



Natural Gas – A Fuel for All Sectors . . . How Will Price Volatility and Today’s \$50 Oil Impact the Future

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- ICF's Outlook for North American Natural Gas Markets
- Impacts of Lower Oil Prices on Natural Gas Markets
- Regional Market Trends

ICF's North American Natural Gas Market Outlook – Major Themes



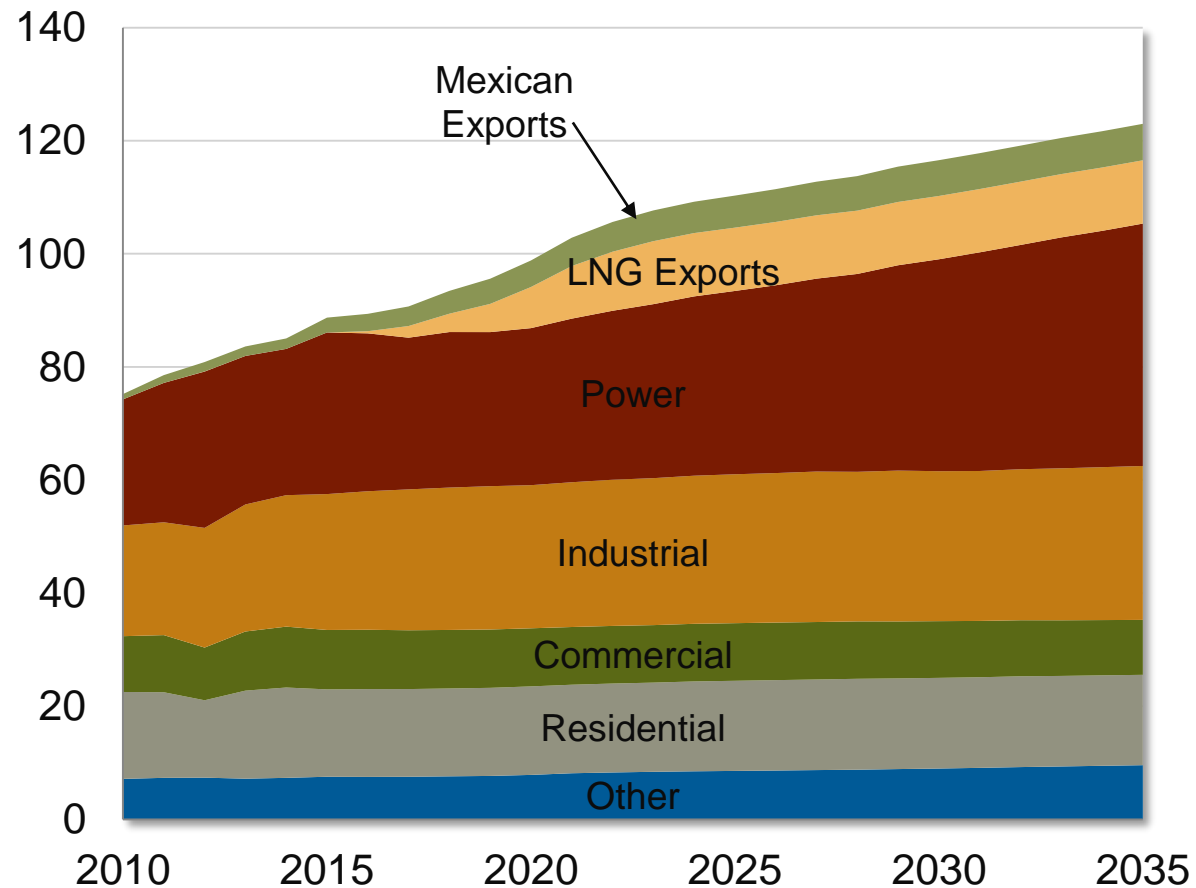
- Gas production growth will continue, driven by shale plays.
- Natural gas prices remain relatively low in the near term, but increase as demand growth strengthens after 2015.
- “Gas-focused” midstream infrastructure development robust, as infrastructure is needed to accommodate growing gas production and support market growth.

