



CO ENERGY IMPACTS: PRODUCTION, JOBS, REVENUES & FORECASTS

Chris Akers

State Demography Office

Energy & Environment Symposium

April 17, 2019



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Department of Local Affairs

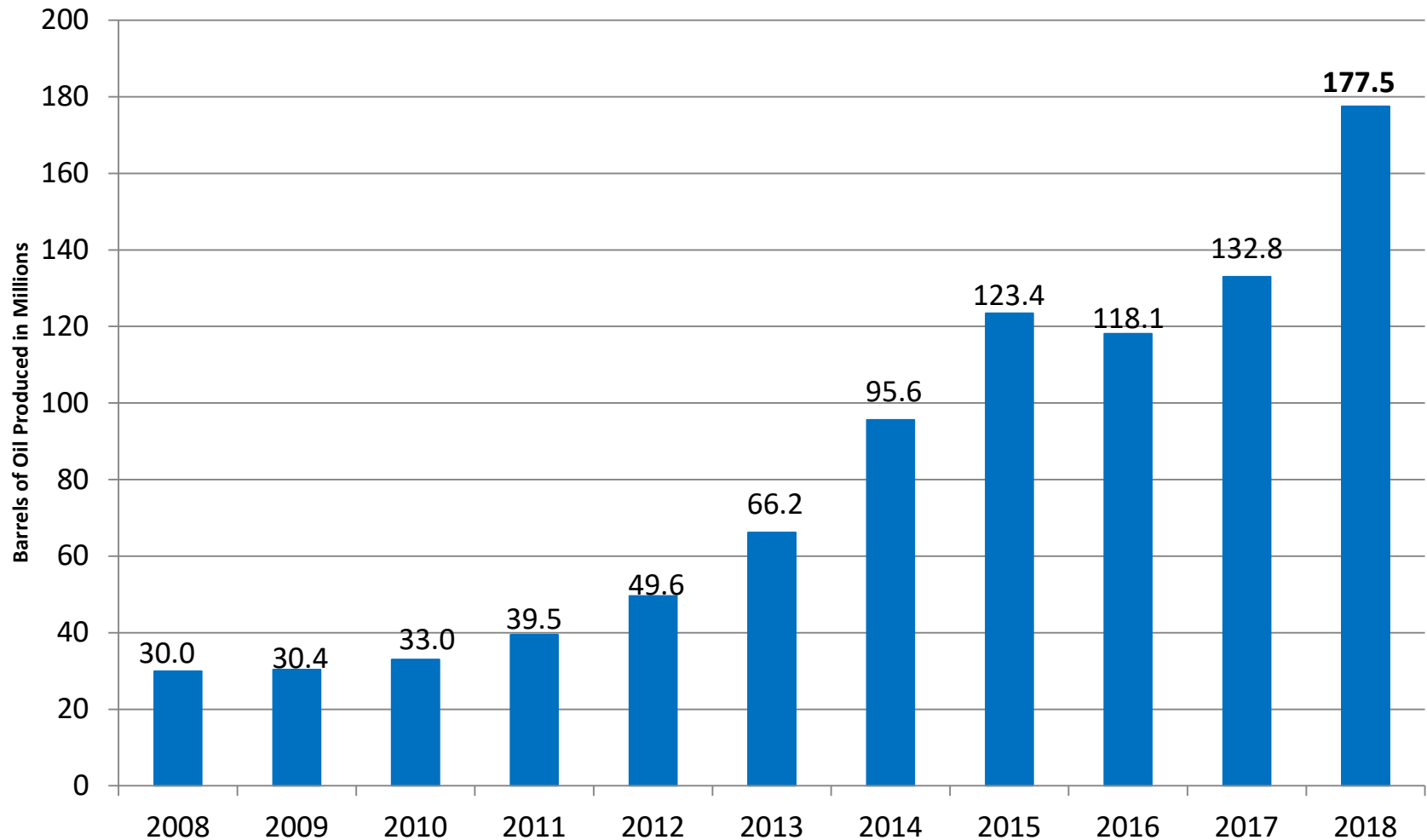
OVERVIEW

- RECORD Colorado Oil & Gas Production
- Employment Changes
- Price & Production Forecasts
- State Revenue Projections

