Natural Gas

Smarter Power Today.

Southern States Energy Board

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ANGA
Vice President of External Affairs
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About ANGA

ANGA is dedicated to increasing the understanding of the environmental, economic and national security benefits of clean, abundant, dependable and efficient North American natural gas.
ANGA Engagement

• ANGA exists to advance a regulatory, legislative and public affairs environment that allows our nation to reap the many economic, environmental and energy security benefits offered by greater utilization of this abundant energy source.

• We work with a broad array of stakeholders—from city mayors, to leaders in the armed forces, to academics, to clean-air advocates, to vocational schools—to help ensure natural gas can make a substantial contribution to a cleaner energy future.
The Shale Gas Revolution

Source: EIA Annual Energy Outlook, 2008 to 2011

EIA: 2011

862 TCF shale

2,543 TCF total

67% INCREASE in just three years
# Shale Gas And Our Economy

## Shale Natural Gas Employment Contribution (number of workers)

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2015</th>
<th>2035</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct</td>
<td>148,143</td>
<td>197,999</td>
<td>360,335</td>
</tr>
<tr>
<td>Indirect</td>
<td>193,710</td>
<td>283,190</td>
<td>547,107</td>
</tr>
<tr>
<td>Induced</td>
<td>259,494</td>
<td>388,495</td>
<td>752,648</td>
</tr>
<tr>
<td>Total</td>
<td>601,348</td>
<td>869,684</td>
<td>1,660,090</td>
</tr>
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Source: IHS, "Economic and Employment Contributions of Shale Gas in the United States." 2011
A welcome rise in manufacturing jobs in the U.S.

January 12, 2012

“Yet the process [hydraulic fracturing] has dramatically cut the price of gas, a key industrial input, and led to spinoff employment in related industries.”

Shale Gas: A renaissance in US manufacturing?

December 2011

“…we expect that manufacturing employment could increase by approximately one million workers…”
Economic Impacts: 2010 To 2020

Revenue (Billions)
- 2010: $2.90
- 2020: $21.50

Jobs
- 2010: 12,600
- 2020: 68,000

Local Tax Revenue (Millions)
- 2010: $47
- 2020: $450

Source: The University of Texas at San Antonio’s Institute for Economic Development’s Center for Community and Business Research, “Economic Impact of the Eagle Ford Shale,” February 2011
Lower Energy Prices For Consumers

• Thanks to lower natural gas prices, U.S. households will save an average of $926 per year in disposable income between 2012 and 2015.

• Shale gas production has resulted in a 10 percent reduction in electricity costs nationally.

Significant Cost Savings In Arkansas

- Declining costs in wellhead prices saw substantial savings in retail gas cost
- Navigant compared 2010 prices by month with same-month average from 2007-2009

<table>
<thead>
<tr>
<th>Savings Accrued</th>
<th>Arkansas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Savings for gas consumers other than electric generators</td>
<td>&gt;$375 mill</td>
</tr>
<tr>
<td>Consumer savings in terms of percent of gas bill</td>
<td>14 – 28 %</td>
</tr>
<tr>
<td>Savings in electric generation fuel to consumers</td>
<td>&gt;$237 mill</td>
</tr>
<tr>
<td>Total utility savings to consumers</td>
<td>&gt;$612 mill</td>
</tr>
<tr>
<td>Total utility savings to consumers in terms of percent of utility bill</td>
<td>11 %</td>
</tr>
</tbody>
</table>
Cleaner For Vehicles

- Compared to gasoline or diesel, NGVs:
  - Reduce CO$_2$ emissions: 20-30%
  - Reduce CO emissions: 70-90%
  - Reduce NOx emissions: 75-95%
  - Reduce Particulate Matter emissions: 90%
  - Reduce VOC emissions: 89%
Risks vs. Benefits

• All energy production comes with some risk.
  – Natural gas has a decades-long history of safety while producing more than a million wells.
  – No need to trade environmental protection for economic benefits, communities can and should have both.
  – ANGA members are committed to protecting our air, land and water while safely and responsibly developing this abundant domestic resource.
Production: The Power of Progress

• Smaller surface impact.
  – The average well site today is just 30% of the size of its 1970s counterpart—and today’s wells can access over 60 times more below-ground area.

• Fewer wells, more clean energy.
  – Half as many wells are needed to produce the same amount of clean energy as 20 years ago.

• Less waste.
  – We can retrieve the same amount of gas while producing 30% less waste than a decade ago.

• Fewer air emissions.
  – More efficient operations also means less energy consumption, and thus less air emissions, per unit of natural gas produced.
Voluntary Disclosure System

Chemical Disclosure & Operation Updates

- **FracFocus.org** created by GWPC and IOGCC
  - 134 companies registered
  - Information is currently posted on 11,270 wells
  - 155,496 website visits
  - GWPC has funding proposal to enhance website including: improved data integration, electronic data exchange and batch submissions, state regulator compliance and search & filtering options. (Total cost ~ $600M)
Safe & Responsible Development Campaign

**TV**

all around the world

**PRINT**

WE'RE COMMITTED TO THE SAFE AND RESPONSIBLE DEVELOPMENT OF CLEAN AMERICAN NATURAL GAS

**ONLINE**

Safely and Responsibly Developing

**RADIO**

America's Natural Gas smarter power today.

Learn more about development here

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