A REVOLUTION IN AMERICAN NATURAL GAS SUPPLIES

- How big is the change?
- What is driving it?
- How did the view of natural gas supply change so fast?
- How can we be sure that all this new supply is real?
- What does it mean for natural gas prices?
- What role will LNG play in America’s future gas supply?
Natural Gas Supply Example
Barnett Shale, Fort Worth Basin, Texas

- Near-Term Supply Impact
- Long-Term Supply Stability
BARNETT SHALE REGIONAL SETTING – LARGEST GAS FIELD IN TEXAS

- Covers 10 counties
- Play-wide production: \( \approx 5.1 \) BCFD
- 11,600 producing wells

Example of technology:
- Light sand frac technology
- Directional and horizontal drilling

Note: From PI/Dwight’s as of April 2009.
UNLOCKING THE POTENTIAL – TECHNOLOGY’S ROLE

Fracture stimulation 5,000 – 15,000' below the surface

Fracture Barrier

Barnett Shale
DEVON’S HISTORY OF GROWTH IN THE BARNETT

2002

- 1.7 TCFE Produced

Total: 3.9 TCFE

2009

- 7.6
- 5.4
- 5.4

Total: 18.4 TCFE Risked

4.7x

- Proved
- Probable & Possible
- Contingent
UNLOCKING THE POTENTIAL – BARNETT SHALE
RAPID GROWTH

Barnett Shale Average Annual (MMcfd)

- Total Field Production April 2009 ≈ 5.1 BCFD
- Barnett recognized in 1981
- Devon Acquires Mitchell
- Currently ≈ 1,332

Since 2000, US L-48 production has grown by 12 BCFD or 30%, reaching 53 BCFD during Q1 ’09

**Diagram: North American Shale Gas Plays – Impact of Shale Gas**

- Shale Gas Basins
- Devonian/ Mississippian Shale Fairway
- Mountain Thrust Belt

Sources: EIA, Potential Gas Committee, Ziff Energy
NEW SHALE PLAYS WILL SIGNIFICANTLY IMPACT THE COST OF SUPPLY IN THE FUTURE

Source: DOE, EIA, PCG 2009, analyst reports, company IR presentations
U.S. NATURAL GAS SUPPLY NOW STANDS AT 100+ YEARS THANKS TO SHALE PLAYS

Source: NPC 2003, PGC 2009, EIA, INGAA, others
U.S. Dry Natural Gas Production

Source: EIA
ALMOST 50% OF DOMESTIC NATURAL GAS COMES FROM UNCONVENTIONAL RESERVOIRS

U.S. SHALE GAS PRODUCTION POTENTIAL

Source: Tristone Capital
Major increases in supply have been driven by technological breakthroughs.
EVOLUTION IN GAS WELL COMPLETION TECHNOLOGY - THE KEY TO TODAY’S NATURAL GAS REVOLUTION

- Conventional Reservoir: 1850’s to present
- Tight Sands Single-stage HF: 1950’s to 1990’s
- Tight Sands Multi-stage HF: 1990’s to present
- Shale – horiz well + Multi-stage HF: 2000 to present

Multi-stage hydraulic fracture stimulation (HF) unlocks gas in unconventional reservoirs
Big Fracs - Long Laterals - Pad Drilling

Today’s Technology

- Smaller surface footprint
- More reservoir drainage and more reserves per well
- Better economics

Old Technology
32 wells in 2 Sections

Today
14 wells from 1 Pad

1 Frac Contacts 7-10 Acres
More is Better - Multi-Stage Horizontal Fracs
MOST LNG IS STILL SOLD UNDER LONG-TERM CONTRACT

LNG Consumers (Bcf/d), 2008

A 22Bcf/d global market in 2008
LNG SHOULD DAMPEN NATGAS PRICE VOLATILITY AS GLOBAL SPOT MARKET DEVELOPS

Increasing capacity means more “spot” cargos.
1. **Supply Security / Reliability**
   - Emergence of shale developments across North America provides security of supply to meet long-term U.S. market demand requirements
     - Near-term supply impact
     - Long-term supply stability
   - Increased ability to access LNG supplies will supplement North American supply

2. **Access to Growing Shale Production/Increased Storage Capacity**
   - Since mid-2008, industry has added in excess of 7.0 BCFD of new U.S. pipeline infrastructure with commitments to add an additional 8+ BCFD within the next 3 years
   - Since 2000 industry has added 200+ BCF of new working gas storage capacity with total capacity exceeding 4.0 TCF increasing daily deliverability to meet peak demand requirements
3. **Price Volatility**

- Shale developments provide deliverability and reserves for long-term – different than 2 years ago when LNG base load was required
- Worldwide LNG production provides more access to gas supplies
- Expanded pipeline infrastructure allows access to abundant “land based” shale production through an efficient delivery network minimizing affect of supply disruptions such as hurricanes
- Added storage capacity in production/market areas provides enhanced ability for market to meet demand swings
- Transparent market provides hedging tools to balance market portfolios
AMERICA’S NEW NATURAL GAS