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# About CONSOL Energy

- Founded in 1864
- $5.2 billion revenue, 2nd largest of U.S. coal producers
- Member – Fortune 500; S&P 500
- Largest underground coal producer in the U.S.
- Largest natural gas producer in Appalachia
- 11 mining complexes in four states, including the largest underground mines in the world
- 4.4 billion tons of proven and recoverable coal reserves
- 6 natural gas operations across the U.S., spanning 7 states, with a net total of 12,500 wells
- Private R&D facility working with U.S. DOE and others on advanced technology for coal and CBM production and utilization
- Over 9,000 employees

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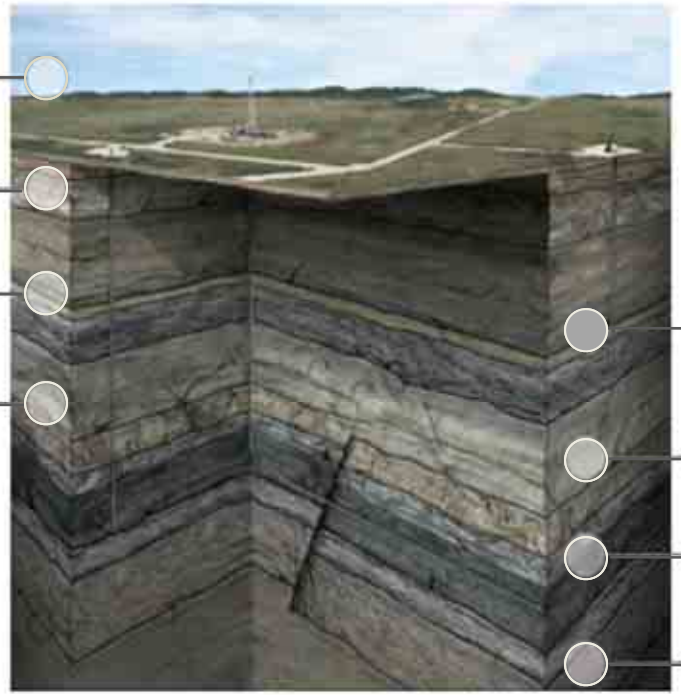
# CONSOL's Unique Perspective




**CONSOL Energy is the only company that operates across all of these different horizons.**

# CONSOL Energy 5 Core Values

- Safety
- Compliance
- Continuous Improvement
- Production
- Cost

**Values are not priorities – priorities change while values remain constant**

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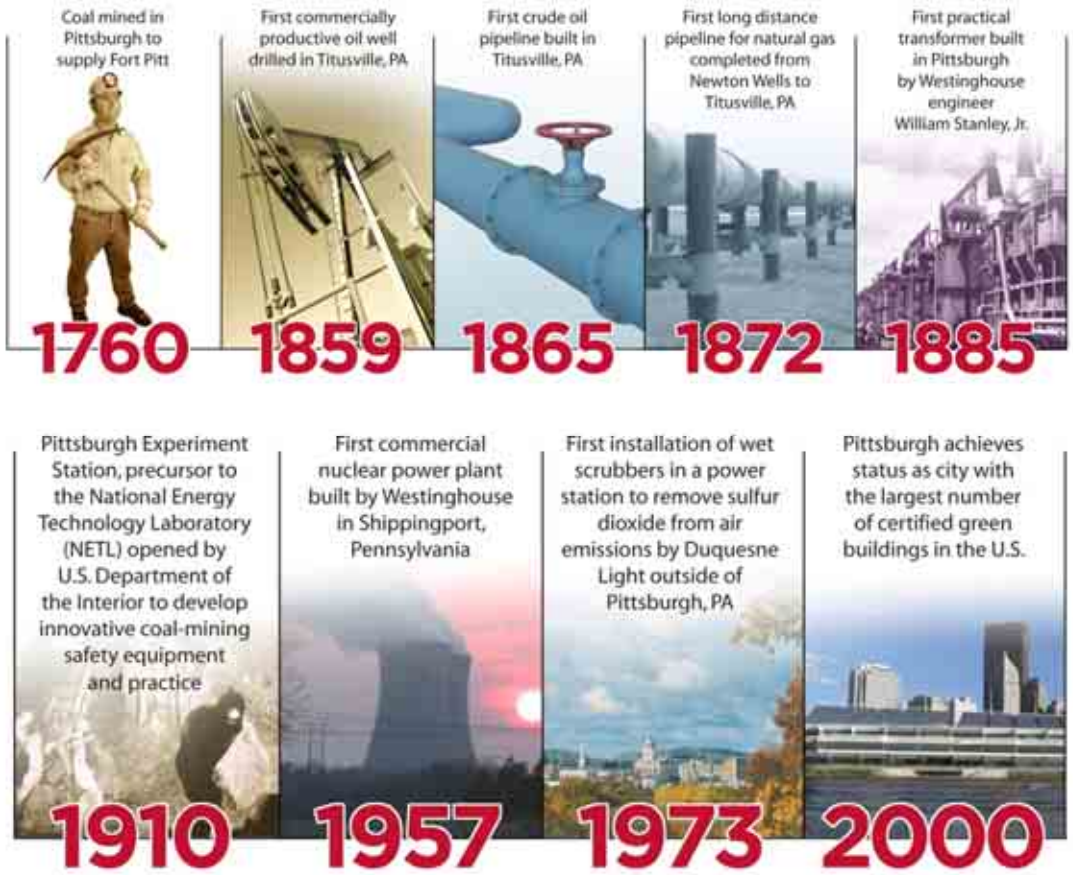
# Pittsburgh's Rich Energy History