Projected Natural Gas Use



- Near-term gas market growth comes from LNG and Mexican exports.
- Power sector growth very significant.

U.S. and Canada Gas Demand Average Annual Billion Cubic Feet per Day

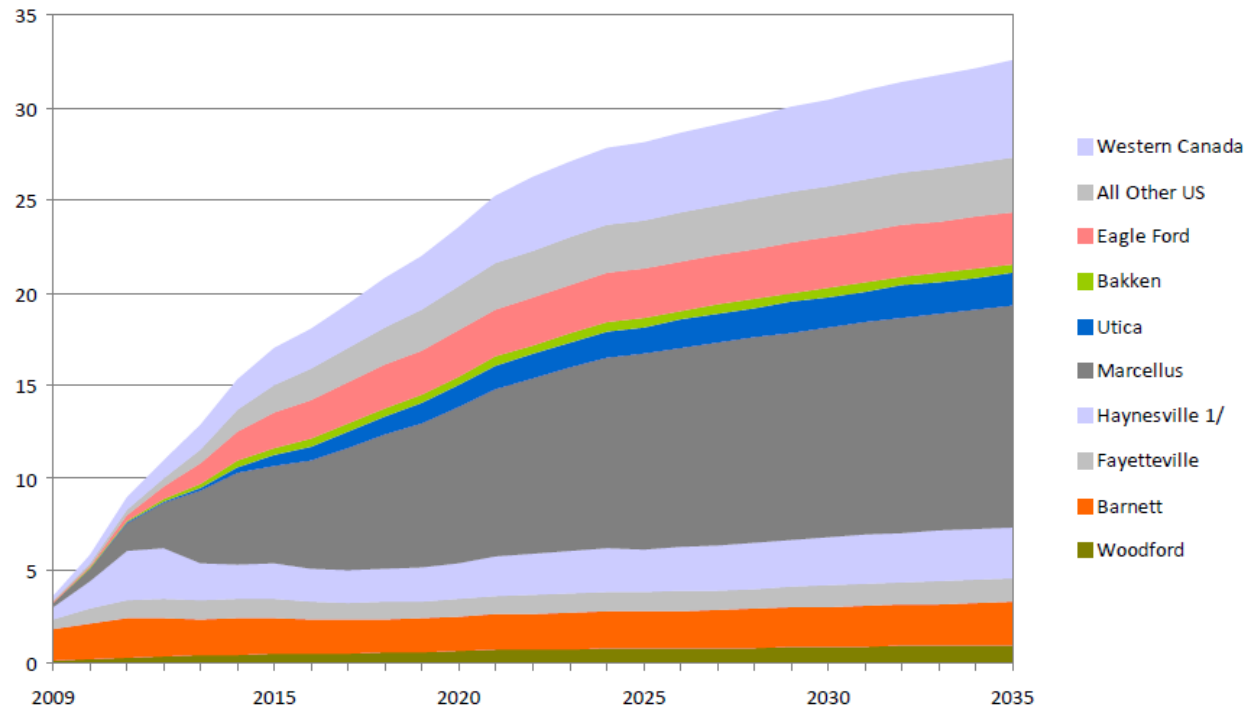


Shale Gas Resource Development



- Shale gas production more than doubles.
- Marcellus accounts for over 40% of the incremental production.
- Activity swings back toward dryer plays as gas prices firm.