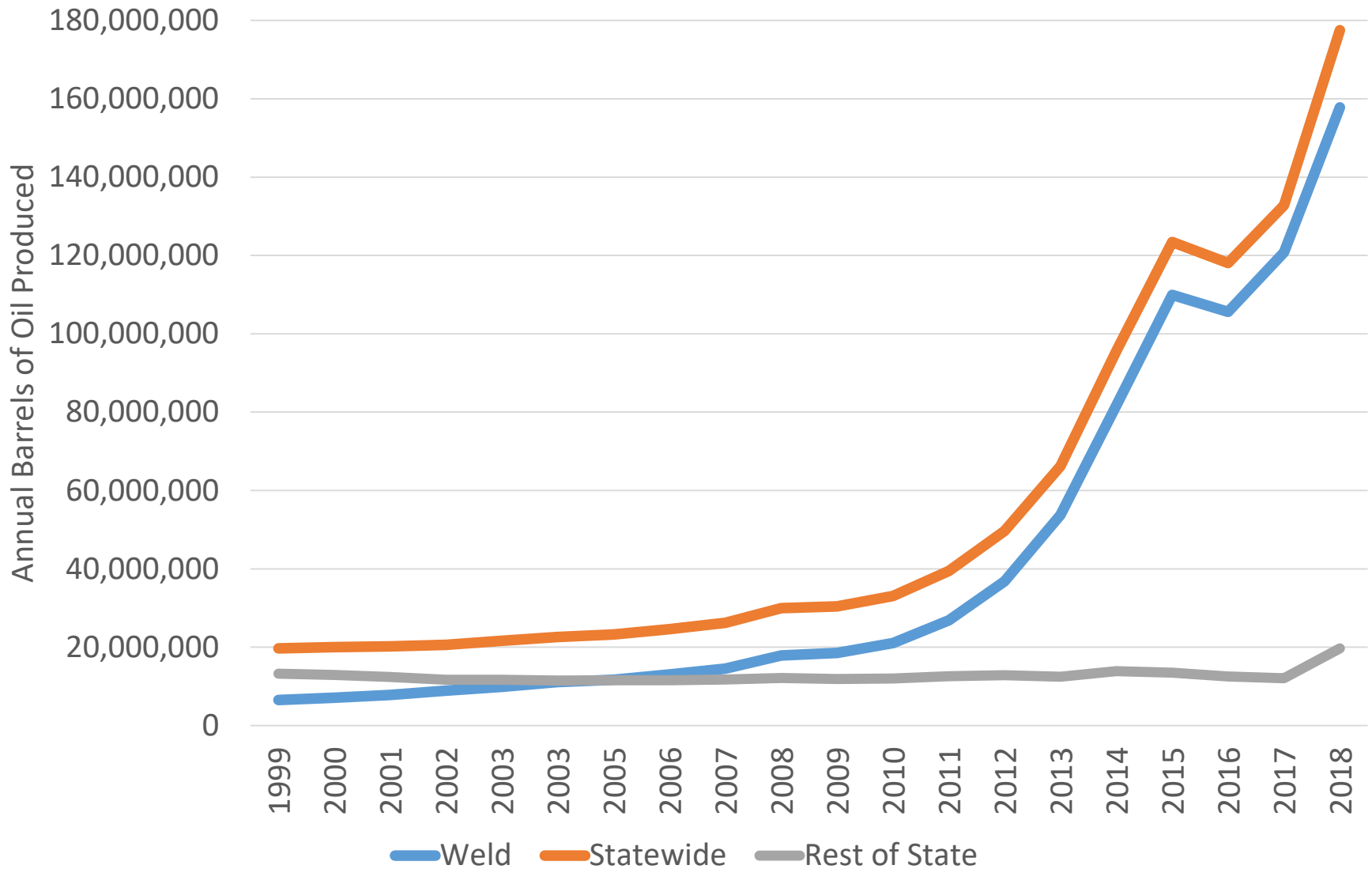


CO ANNUAL OIL PRODUCTION 2008 - 2018

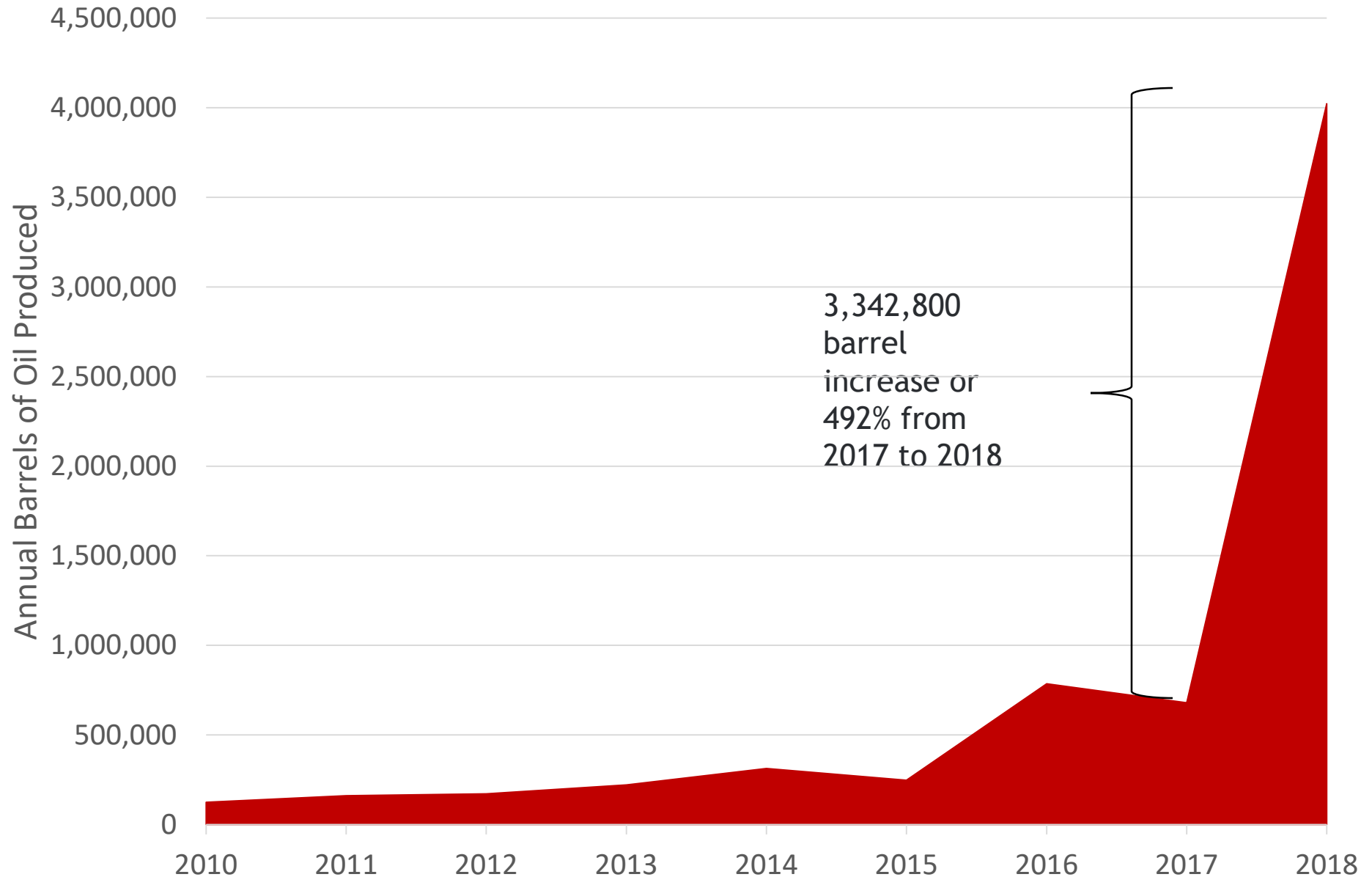
Oil Produced in Millions of Barrels



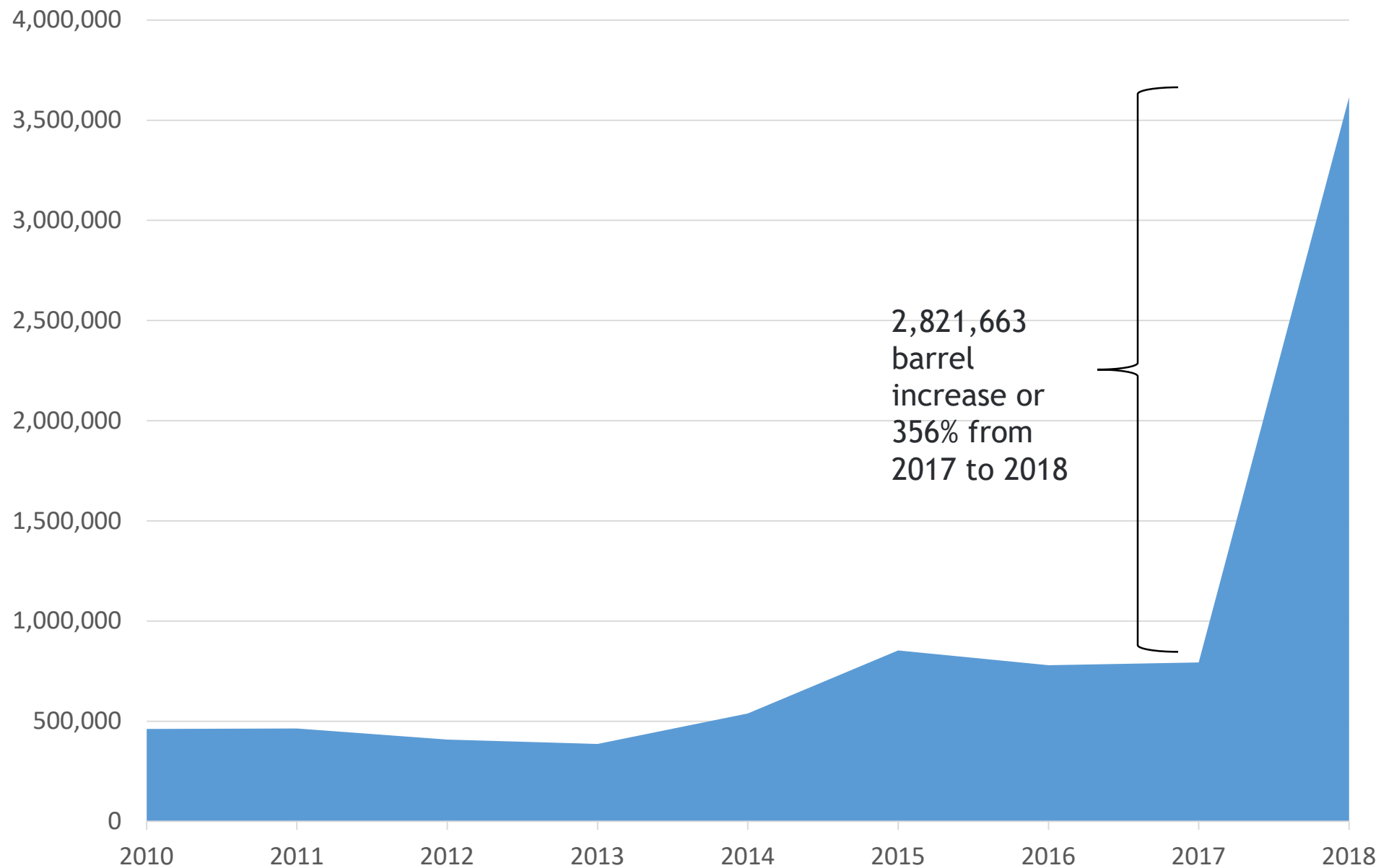