Slide courtesy of the Allegheny Conference

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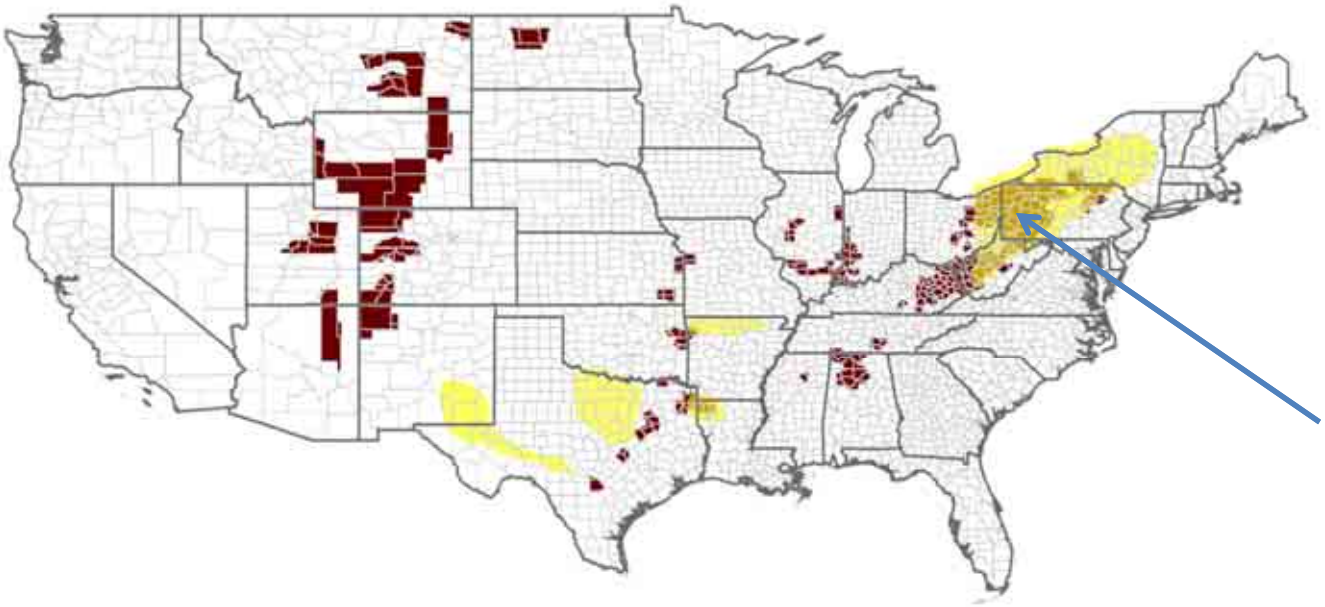
# Pittsburgh: The Nation's Energy Capital



Only Pittsburgh sits on such a diverse natural resource base

• Coal + • Natural Gas + • Nuclear + • Solar + • Wind + Transmission & Distribution + Intelligent Building

Coal extraction

Shale gas field

Source: Energy Information Administration (2007, 2008 data), Dun and Bradstreet (2009 data), Allegheny Conference analysis

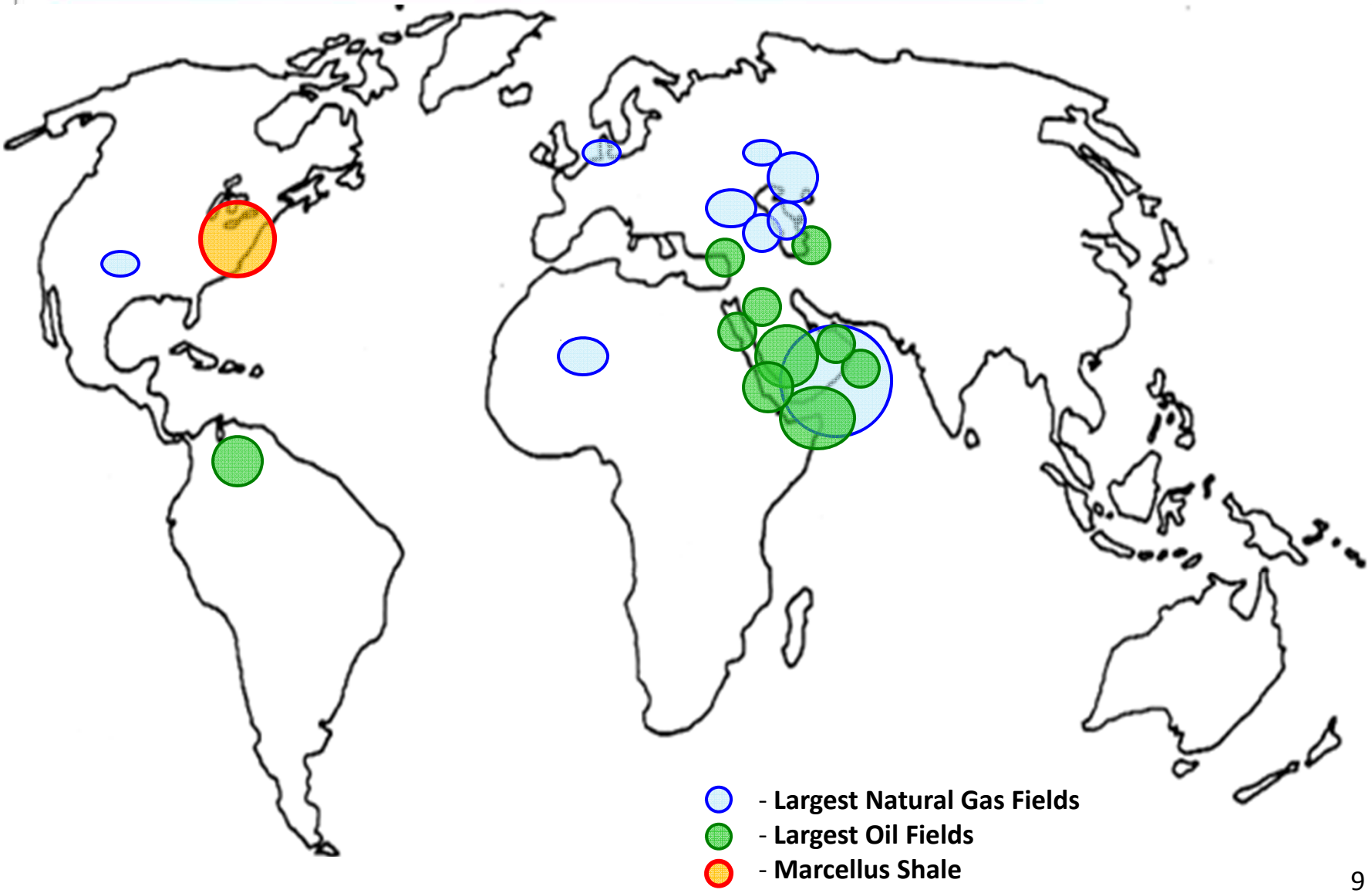
# Why Natural Gas? Why Now?

