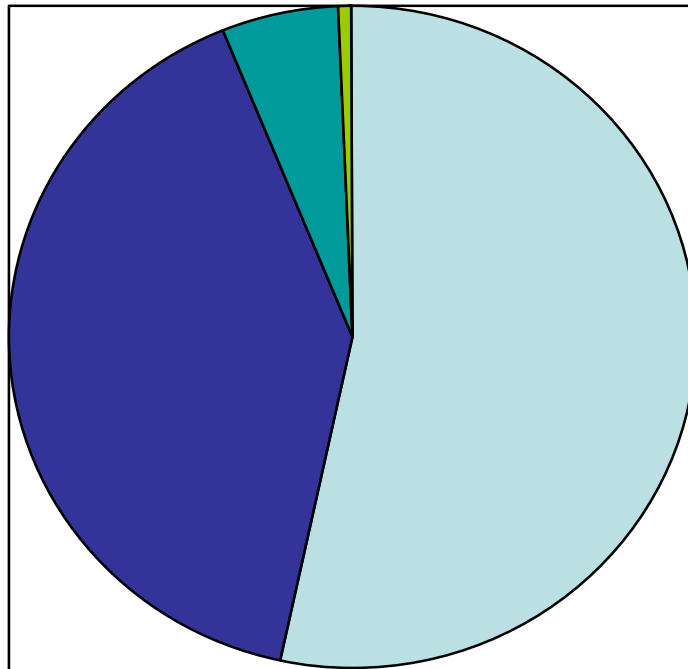
Winter 2012-2013

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

|                        |                  |
|------------------------|------------------|
| Expected Demand        | <b>210.9 Bcf</b> |
| Expected Supply        |                  |
| Flowing Interstate Gas | 112.4            |
| Storage Withdrawals    | 85.9             |
| Local Production       | 11.7             |
| Peak Shaving           | 0.9              |
| <b>TOTAL</b>           | <b>210.9</b>     |



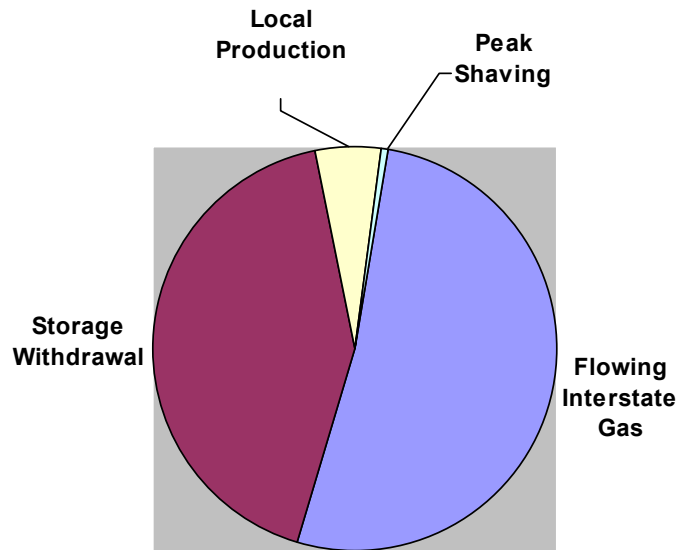
# Winter 2012-2013: Supply Sources



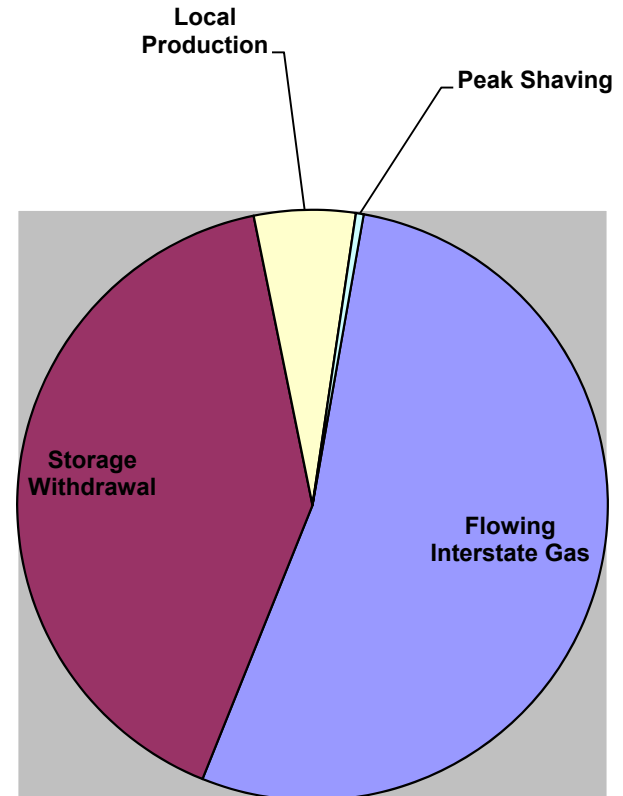
- Flowing Interstate Gas
- Storage Withdrawals
- Local Production
- Peak Shaving