Colorado Oil Production 1999 to 2018



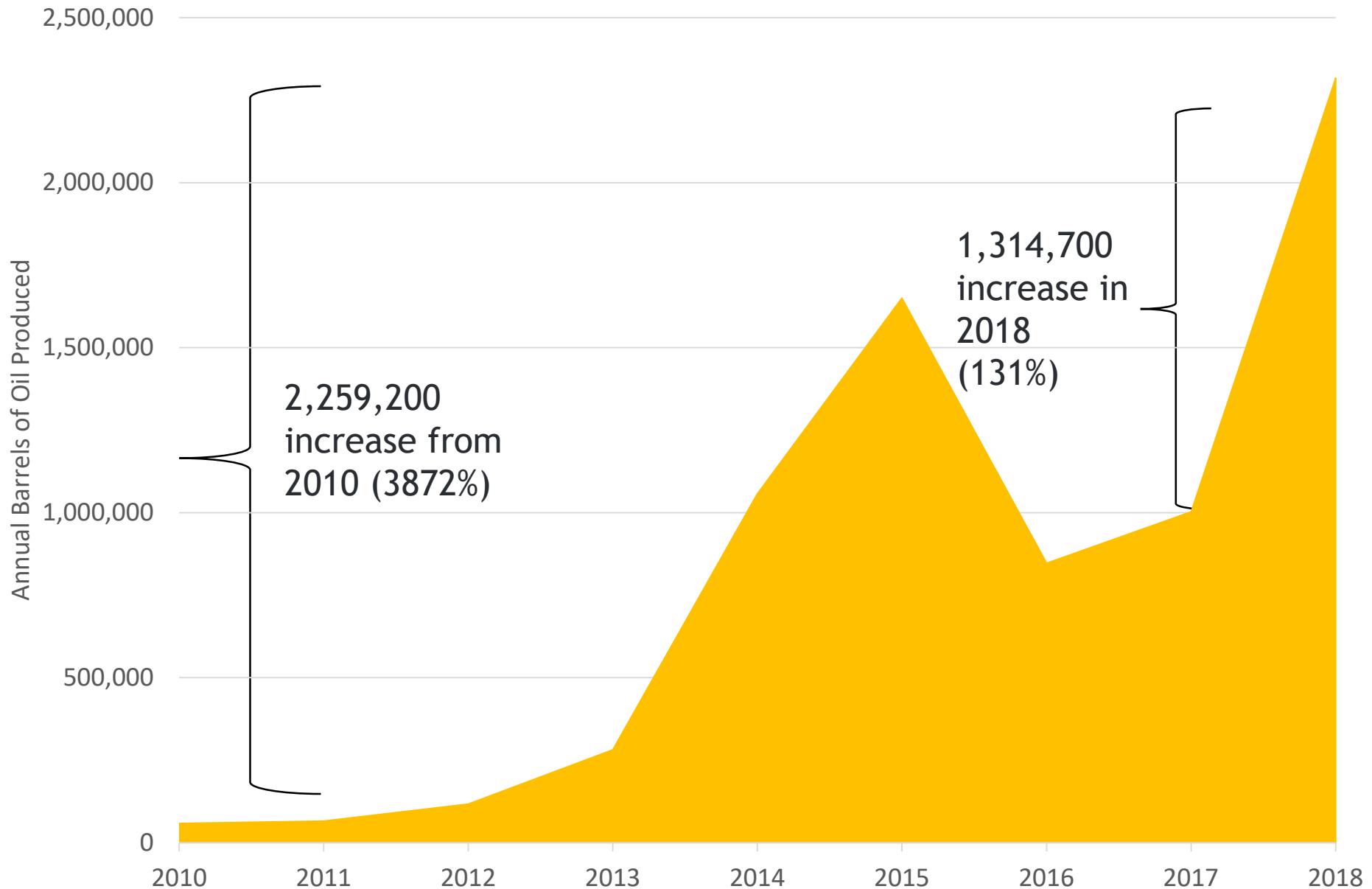
Larimer County Oil Production from 2010 to 2018



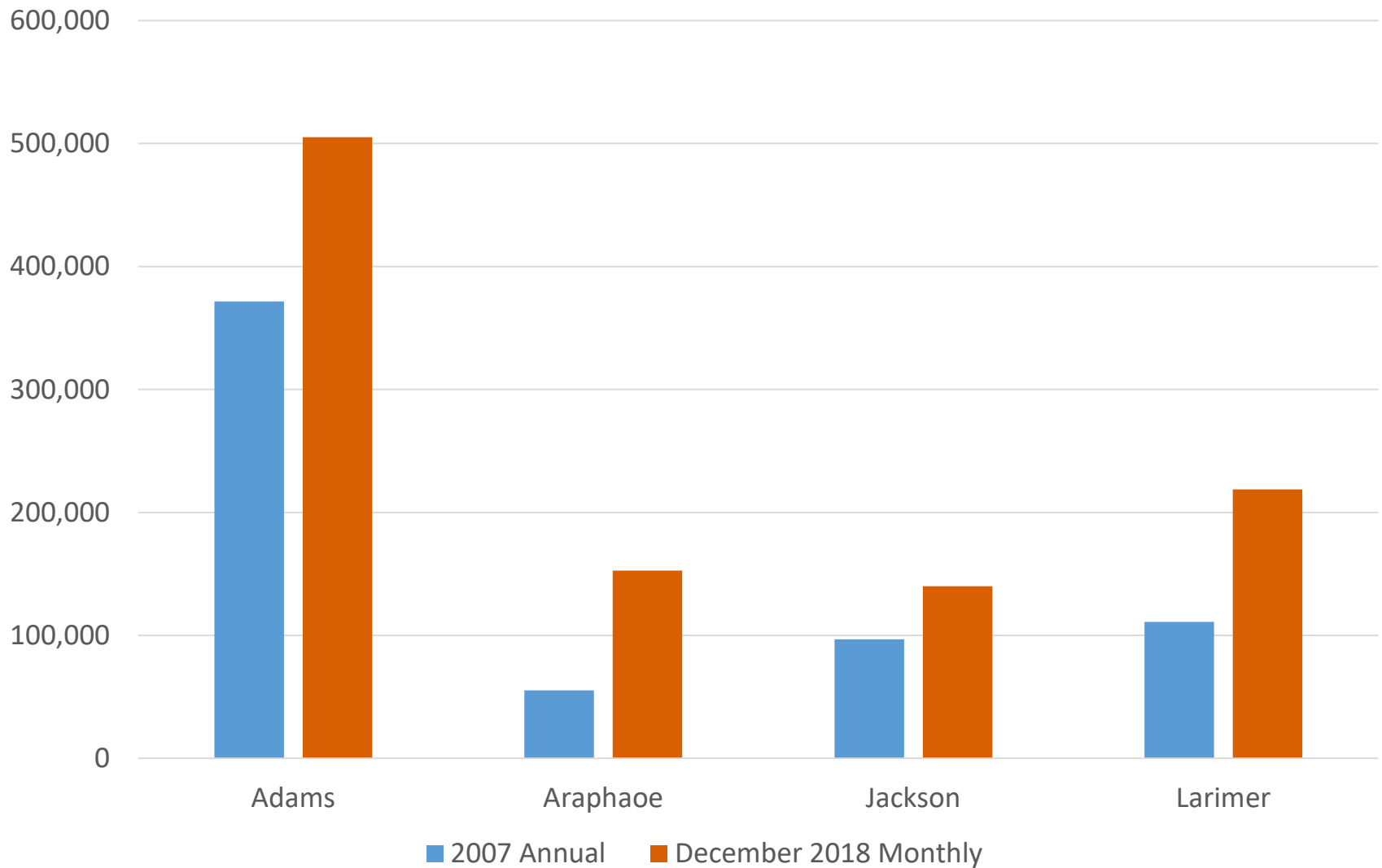
Adams County Oil Production from 2010 to 2018