- **Why Natural Gas? Proven contributor to economy, environment and energy security**
  - Jobs and economic growth
    - Creates nearly 3 million jobs – direct and indirect – resulting in $180 billion in labor income between 2005 - 2010
    - Contributes to economy – over $3.5 billion per year average in government revenues between 2005 and 2010
    - Contributes to global competitiveness
  - Environmental benefits
    - Low emissions
    - Small land footprint
    - Sustainable
    - Essential to complement renewable energy sources
  - Domestic energy security
    - More than a 100-year supply and growing
- **Why Now? Abundant, reliable, secure and domestic**
  - Huge untapped shale gas resource newly unleashed by innovation and technology

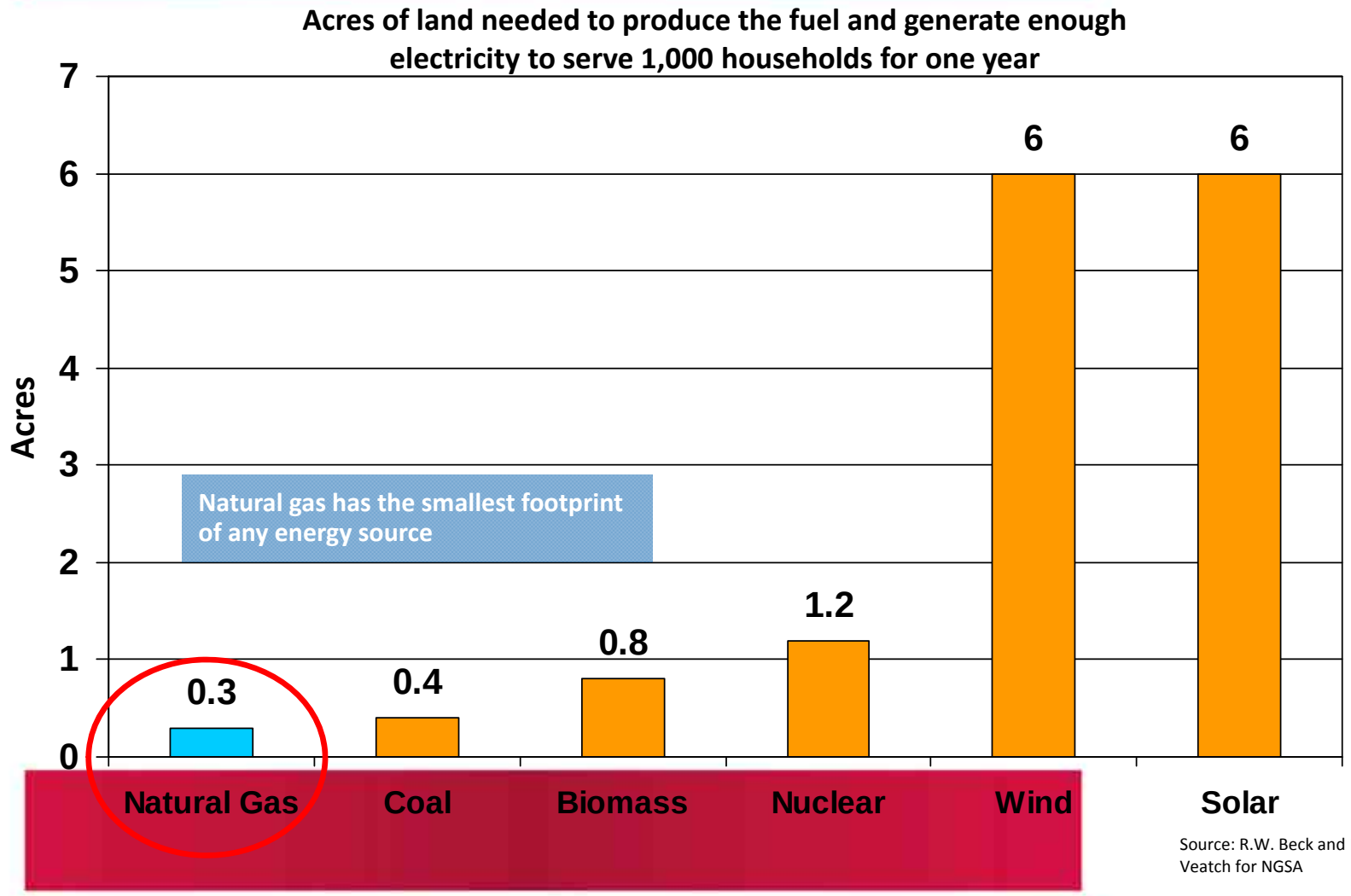
# 2001 to 2011 – A Decade Makes a Difference

| Then | Now |
| --- | --- |
| ➢ 60-year supply and falling | ➢ 100+ years supply and growing |
| ➢ Shale known but uneconomic to develop | ➢ Flourishing production, vast shale resources now accessible |
| ➢ Underground gas storage primarily traditional reservoir, operationally not very flexible | ➢ Storage boom with more flexible salt-cavern facilities and additional market area storage |
| ➢ Pipeline capacity growing incrementally | ➢ 16,000+ miles of interstate pipeline added since 2000 |
| ➢ Rising prices with several spikes | ➢ Plentiful supplies moderate prices and provide supply diversity |

