CO Energy Impacts: Production, Jobs, Revenues & Price Forecasts

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State Demography Office
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OVERVIEW

• U.S. and Colorado Oil & Gas Production

• Industry Employment Changes

• Price & Production Forecasts

• State Revenue Projections
CO Oil Production by County 2008 - 2017

Source: http://cogcc.state.co.us/COGCCReports/
NATURAL GAS PRODUCTION 2000 - 2016

Dry Natural Gas Production US vs. CO

Source: https://www.eia.gov/dnav/ng/
NATURAL GAS PRODUCTION SHIFT

Largest Natural Gas Producing Counties in CO, 2010-16

Source: https://www.eia.gov/dnav/ng
COLORADO OIL AND GAS 2016 DRILLING PERMITS BY COUNTY

as of 1-1-2017

WELD, 1,704, 60%
GARFIELD, 724, 26%
LA PLATA, 96, 3%
ADAMS, 74, 3%
RIO BLANCO, 71, 2%
JACKSON, 57, 2%
All Others, 109, 4%

COLORADO MINING EMPLOYMENT 2010 - 2017

Source: Colorado Dept. of Labor & Employment (CDLE) & Moody’s Analytics
Through November, 2016 oil and gas initial claims are down 38% compared to what they were at this time last year.
IMPACT OF OIL & GAS JOB LOSSES

- 7,200 Jobs in 2016 at $115K/yr average
  - Dampened Overall Job Growth - only 2.2% in ‘16
  - CO Personal Income Gains were weaker - 3.9%
- Western Slope Counties with large industry concentrations lost jobs and population
- Net Migration in 2016 down ~ 8,000
- Companies forced to become more efficient

Source: CDLE, SDO Estimates
PRICE, PRODUCTION & REVENUE FORECASTS
## Federal Reserve 10J Energy Survey Q1_2017

<table>
<thead>
<tr>
<th></th>
<th>Profitable Price</th>
<th>Increase Drilling Substantially</th>
<th>Price @ End 2017</th>
<th>Price @ End 2018</th>
<th>World Oil Inventory Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OIL (WTI $/bbl)</strong></td>
<td>$53/bbl ($40 - 75 range)</td>
<td>$60</td>
<td>$58</td>
<td>$63</td>
<td>33% Q2_2017</td>
</tr>
<tr>
<td><strong>Natural Gas $/million BTU</strong></td>
<td>$3.97 ($2 - 5 range)</td>
<td>$3.98</td>
<td>$3.64</td>
<td>$3.73</td>
<td>28% Q3_2017</td>
</tr>
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25% Q1_2018 or later
Colorado Oil Production and WTI $/bbl 2014-16
Actual, 2017-19 Forecast

Oil Produced
WTI $/bbl

Source: EIA, Moody’s Analytics & SDO Forecast
CO Dry Gas Production & Henry Hub $/Mcf 2011-16 Actual, 2017-20 Forecast

CO Natural Gas Dry Production TMMcf

Henry Hub Annual $/MCF

Source: EIA, Moody’s Analytics & SDO Forecast
**STATE SEVERANCE TAX FORMULA**

State Oil and Gas Severance Tax Revenue =

Production Quantity - Small Well Exemptions Quantity - Govt Owned production

X Oil or Gas Price

- Processing and Manufacturing (TPM) costs

X Tax Rate

- Property Tax Credit (Ad Valorem)
Assessed Value from Oil and Natural Gas Production in Colorado

Source: Colorado Oil and Gas Conservation Commission, Colorado Department of Local Affairs Division of Property Taxation, and OSPB March 2017 Forecast
State Severance Tax Revenue

Source: OSPB March 2017 Forecast

Governor's Office of State Planning and Budgeting
State Federal Mineral Leasing Revenue

Source: OSPB March 2017 Forecast
Thank you

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https://demography.dola.colorado.gov/
Change in Total Assessed Value By School District
Forecast for 2016 Assessment Year (Budget Year 2016-17)

Source: Colorado Legislative Council Staff December 2015 Forecast

Governor's Office of State Planning and Budgeting
WTI Oil Price Forecast

West Texas Intermediate (WTI) crude oil price

dollars per barrel

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

Note: Confidence interval derived from options market information for the 5 trading days ending Apr 6, 2017. Intervals not calculated for months with sparse trading in near-the-money options contracts.
Source: Short-Term Energy Outlook, April 2017.