Arapahoe County Oil Production from 2010 to 2018

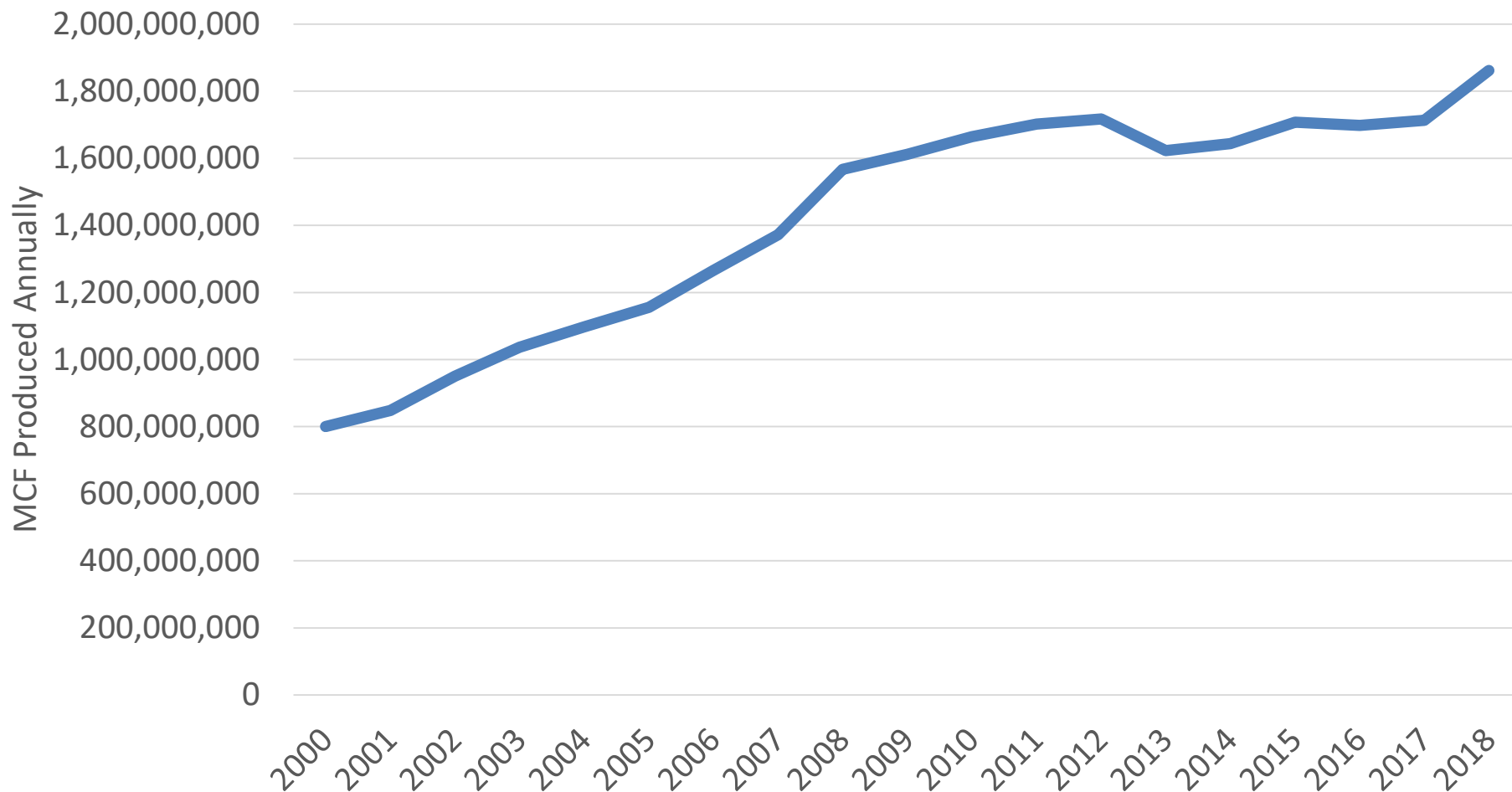


Four Colorado Counties that produced more oil in the last month of 2018 than in all 12 months of 2007