# Comparison of Forecasts Last Winter and This Winter

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



**Winter 2012-2013:  
Supply Sources by Type  
210.9 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 (EIA) 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.
- Onshore production growth in 2011 was largely concentrated in shale plays, due to strong production in the Marcellus Shale in Pennsylvania, Louisiana's Haynesville Shale and the Eagle Ford shale in Texas. Further increases in shale gas production are expected, with total shale gas production growing almost fourfold from 2009 to 2035.
- Total marketed production of natural gas grew by 4.8 billion cubic feet per day (Bcf/d) or 7.9% in 2011. This was the largest year-over-year change since 1984. EIA expects some small declines in overall natural gas production in the coming months and forecasts that total marketed production growth will slow to 2.6 Bcf/d in 2012.

(Short-Term Energy and Winter Fuels Outlook, US Energy Information Administration, October 10, 2012; Annual Energy Outlook 2011, Executive Summary, US EIA, April 26, 2011; EIA's Natural Gas Year-In-Review 2011, released July 2012, and 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)





# System Planning Strategies - Price

- EIA expects the Henry Hub natural gas spot price which averaged \$4.00 per million British thermal units (MMBtu) in 2011, to average \$2.71 per MMBtu in 2012 and \$3.35 per MMBtu in 2013.
- Last year natural gas prices dropped at natural gas trading locations in all regions in the country from their levels the previous year. Prices have continued to fall in 2012 and hit 10 year lows in March and April 2012, remaining below \$2.00 per MMBtu.
- During the winter heating season, natural gas prices are likely to be higher than the \$2.00-\$2.50 range seen earlier in the year. The Henry Hub cash prices are currently about \$3.50 per MMBtu.

*(Short-Term Energy and Winter Fuels Outlook, US EIA, October 10, 2012; EIA's Natural Gas Year-In-Review 2011, released July 2012 ; Natural Gas Market Indicators, AGA, 10/31/12 ; Natural Gas Weekly Update, US EIA, for week ending 10/31/12)*



# System Planning Strategies - Pipeline Capacity Reliability

- The national pipeline network is comprised of 305,000 miles of interstate and intrastate transmission pipelines and 400 underground natural gas storage facilities. Development of this infrastructure helps meet the needs of the market.
- More than one-third of the pipeline projects since 2008 addressed a growing need for additional natural gas pipeline capacity to support transportation of new natural gas production to regional markets.
- According to FERC, access to new production and added natural gas transportation capacity has contributed to breaking down long standing price differences between market hubs and has helped to reduce bottlenecks significantly.
- EIA notes that at least 25 major pipeline projects were completed in the U.S. in 2011, adding a total of about 2,400 miles of pipeline and 13.7 billion cubic feet per day of capacity. Over the 1998 – 2011 time period, about 27,800 miles of new natural gas transmission pipeline were placed in service in the U.S.

(EIA's Natural Gas Year-In-Review 2011, released July 2012, Year-In-Review 2009, released July 2010; Natural Gas Pipeline Capacity Additions in 2011, Today in Energy, 2/17/12, US EIA; Major Changes in Natural Gas Transportation Capacity 1998-2008, J. Tobin, EIA, Office of Oil & Gas; FERC Summer 2012 Energy Market and Reliability Assessment, May 17, 2012; [http://www.eia.gov/pub/oil\\_gas/natural\\_gas/analysis\\_publications/ngpipeline/index.html](http://www.eia.gov/pub/oil_gas/natural_gas/analysis_publications/ngpipeline/index.html))



# 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**

# Storage Management

- Inventories must be maintained at the levels necessary to fulfill obligations per planning criteria. Aggregate projected storage levels on Nov. 1, 2012 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, the start of the 2012 summer injection season saw very high inventories and, with lower but steady injections of working gas volumes in underground storage during the summer, working natural gas inventories have remained high.
- For the week ending October 19, 2012, total working natural gas in underground storage totaled 3,843 billion cubic feet (Bcf) which is 7% above the five year average, and is heading toward a new working gas inventory record.

*(AGA Natural Gas Market Indicators –10/31/12; Short-Term Energy and Winter Fuels Outlook, US EIA, October 10, 2012 ; Weekly Natural Gas Storage Report, US EIA, October 25, 2012)*



# Injections into LNG Facilities

- Two Association members inject into member-owned facilities
- Total volume injected: 4.9 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, **40.3%** 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.