# Marcellus Shale: The Game Changer



# Land Usage Also Makes Gas a Preferred Choice for Power Generation




Source: R.W. Beck and Black and Veatch for NGSA

# Magnitude of Marcellus

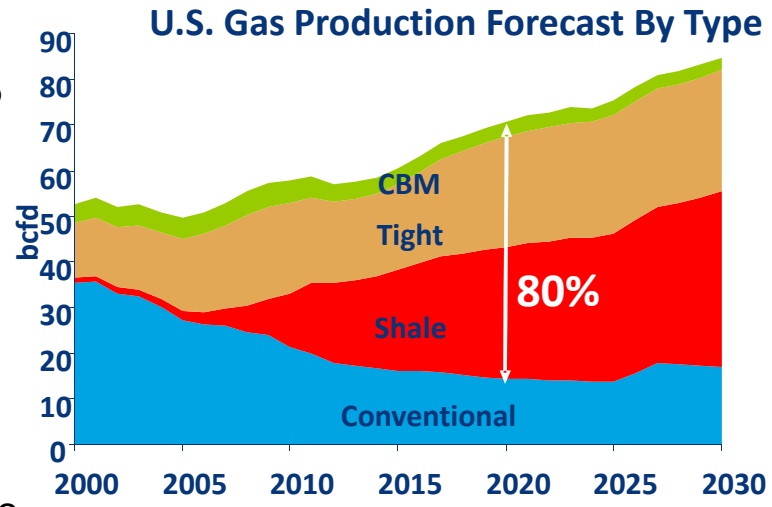

Source: Energy Information Administration based on data from various published studies
Updated: May 28, 2009

**U.S. Gas Reserves Increased 22% between 2006 – 2009**
**Primarily Due to Shale Development**

# What has changed and is it REAL?

# How The Game Has Changed

- Improvements in technology brought down costs and greatly increased the scope of resource development
- Shale gas production quadrupled between 2006 – 2010 and is poised to comprise more than 40% of U.S. gas production in 2020
- Shale and other "unconventional' gases could account for over 80% of U.S. gas production by 2020, compared to 66% today
- Diversity of supply complements strong and growing pipeline system, reduces vulnerability to hurricanes, brings natural gas closer to consumers



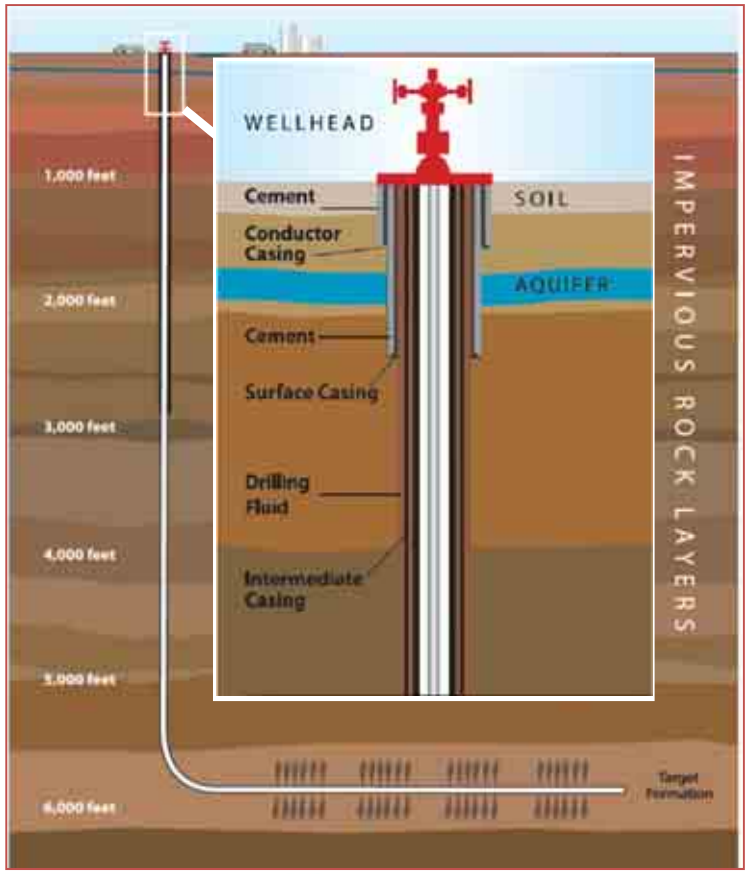

**The natural gas supply is plentiful.**

# How The Game Has Changed

- Chevron
- EXCO Resources
- Exxon
- Reliance Industries
- Statoil
- Noble Energy
- Hess

# Technology Makes It All Work

- Drilling technology improvements and efficiencies in shale have emerged
  - Longer horizontal laterals
  - Multiple-stage hydraulic fractures per lateral
- Small surface footprint for multiple, extended wells
- Horizontal drilling and hydraulic fracturing result in gas wells with long stable production lives
- Ground water is separated by thousands of feet and tons of impermeable rock and protected by state and federal regulation
- Significant amount of water is recycled
- "Micro-seismic" technology evolving and enabling even greater precision in fracturing wells




http://marcelluscoalition.org/2009/01/drilling-process-video/

# Dominion Acquisition

CONSOL core parameters:

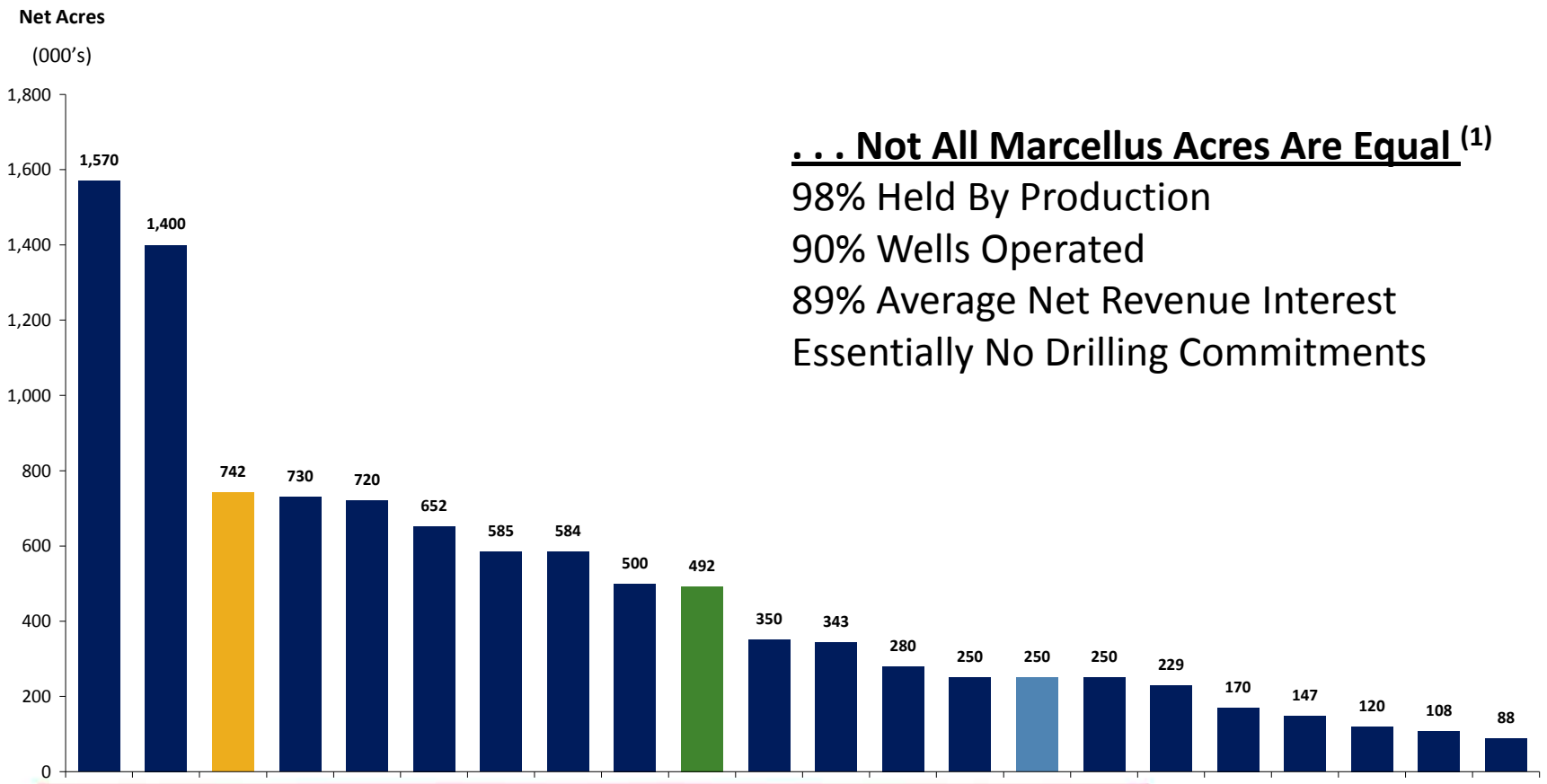
- Underground longwall coal mining
- CBM & Unconventional Gas
- Best assets in Appalachia

**Any opportunity that fell within those three parameters should be considered.**

The whole is more than the sum of its parts:

- Mellon – coal estate
- Rockefeller – natural gas estate
- Brought together two key estates
- Invested over $5 Billion to grow gas division since 2005

# Investments in Marcellus




**. . . Not All Marcellus Acres Are Equal** (1)

98% Held By Production

90% Wells Operated

89% Average Net Revenue Interest

Essentially No Drilling Commitments

**The leading global energy companies have big plans for the development of Marcellus.**

Source: As calculated by CONSOL Energy based on public filings.

Note: Pro forma acreage does not reflect CONSOL Energy overriding royalty interest in Antero farm-out acreage (approximately 117,000 acres). (1) Refers to acquired acreage.



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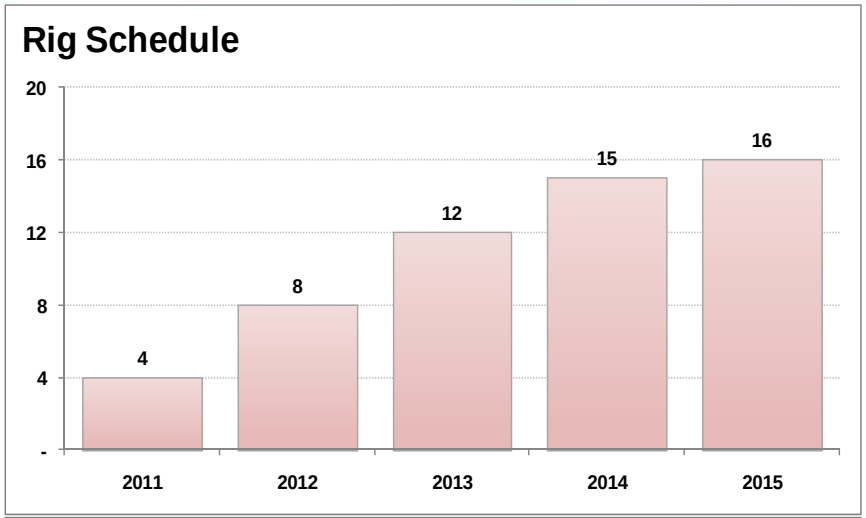
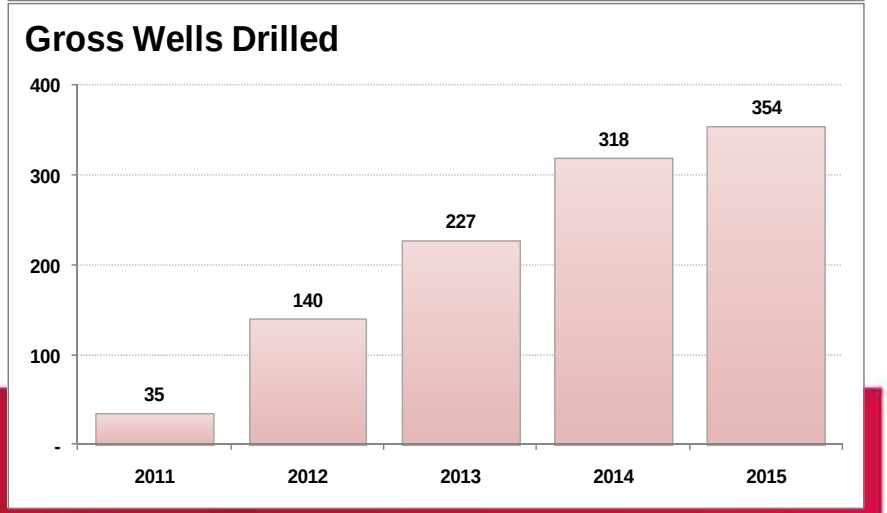
# Investments in Marcellus