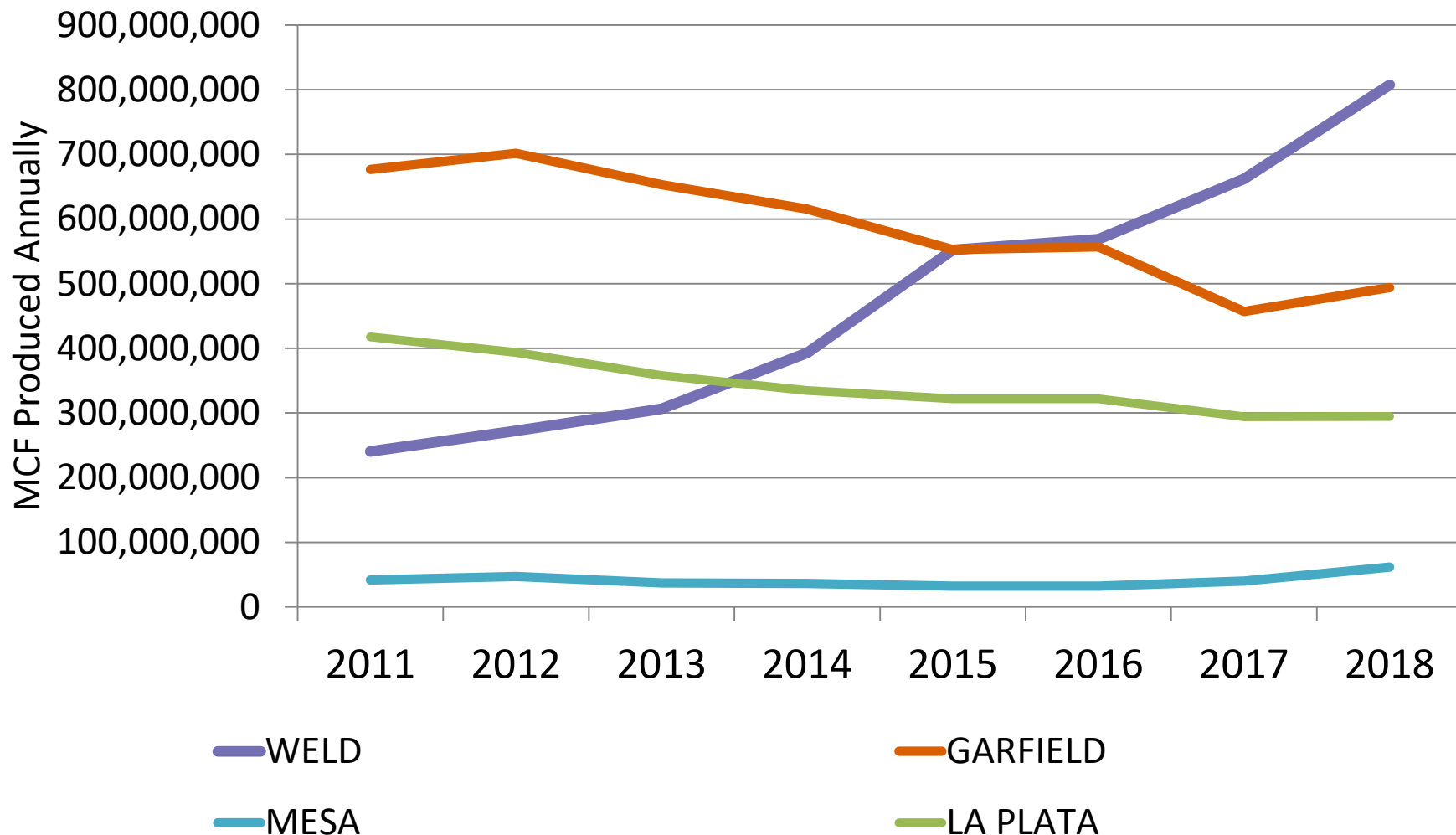
NATURAL GAS PRODUCTION 2000 TO 2018

Colorado Natural Gas Production



NATURAL GAS PRODUCTION SHIFT

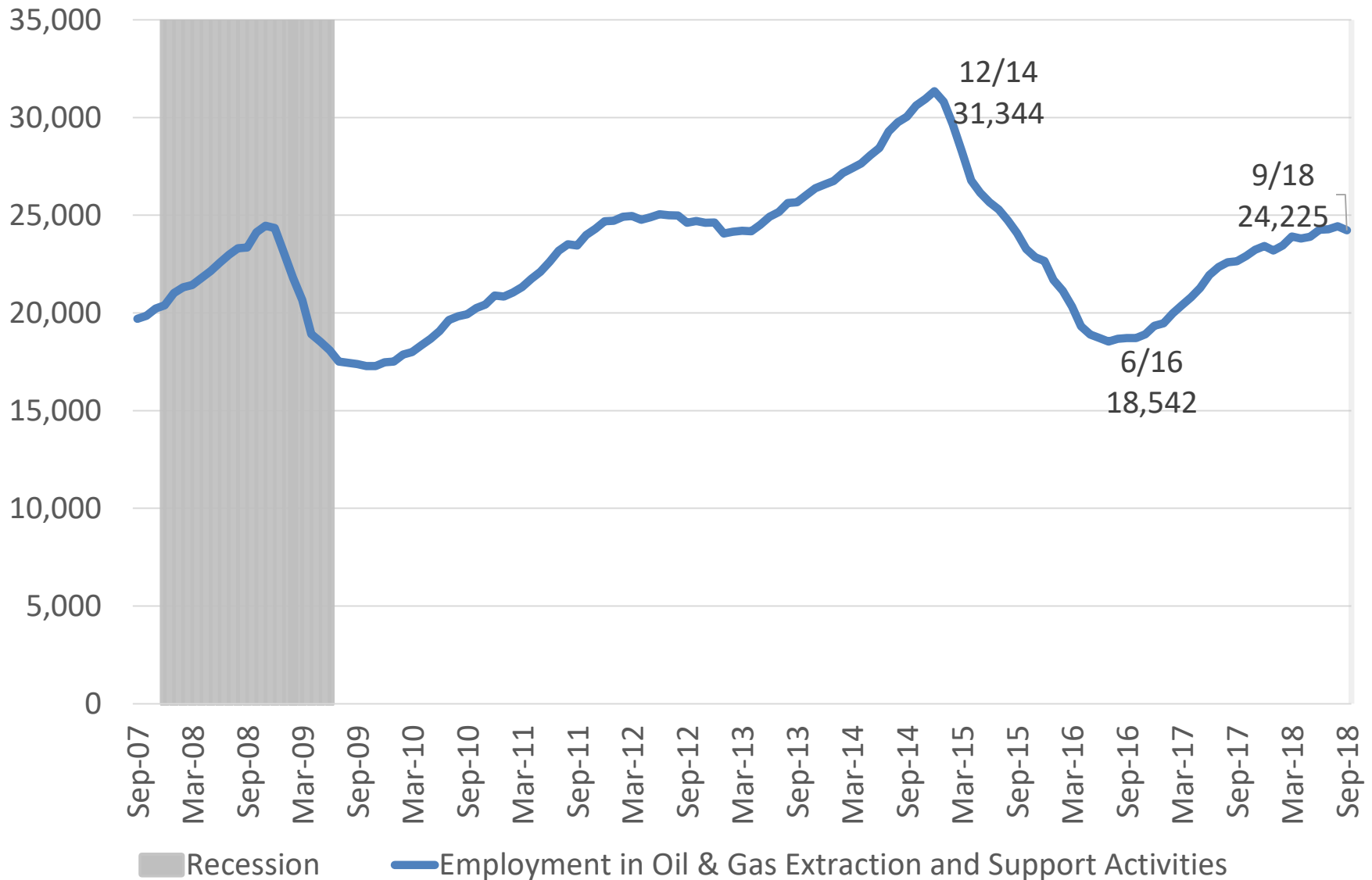
Largest Natural Gas Producing Counties in CO, 2011-18



CO's TOP 6 NATURAL GAS PRODUCING COUNTIES IN 2018

County	Natural Gas Production (Million MCF)	Share of Statewide Production	% Change in Production from 2017
Weld	807.5	43%	18%
Garfield	494.1	27%	8%
La Plata	294.4	16%	1%
Mesa	61.7	3%	48%
Rio Blanco	51.6	3%	-13%
Las Animas	51.0	3%	-19%
Balance of CO (31 Counties)	101.7	5%	15%

COLORADO OIL & GAS EMPLOYMENT 2007 - 18



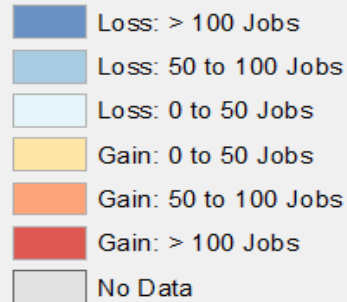
MINING EMPLOYMENT REBOUNDING, BUT NOT EVENLY ACROSS COLORADO COUNTIES

- 9,500 Mining Jobs lost from 2014 to 2016
 - Dampened Overall Job Growth - only 2.4% in '16 & caused weakness in Wages - only +1.0%
- +2,300 Mining Jobs in 2017 (12% growth)
- 3rd Quarter Growth of 8% from Q3_2017 (1,800 jobs)

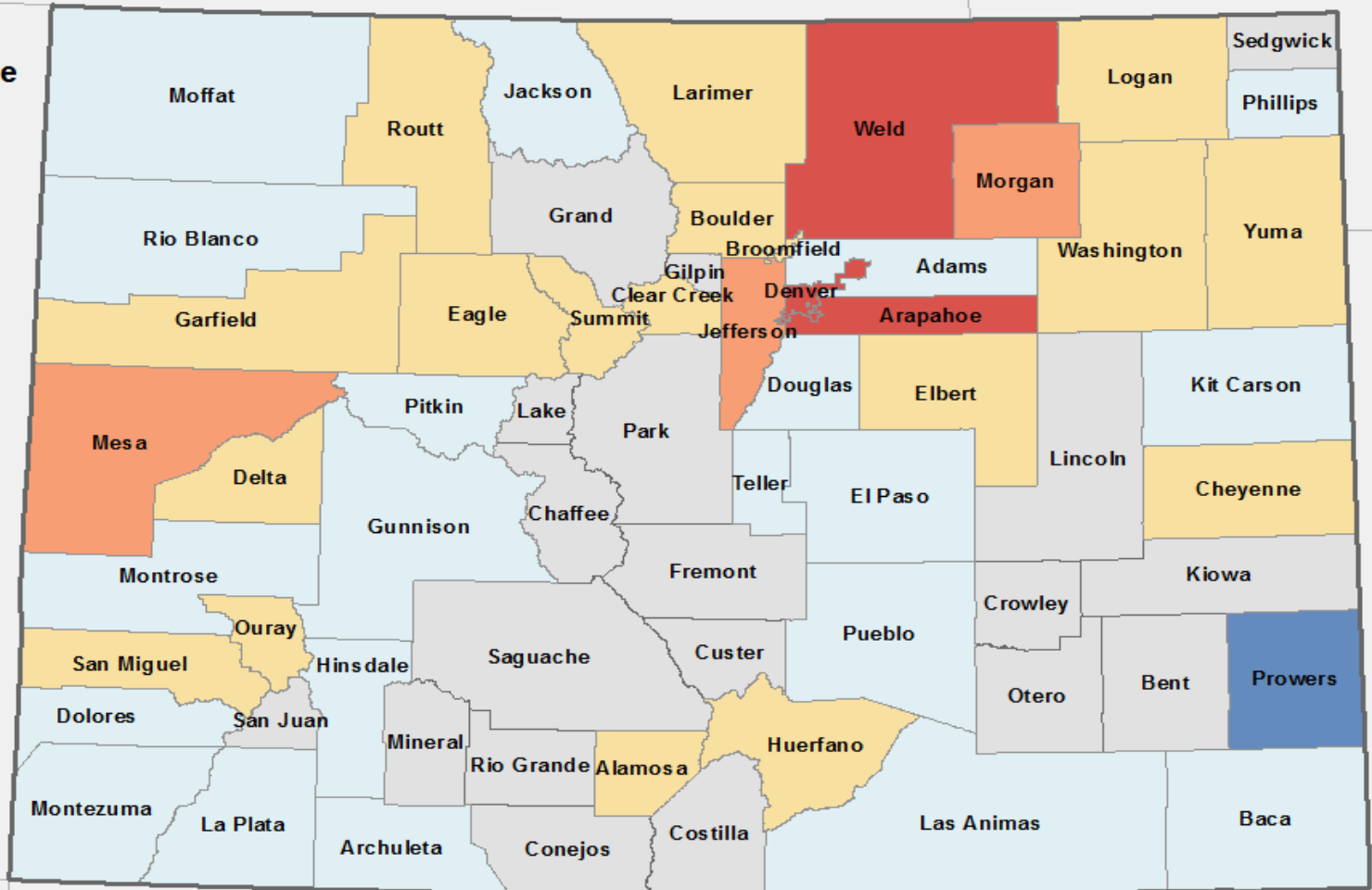
Colorado 1 Year Change in Mining Employment