U.S. and Canada Shale Gas Production Trillion Cubic Feet per Year



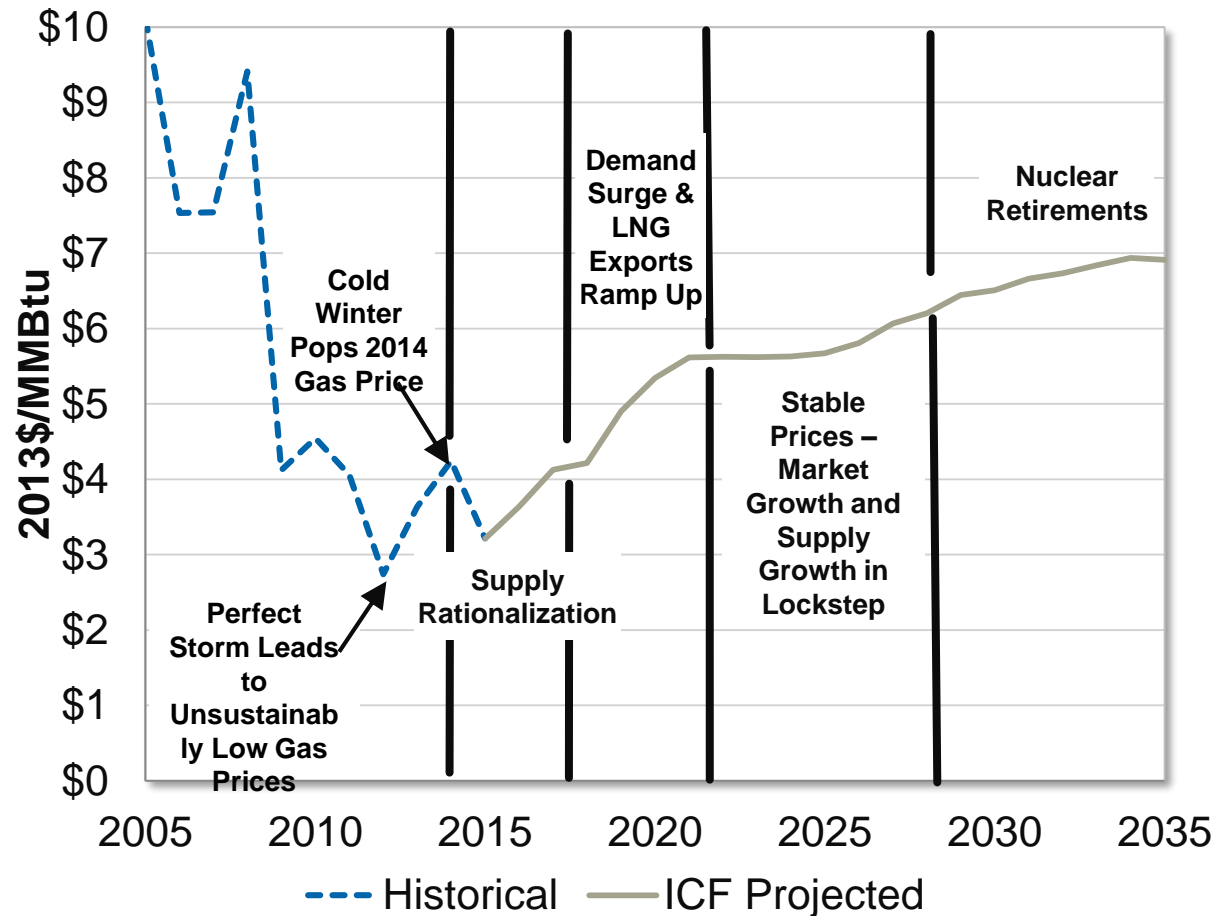
* Haynesville shale production includes production from other shale's in the vicinity, e.g., the Bossier Shale.

Shale Gas Resource Development



- Increasing demand pushes gas above \$5 per MMBtu after 2020.
- Long-term (2025) prices are expected to rise to \$6 per MMBtu – prices are high enough to foster supply development to meet growing demand, but not so high to throttle the market.