- With acquisition of Dominion Resources, CONSOL was vaulted into top 3 acreage holders in Marcellus
- Joint venture between CONSOL Energy and Noble Energy will enable further development our Marcellus Shale acreage in Pennsylvania and West Virginia.
  - partnership is based on current gas prices and will allow CONSOL to add about one additional rig per quarter for the next 10 quarters.
  - Current drilling scheduled calls for additional development in Westmoreland County, PA and Marshall and Barbour Counties in WVA
  - Each rig is capable of drilling roughly 20 wells per year and equates to an annual investment of about $100 million per rig. [$5 million per well]

# CONSOL Energy & Noble Energy JV

**Development Plan**



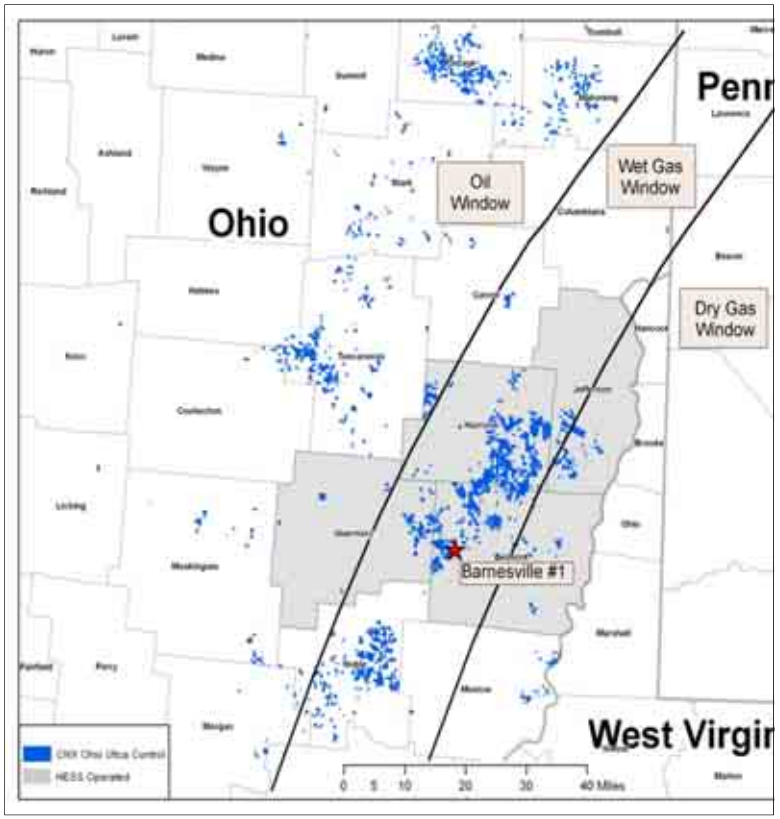
# CONSOL Energy & Hess Corporation JV

- Marks to market entire Ohio Utica Shale position at $6,000 / acre
  - Validates legacy CNX Gas and Dominion asset base
- Partnership with a highly respected, global integrated energy company
  - Shared values and cultural alignment
  - Shared belief in developing acreage to maximize long term value
- Accelerates monetization of asset base and economic returns
  - Significant increase in rig fleet and drilling activity
- Creates significant free cash flow