Q3 2017 to Q3 2018

Employment Change



Weld +2,200
 Denver +1,020
 Arapahoe +202
 Mesa +89
 Morgan +83
 Garfield +40



Source: Quarterly Census of Employment & Wages, Colorado State Demography Office

04/12/2019



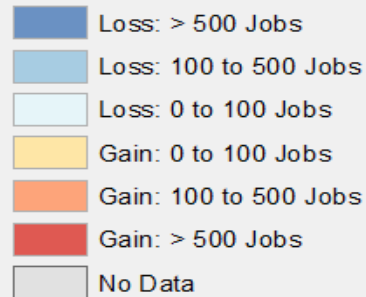
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Source: CDLE / QCEW

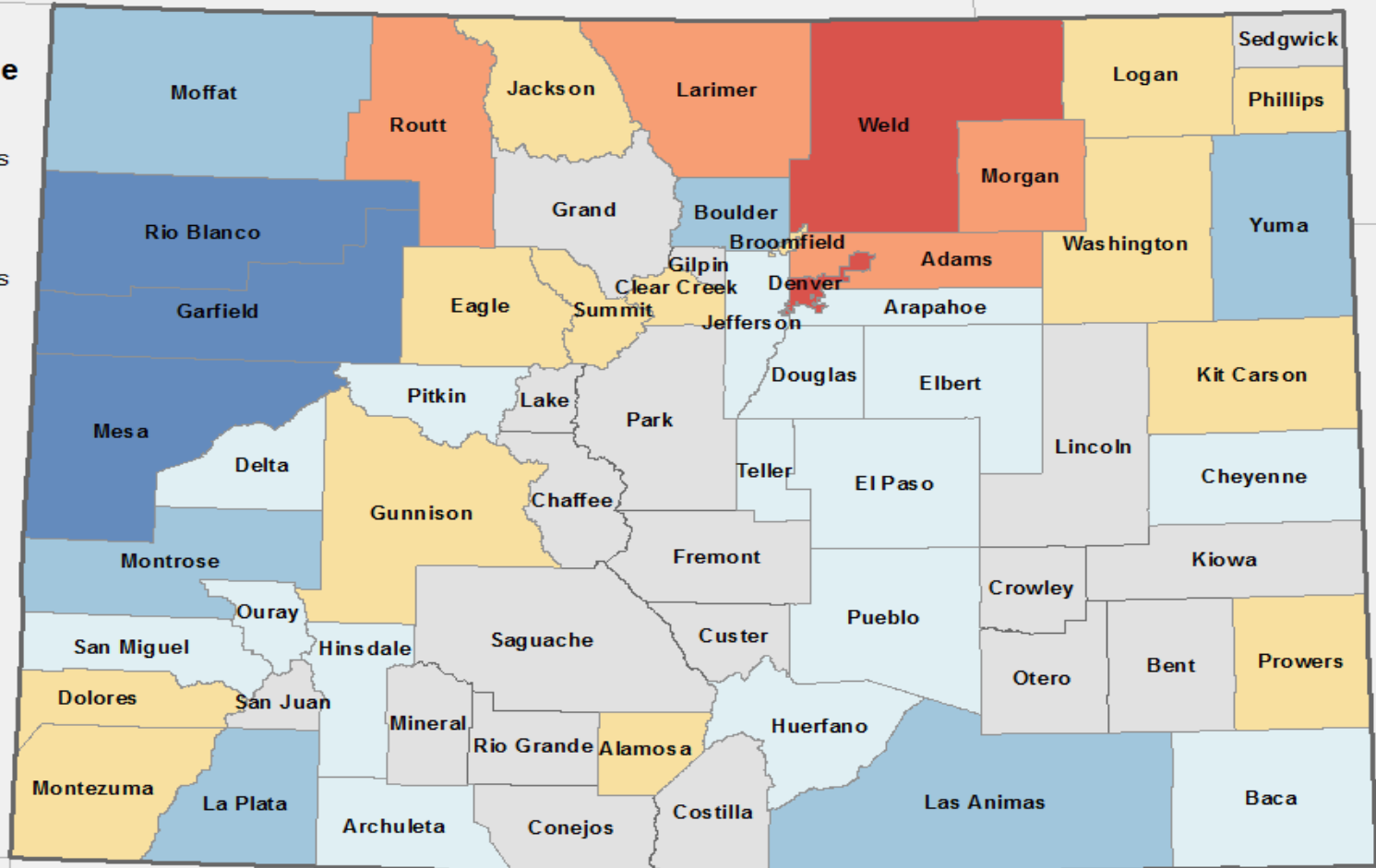
Colorado 10 Year Change in Mining Employment

Q3 2008 to Q3 2018

Employment Change



Garfield -1,720
 Mesa - 1,550
 Rio Blanco -511
 Weld +5,350
 Denver +1,330



Source: Quarterly Census of Employment & Wages, Colorado State Demography Office

04/12/2019



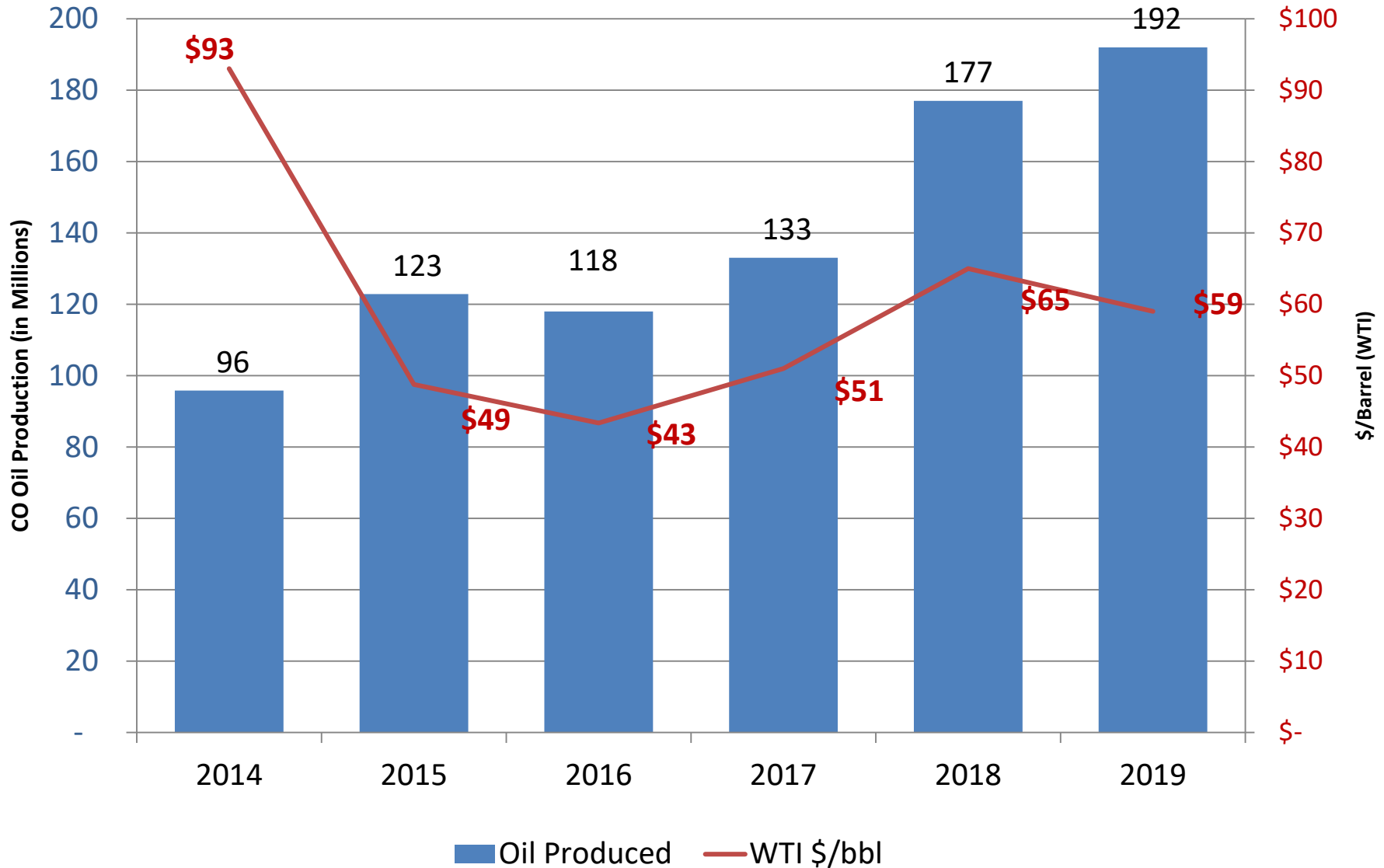
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Source: CDLE / QCEW