Annual Average Henry Hub Price



Potential Impacts of Lower Oil Prices on Natural Gas Markets



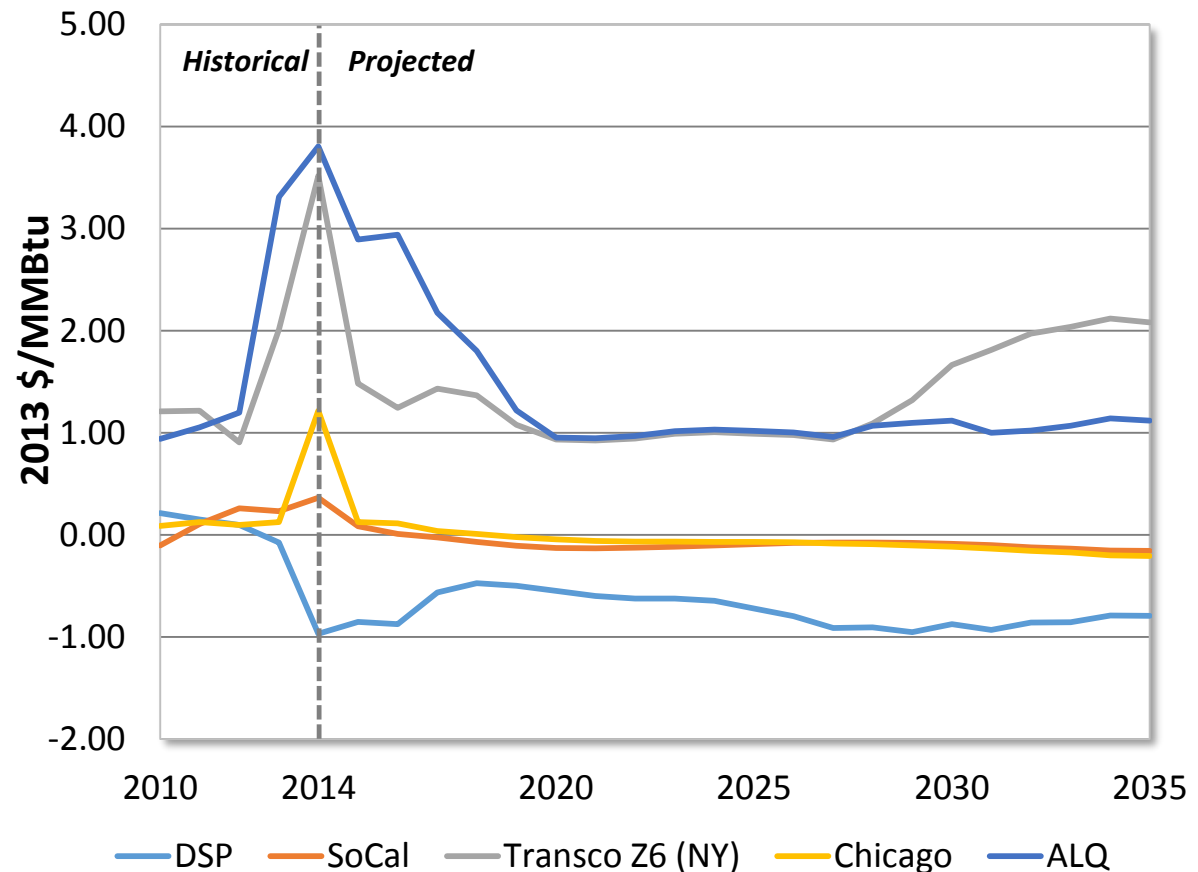
- Declining oil-directed drilling activity leads to slowing growth of associated gas production.
 - Not as much interest in developing liquids-rich plays.
 - But, declining E&P costs will offset some of the reductions in CAPEX.
- Potential market growth may not be as significant as it would be in a higher oil price environment.
 - Gas-to-oil arbitrage opportunities more limited.
 - A pause in LNG export development.
 - Some pullback in booming petrochemical activity.
 - But, gas use for power generation still likely to grow significantly – environmentally driven and relatively immune to oil prices.
 - Likewise, Mexican exports from the U.S. still likely to experience significant growth.
- Gas prices up, NOT down – counterintuitive trend.
 - Impact on associated gas production greater than demand-side impacts.

Regional Trends – Projected Basis (i.e., Regional Price Differentials)



- Projected basis at Dominion South Point continues to remain in negative territory, due to robust Marcellus/Utica production growth.
- Northeast basis trends down as new pipeline capacity better connects the markets with Marcellus production.
- California and Midwest basis values gradually trend down.

Long-term Annual Basis Trends, 2013\$/MMBtu



THANK-YOU