# CONSOL Energy & Hess Corporation JV – Utica

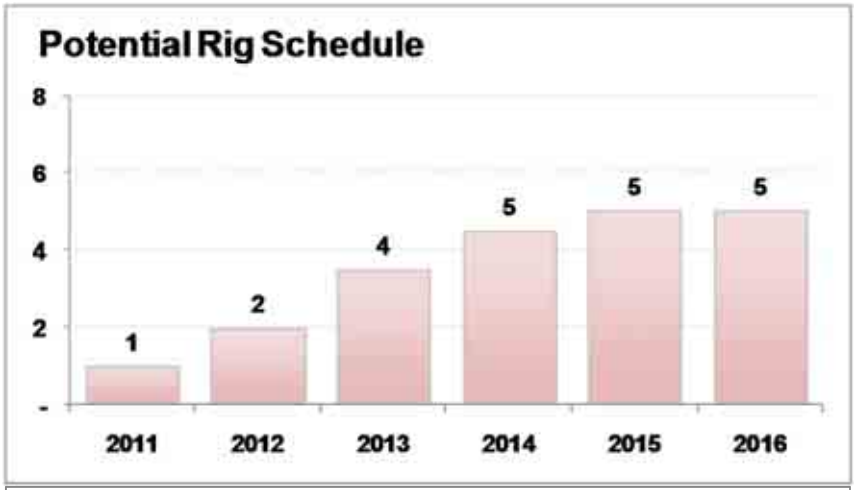
## Shale JV Coverage

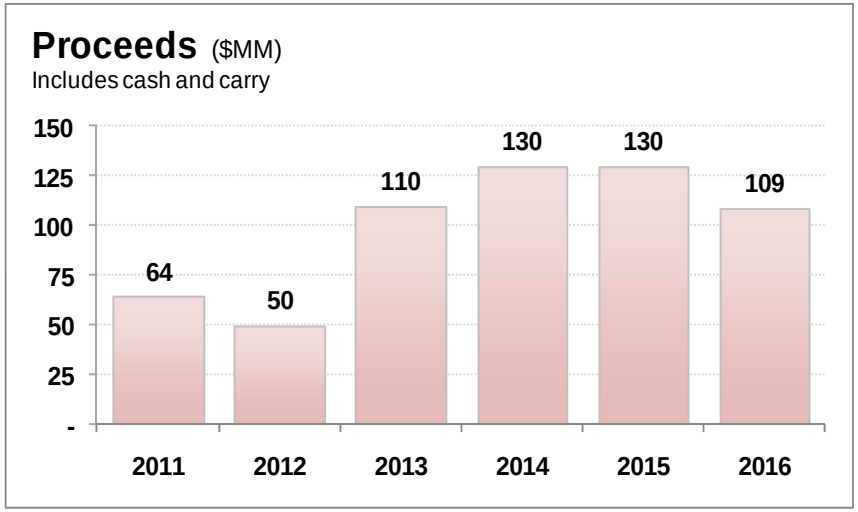
- 197,656 total net acres
  - Dry, wet & oil windows
- Dry
  - ~ 11,500 acres
  - ~ 75 horizontal wells
- Wet
  - ~ 83,500 acres
  - ~ 545 horizontal wells
- Oil
  - ~ 102,500 acres
  - ~ 900 horizontal wells
- Analogous to Eagle Ford play
- 338 MMBO + 3.9 Tcf resource
  - 5.9 Tcfe total

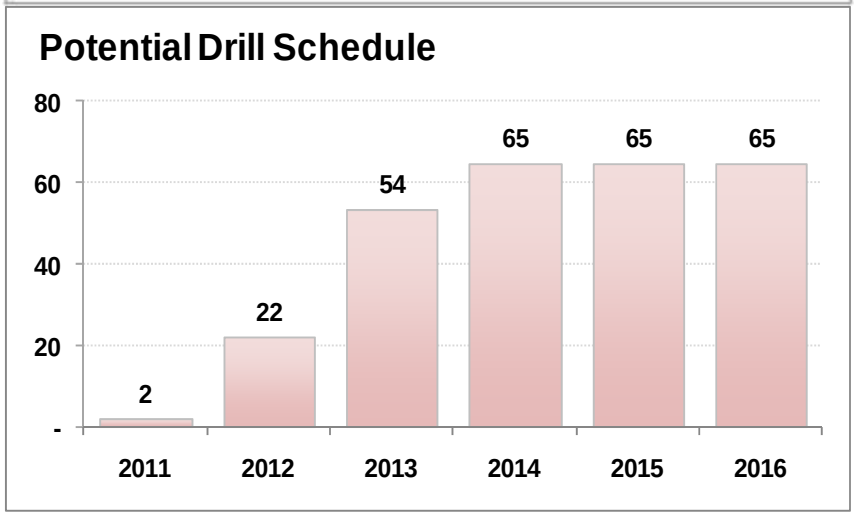


# CONSOL Energy & Hess Corporation JV – Development Plan

- Rig schedule ramps to an average of 5 by 2015
- Exploration across acreage
- Accelerates development of acreage