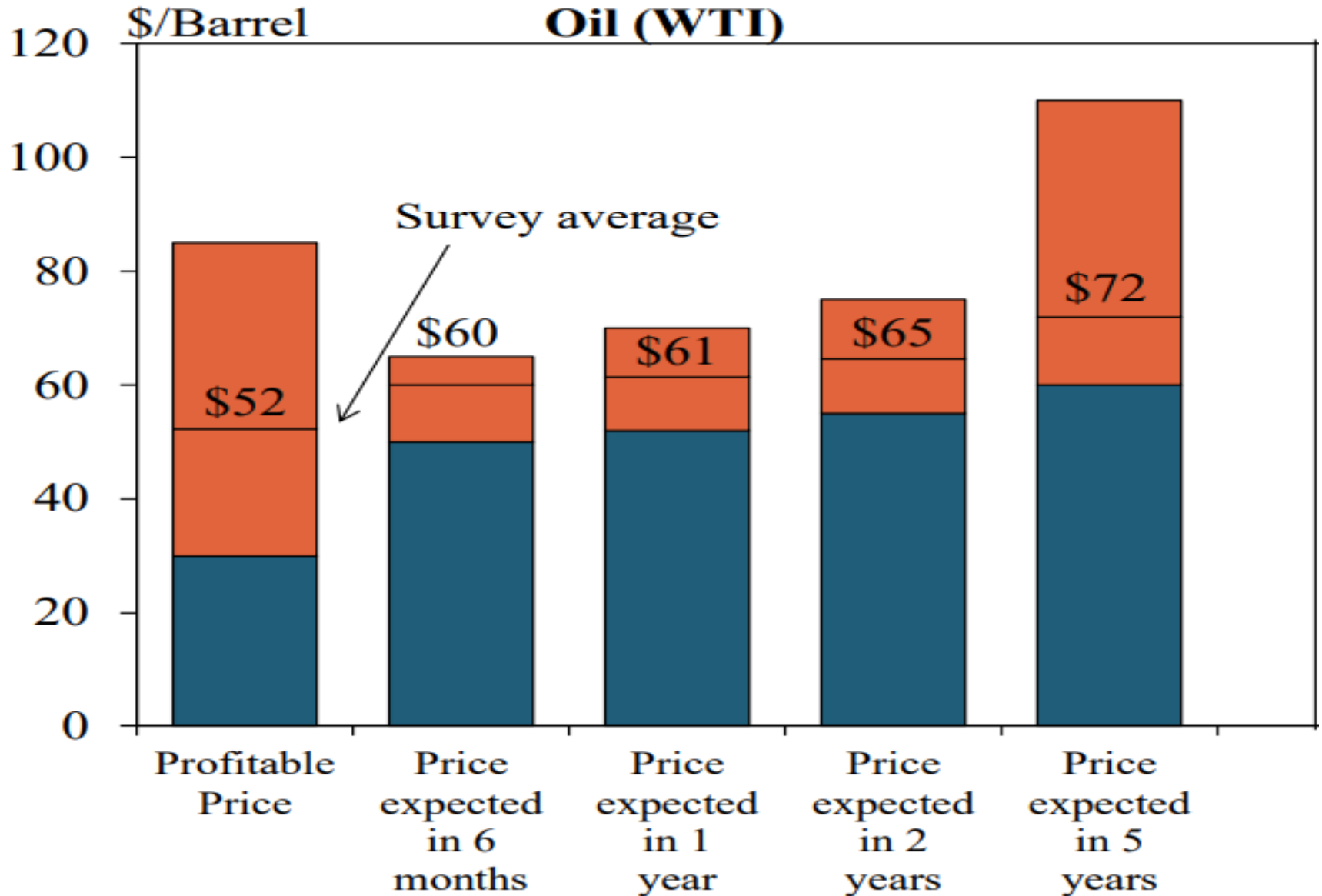
PRICE, PRODUCTION & REVENUE FORECASTS



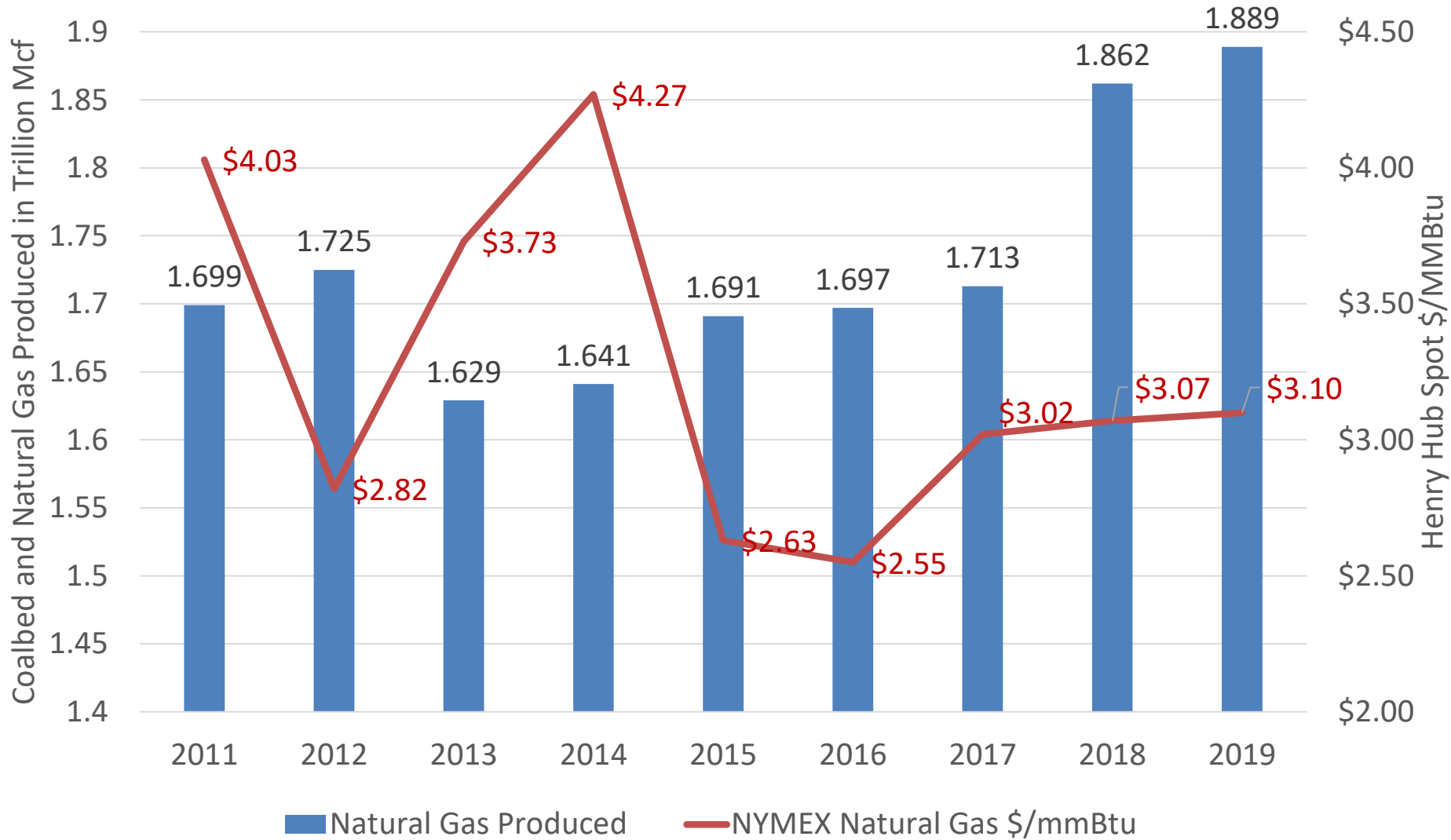
Colorado Oil Production and WTI \$/bbl 2014-18 Actual, 2019 Forecast



