2012 NATURAL GAS MARKET OUTLOOK

Marjorie Schmidt-Pines, Principal Regulatory Economic Advisor
Southern California Gas Company and SDG&E
Regulatory Affairs
January, 2012

This information is provided solely for informational purposes. Although Southern California Gas Co. (SoCalGas) has used reasonable efforts to assure its accuracy, no representation is made that the contents are free from error or suitable for use for any particular purpose. SoCalGas assumes no responsibility for use of, or reliance on, this information by any party, and specifically advise such parties to discuss any decisions or actions related hereto with their own advisors and experts.
Natural Gas Outlook

• U.S. shale gas resources drive increases U.S. production, lower prices, economic growth and lower imports of natural gas
• Industrial and electric power use drives future demand growth
• Non-hydro renewables and natural gas are the fastest growing electricity generation sources
• Natural gas prices expected to continue to be low in 2012 due to mild winter and an expanded shale gas resource base
2001 to 2011 – A decade makes a difference

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

Source: LDC Forum, Exxon Mobil, October, 2011
Factors impacting Natural Gas Growth

- Economic Growth
- Local Supplies / Unconventional
- Environmental Benefits
- Technological Developments

Source: LDC Forum, Exxon Mobil, October, 2011
30% domestic gas production growth outpaces 16% consumption growth, leading to declining imports

U.S. dry gas
trillion cubic feet per year

Source: EIA, Annual Energy Outlook 2011
Horizontal drilling and hydraulic fracturing

Hydraulic Fracturing

Hydraulic fracturing, or "fracking," involves the injection of more than a million gallons of water, sand and chemicals at high pressure down and across into horizontally drilled wells as far as 10,000 feet below the surface. The pressurized mixture causes the rock layer, in this case the Marcellus Shale, to crack. These fissures are held open by the sand particles so that natural gas from the shale can flow up the well.

The shale is fractured by the pressure inside the well.

Source: ProPublica,
http://www.propublica.org/special/hydraulic-fracturing-national
Success in the Barnett prompted companies to look at other shale formations in the United States.
Over the last decade, U.S. shale gas production has increased 14-fold and now comprises about 22 percent of total U.S. production.

Source: EIA, Lippman Consulting (2010 estimated)
Shale gas has been the primary source of recent growth in U.S. technically recoverable natural gas resources

U.S. dry gas resources

trillion cubic feet

Source: EIA, Annual Energy Outlook 2011

* Alaska resource estimates prior to AEO2009 reflect resources from the North Slope that were not included in previously published documentation.
Four-fold increase in shale gas production offsets declines in other U.S. supply, meeting consumption growth and lowering import needs.
Spurring Economic Growth

- A PricewaterhouseCoopers study estimated that the entire U.S. oil and gas industry supported 9.2 million full-time and part-time jobs
  - The total economic “value added” by our industry was $1.1 trillion in 2009
- Recent Wood Mackenzie study found the right policies can:
  - Create 1 million jobs over the next 7 years

SoCalGas Sources of Natural Gas

Source: California Gas Report, SoCalGas 2011
Natural gas consumption is quite dispersed; industrial and electric power use drives future demand growth

Richard Newell, December 16, 2010

Source: EIA, Annual Energy Outlook 2011

* Includes combined heat-and-power and lease and plant fuel. ** Includes pipeline fuel.
The projected electricity mix gradually shifts to lower-carbon options, with generation from natural gas rising 37% and renewables rising 73%.

Source: EIA, Annual Energy Outlook 2011
Southern California Gas Demand

Source: CGR 2010
U.S. Storage Expected to Remain High This Winter

U.S. Working Natural Gas in Storage

Deviation from 2006 - 2010 average

Note: Colored band around storage levels represents the range between the minimum and maximum from Jan. 2006 - Dec. 2010.

Source: Short-Term Energy Outlook, December 2011
Weather has the most impact on spot natural gas prices.

**Winter 2011-12 heating season forecast is 2% warmer than last winter, close to the 30-year average**

U.S. population-weighted heating degree-days

NOAA “winter” (December – February)
5 percent warmer than last year

Source: NOAA
Natural Gas Price History

CA AZ Border and SoCal Citygate - NGI Monthly Index
Data Source: NGI Bidweek Survey   January 3, 2012

$/mmbtu

$/mmbtu

Southern Border, SoCal NGI Bidweek ($/Dth)
SoCal Citygate NGI Bidweek ($/Dth)
Oil vs Natural Gas Prices

Historical Oil Prices vs. Gas Prices
Equivalent Unit Cost ($/MMBtu)
1 Barrel = 6.2 MMBtu
Last Updated: 1/3/2012 Source: EIA, CA/AZ Border Gas Price - ProphetX T:\oil vs gas.xls

- CA/AZ Border NG Cash ($/MMBtu)
- WTI Crude Equiv ($/MMBtu)
While Gas Prices Have Fluctuated: SoCalGas’ Transportation Costs Have Been Flat

Transport costs are the Volumetric & Customer Charge.

Core GN10 @ 100,000 th/year and Noncore GTF/I3-D @ 1.5MMth/year.

Core Gas Cost is SCG’s core procurement rate and CA Border Index is Natural Gas Intelligence Index.
Where are Gas Futures Prices Going?

This posted information is provided solely for informational purposes. Although SoCalGas and SDG&E have used reasonable efforts to assure its accuracy, no representation is made that the contents are free from error, or suitable for use for any particular purpose. SoCalGas and SDG&E assume no responsibility for use of, or reliance on, this information by any party, and specifically advise such parties to discuss any decisions or actions related hereto with their own advisors and experts.

Natural Gas Prices expected to continue to be low in 2012

Henry Hub Natural Gas Price

dollars per million Btu

- Historical spot price
- STEO price forecast
- NYMEX futures price
- 95% NYMEX futures price upper confidence interval
- 95% NYMEX futures price lower confidence interval

Note: Confidence interval derived from options market information for the 5 trading days ending December 1, 2011
Intervals not calculated for months with sparse trading in "near-the-money" options contracts

Source: Short-Term Energy Outlook, December 2011
North American Natural Gas Market

- Shale gas drives growth in natural gas production, economy and reduces reliance on imported gas.
- Higher demand expected for U.S. gas fired electric generation and industrial demand.
- Natural gas prices much lower than oil prices.
- Natural Gas basis differences at various hubs diminished, driven by shale production increase in the east and new pipelines added.
- Natural gas price projections for 2012 are lower than past years due to warmer winter and an expanded shale gas resource base.
What Can You Do to Manage Energy Costs?

• Take advantage of energy efficiency programs. Call your Account Executive for technical support.
  • Go to socalgas.com/business for support tools.

• If you transport your own gas, talk to your gas supplier to discuss supply and pricing strategies.

• Look for ways to conserve and be more energy efficient.
Thank you