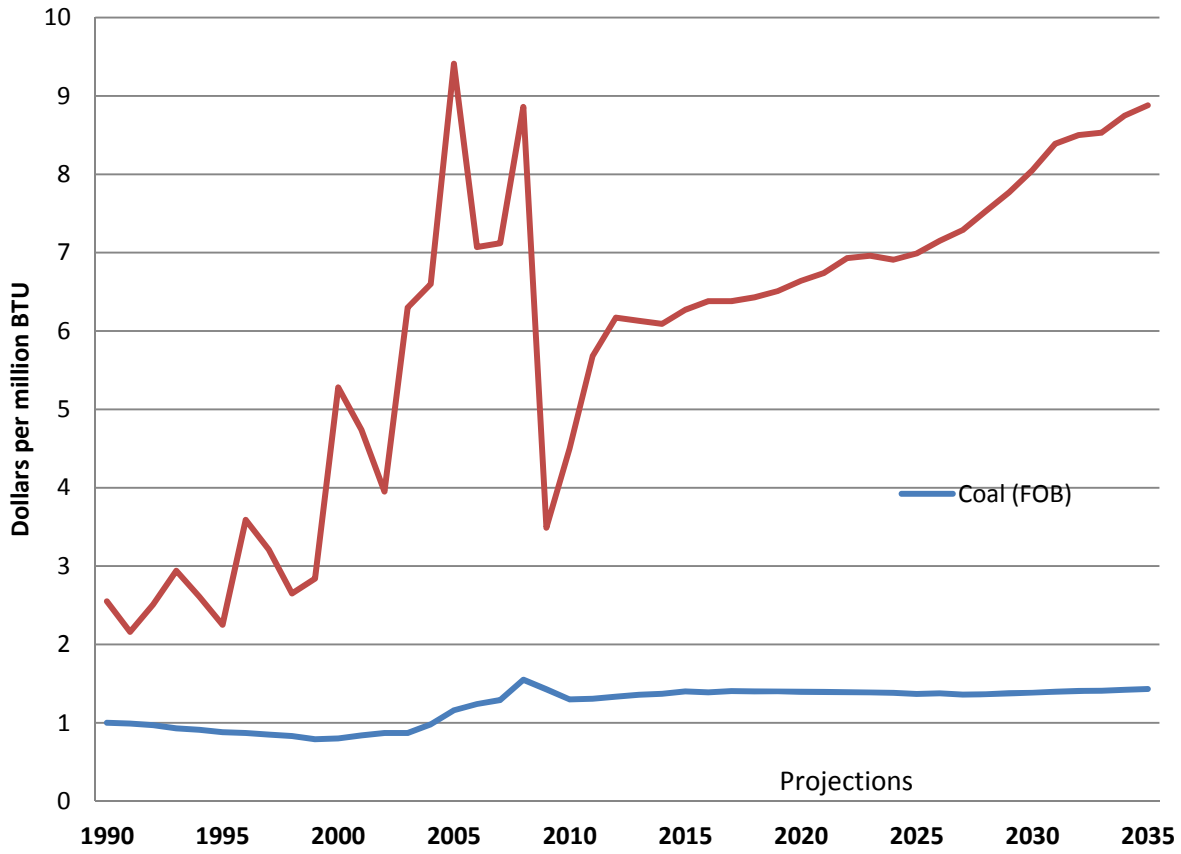



# CONSOL Energy & Hess Corporation JV – Growth Targets

- CONSOL is maintaining its 2015 production goal of 350 Bcf
  - Original goal was established at this level post-Dominion acquisition
  - Any success in the Utica Shale will be additive

# Historical and Projection Prices of Coal and Natural Gas, 1990 - 2035




*Source: U.S. Energy Information Administration, Washington, DC.*

# Opportunities for Increased Use of Natural Gas

- Power generation
- Re-emergence of industrial base
- Export of LNG
- Natural Gas Vehicles
- Natural gas conversion to liquid fuels
  - Diesel
  - Jet fuel

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# Challenges

- Environmental
- Regulatory
- Education

# What's in Hydraulic Fracturing Fluid

Public State-based Registry of Hydraulic Fracturing Fluids
Launches April 11, 2011

- Fluid is 99% water and sand, less than 1% chemical additives
- Registry created and managed by state regulators – the Ground Water Protection Council and the Interstate Oil & Gas Compact Commission
- Endorsed by America's Natural Gas Alliance, American Exploration & Production Council, American Gas Association, American Petroleum Institute, Independent Petroleum Association of America, Interstate Natural Gas Association of America, Natural Gas Supply Association
- Searchable public database with well-by-well information and glossary of chemicals

# Water Management

Recycling wastewater reduces environmental footprint, transportation costs and reliance on groundwater or municipal sources of water

- Drilling companies in the Marcellus recycled more than 66 % of water June 2008-May 2010
- Re-used 44 million gallons of water & disposed of 21 million gallons*

Producer goal: Recycle 100% of produced water in Pennsylvania

State wide test results show recycled water meets all federal radium standards

**State and local testing of water to continue on regular basis, with strong support from natural gas companies**

*(*Source: Penn State University Hydrologist David Yoxtheimer*)

# How Much Is 5 Million Gallons?

*The 5 million gallons of water needed to drill and fracture a typical deep shale gas well is equivalent to the amount of water consumed by:*

- **New York City** in approximately **seven minutes**
- A 1,000 megawatt coal-fired **power plant** in **12 hours**
- A **golf course** in **25 days**
- **10 acres of cotton** in a season

- While these represent continuing consumption, the water used for a gas well is a one-time use.

# To Make It All Happen, Industry Is Committed to Good Stewardship

- Listening to and addressing community concerns
- Use of stringent industry and government standards on land reclamation, well construction, water management and pipeline safety
- Responsible hydraulic fracturing practices
- Minimizing surface effects on land and infrastructure
- Offshore safety and spill containment

# Community Relations

- Bi-monthly meetings with Center, Morris, Greene, Gilmore, South Franklin Townships
- Proactive approach for development in PA, WVA and Ohio
  - Meetings held with key county leaders
  - Sponsorship of county fairs
- Attended Democratic House Policy Committee
  - Provided testimony & answered questions from committee
- Attended Energy Task Force Meeting
  - Update on local activities CONSOL has in the area
  - Q&A session with local authorities and public
- Sponsored County Fairs & 4-H Livestock Action Fund Raisers
- Donated $500 to Local Church organization in active area
- Underwriting road repairs in heavily travelled communities
- Highlighting partnerships with national non-profits that provide quality-of-life improvements at the community level

# … And Government Must Do Its Part As Well

- Fair access to onshore and offshore resources
- Continued strong and effective state regulation of hydraulic fracturing
- Level playing field: avoid picking winners and losers through mandates
- Tax policy must be fair, not burdensome, and compatible with resource development and job creation
- Financial regulations must not create "economic drain" on investment
- Current regulatory model for pipelines ensures safe, reliable operations and infrastructure investment

# Economic Impact -- National

- Natural gas companies contributed over $4.4 billion per year on average in gas royalty payments alone to the federal government between 2005 and 2010
- Overall contribution to the economy even greater:
  - $385 billion to the domestic economy in 2008
  - $180 billion in labor income alone
- Nearly 3 million American jobs
- Over 600,000 Americans are directly employed by natural gas development

## Economic Benefit: Large Capital Investment in Region's Natural Resource Assets

- Approximately $4 - $5 Million is invested in the development of each Marcellus Shale well
- At 2,500 wells constructed annually, PA can expect to see $10 billion invested in well site operations alone
- Each mile of Marcellus pipeline represents a nearly $1 million investment into PA's economy
- Over the next 20 years, the industry will have to invest $50 to $100 billion in midstream infrastructure.
- By 2020, job creation will number 200,000
- CONSOL intends to have an overall economic impact of almost $2 billion in PA in 2011

# Economic Impact – Tri-State Region

- By 2020, the natural gas boom is expected to create:
  - Over 200,000 jobs in the region
  - Over $18 billion in value added
  - Over $1.8 billion in state and local tax revenue
- Each well requires 415 workers from 150 different kinds of companies to release and harness the fuel

**A reasonable impact fee on development of our natural gas resources is appropriate, but we must remain competitive with other states.**

# What are the Benefits?

- Taxes
  - Indirect
  - Direct
- Industrial Development
  - Chemical plants
  - Youngstown pipe plant
  - US Steel

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