What is OOGA?

- Founded in 1947, the Ohio Oil & Gas Association strives to serve the broad range of entities involved in the Ohio oil and natural gas extractive industry.

- The Ohio Oil & Gas Association (OOGA) is a trade association with nearly 3,100 members involved in all aspects of the exploration, production and development of crude oil and natural gas resources within the State of Ohio.

- Voice of the industry in Ohio to media, state and local governments other industries.
• 30 distinct geologic formations produce oil and gas

• Ranging in age from Cambrian (488 million years ago) to Late Pennsylvanian (299 million years ago)

• Depths from 50 feet to as deep as 9,100 feet
Then

Standard Oil Rig
Now

Carroll County - Utica Shale Horizontal Drilling
Horizontal Drilling
Shale – Permitted, Drilled

- Utica Shale:
  - Permitted: 2,028
  - Drilled: 1,598
  - Producing: 1,018

- Marcellus Shale:
  - Permitted: 44
  - Drilled: 29
Ohio’s Story has followed this trend..

**Ohio’s Utica Shale is producing:**
- Over the last 2 years Ohio’s Utica oil production is up 200 percent and 350 percent for natural gas.

**Ohio’s Utica Shale Investment:**
- Over $28 Billion invested into Ohio by the industry.
- Over $8 Billion in pipelines coming to Ohio.
- Over $4.7 Billion in natural gas fired power plans in Ohio.

**Ohio’s Utica Shale Economic Impact:**
- Shale counties realized a 66 percent decline in unemployment since 2010, 13 percent more than the Ohio average and 15 percent more than the national average.
- Ohioans are saving more than $15 Billion per year at current prices due to increased crude oil and natural gas production from Shale.
Environmental and Economic Win-Win for economy and the environment.

5 Key Point from the Study

SHALE DEVELOPMENT IS:

1) Saving America’s Middle Class
2) Saving the U.S. Economy & Providing Geopolitical Strength
3) Saving our Environment
4) Saving Government Budgets
5) Saving Household Budgets
How the Buckeyes Rank

- #18 in Total Energy Production
- #16 in Natural Gas Production
- #13 in Oil Production
- #10 in Coal Production
- #12 in Electricity Production
  - 67% from Coal
  - 18% from Natural Gas
  - 12% from Nuclear
- #23 in Energy Consumption
  - #6 in Energy Consumption by the Industrial Sector
  - #8 in Natural Gas Consumption

Oil & Gas Production in Ohio

- More than 275,000 oil and gas wells drilled in Ohio since 1860
- More than 50,000 producing wells in 49 of 88 Ohio counties
Utica Natural Gas Production

Ohio’s End Users Consumed 959 Billion Cubic Feet of Natural Gas in 2014

Utica Region Natural gas production

<table>
<thead>
<tr>
<th>Year</th>
<th>Production (mil. cubic feet/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>0</td>
</tr>
<tr>
<td>2008</td>
<td>0</td>
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<tr>
<td>2009</td>
<td>0</td>
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<td>2013</td>
<td>0</td>
</tr>
<tr>
<td>2014</td>
<td>0</td>
</tr>
<tr>
<td>2015</td>
<td>3,000</td>
</tr>
</tbody>
</table>

million cubic feet/day
US Natural Gas and Crude Oil Production, 1949-2014 (est.)

Source: EIA

America's Shale Revolution

Natural gas production in selected regions (Jan 2012 - June 2015) cumulative change since January 2012, billion cubic feet per day (Bcf/d)

Since the beginning 2012, the **Marcellus** and **Utica** regions have accounted for 85% of increases in production from these selected shale gas regions.

Commodities: Domestic Natural Gas

Figure 40. Major Natural Gas Hubs

Source: Company data, Evercore ISI Research
DOMINION TRANSMISSION APPALACHIAN INDEX (DTI) GAS PRICE
2005 TO 2015

NATURAL GAS PRICE, $/MMBTU

YEAR


SOURCE: EIA & DIRECT ENERGY
Oil and Natural Gas Prices over the Last Year

2014-2015 WTI Crude Price History

Crude Oil Price ($/Barrel)

$120.00
$110.00
$100.00
$90.00
$80.00
$70.00
$60.00
$50.00
$40.00


57%

2014-2015 Dominion Transmission (DTI) Appalachian Price

Natural Gas Price ($/MMBTU)

$6.00
$5.00
$4.00
$3.00
$2.00
$1.00


67%
Collapse In Crude

- The Collapse in Crude Not Only Affects the Price of Oil But Also NGL’s

*Figure 35. NGL component pricing*

*Source: Bloomberg LP, Evercore ISI Research*
Ripped From The Headlines... Spending Cuts in Ohio

Carrizo Oil & Gas to cut drilling budget by 35 percent

Shale is in 'survival mode;' drilling is being affected by tumbling oil and gas prices

Antero Resources cuts 2015 capital budget by 41 percent

Hess Corp to reduce spending in Utica in 2015

EQT writes off its Utica shale holdings in Ohio
Ripped From The Headlines....Loss of Jobs

Vallourec Star to idle Ohio plant due to oil sag
American Metal Market 2/15/15

U.S. Steel to idle Lorain Tubular, lay off 636 workers
Morning Journal 1/7/15

Baker Hughes to lay off 7,000 as oil patch layoffs mount
USA Today 1/20/15

Mass layoffs complicate oil industry's long-term plans
Reuters 2/13/15

Marathon Oil going after costs, has saved $225 million so far, layoff 350 employees.
Reuters 2/19/15
ODNR Rig Count - December 13, 2014 - 59 rigs
ODNR Rig Count – Oct. 23, 2015 - 21 rigs
Utica Rig Locations
Ohioans Are Saving On Their Energy Costs

• On Dominion Consumers Are Paying the Lowest Price for Natural Gas in 30 Years

• Ohioans are Saving $6.7 Billion on Natural Gas Compared to 2008

• Thanks to $45 Oil Ohioans Are Receiving $10 Billion in Estimated Petroleum Cost Savings Given Current Rate of Consumption
Henry Hub: $2.14  Dominion Southpoint: $1.64

• We Are Sitting On Top of the World’s Largest Natural Gas Field

• We Need to Attract Burner Tips
  • Large Manufactures
  • Natural Gas Fired Electric Utilities
Natural Gas Fired Power Plants

- Clean Energy Future Lordstown, Clean Energy Future – Trumbull County
  - $800 Million, 800 megawatts, 500 construction jobs
- NTE Energy, Middletown Energy Center, – Butler County
  - $500 Million, 525 megawatts, 400 construction jobs
- Rolling Hills Power Co., Rolling Hills Generating Station – Vinton County
  - $700 Million, 1414 megawatts, 400 construction jobs
- Organ Clean Energy LLC, Oregon Clean Energy – Lucas County
  - $860 Million, 799 megawatts, 532 construction jobs
- Advanced Power Services, Carroll County Energy – Carroll County
  - $899 Million, 700 megawatts, 700 construction jobs
- Appalachian Power – Muskingum County
  - $85 Million
  - NRG Energy – Lorain County
  - $899 Million
Today there are over 6,000 products refined from Natural Gas and Crude Oil.
Questions?

Thank You!

Shawn Bennett
Executive Vice President
Ohio Oil and Gas Association
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