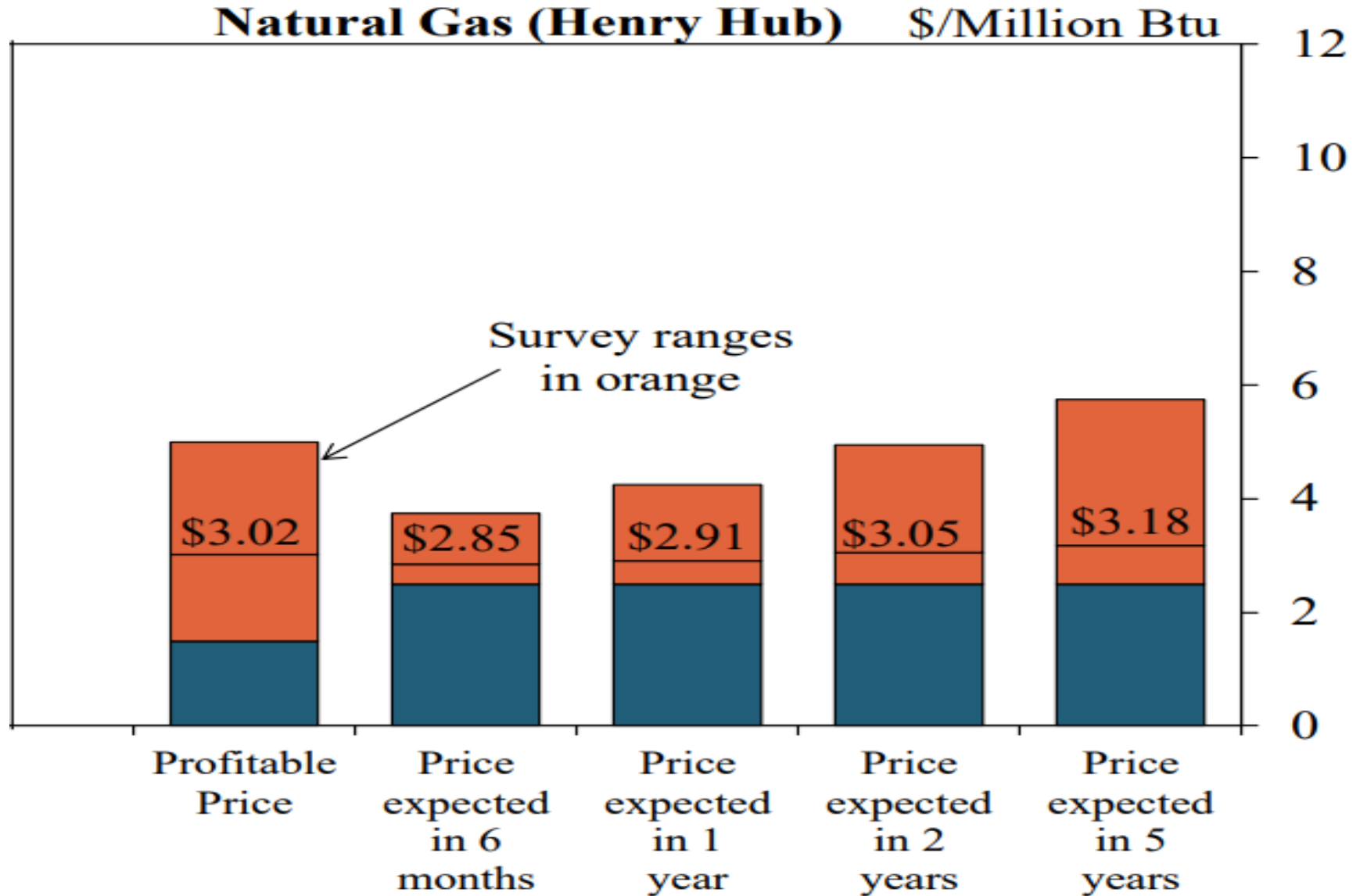
FEDERAL RESERVE 10J ENERGY SURVEY Q1_2019



Colorado Natural Gas Production & NYMEX Natural Gas \$/MMBtu 2011 to 2018 actual, 2019 forecast



FEDERAL RESERVE 10J ENERGY SURVEY Q1 2019



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 Department of Local Affairs Division of Property Taxation



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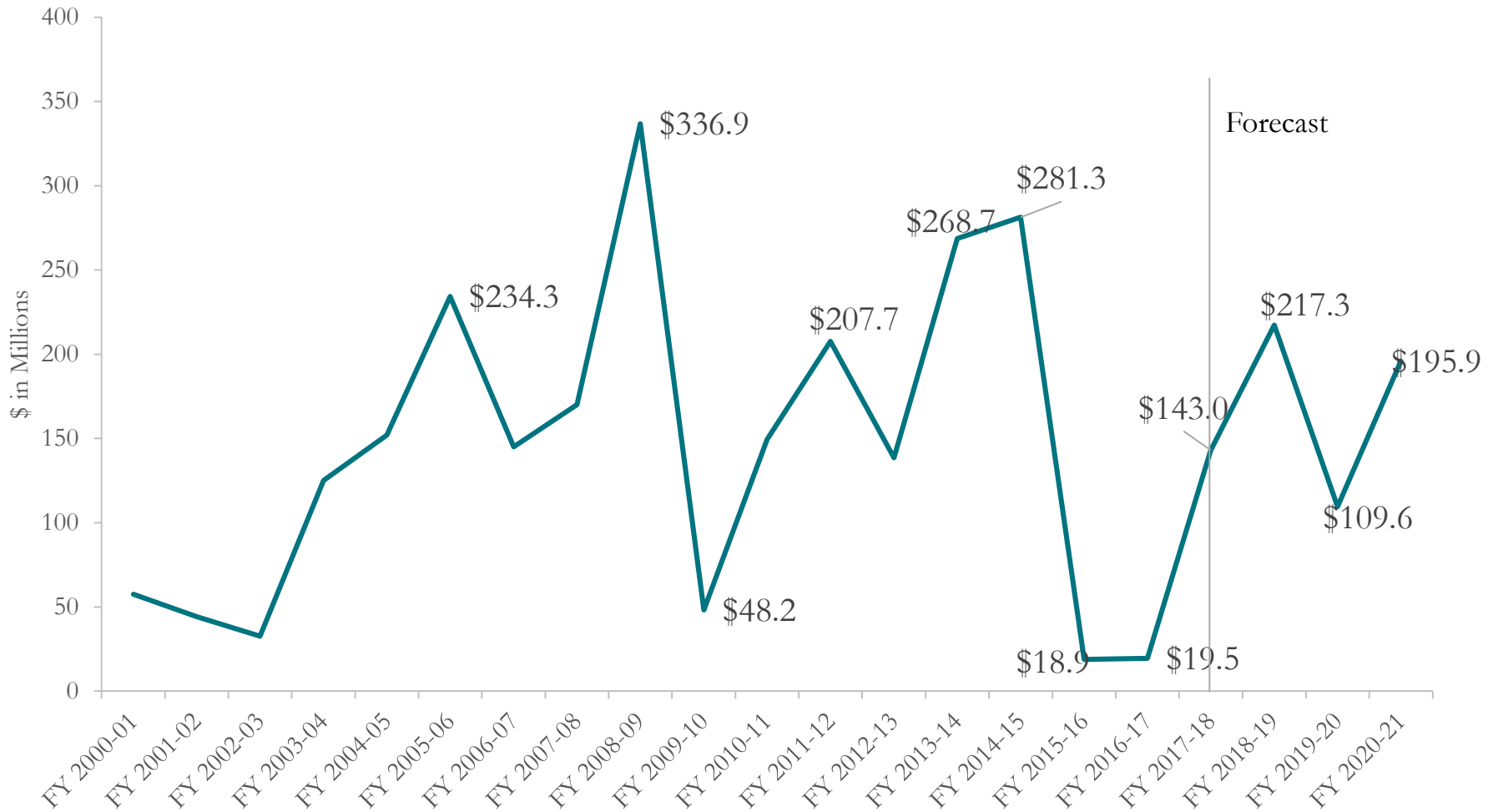
State Federal Mineral Leasing Revenue



Source: OSPB March 2019 Forecast



State Severance Tax Revenue



Source: OSPB March 2019 Forecast



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Governor's Office of State Planning and Budgeting

Thank you!

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Department of Local Affairs

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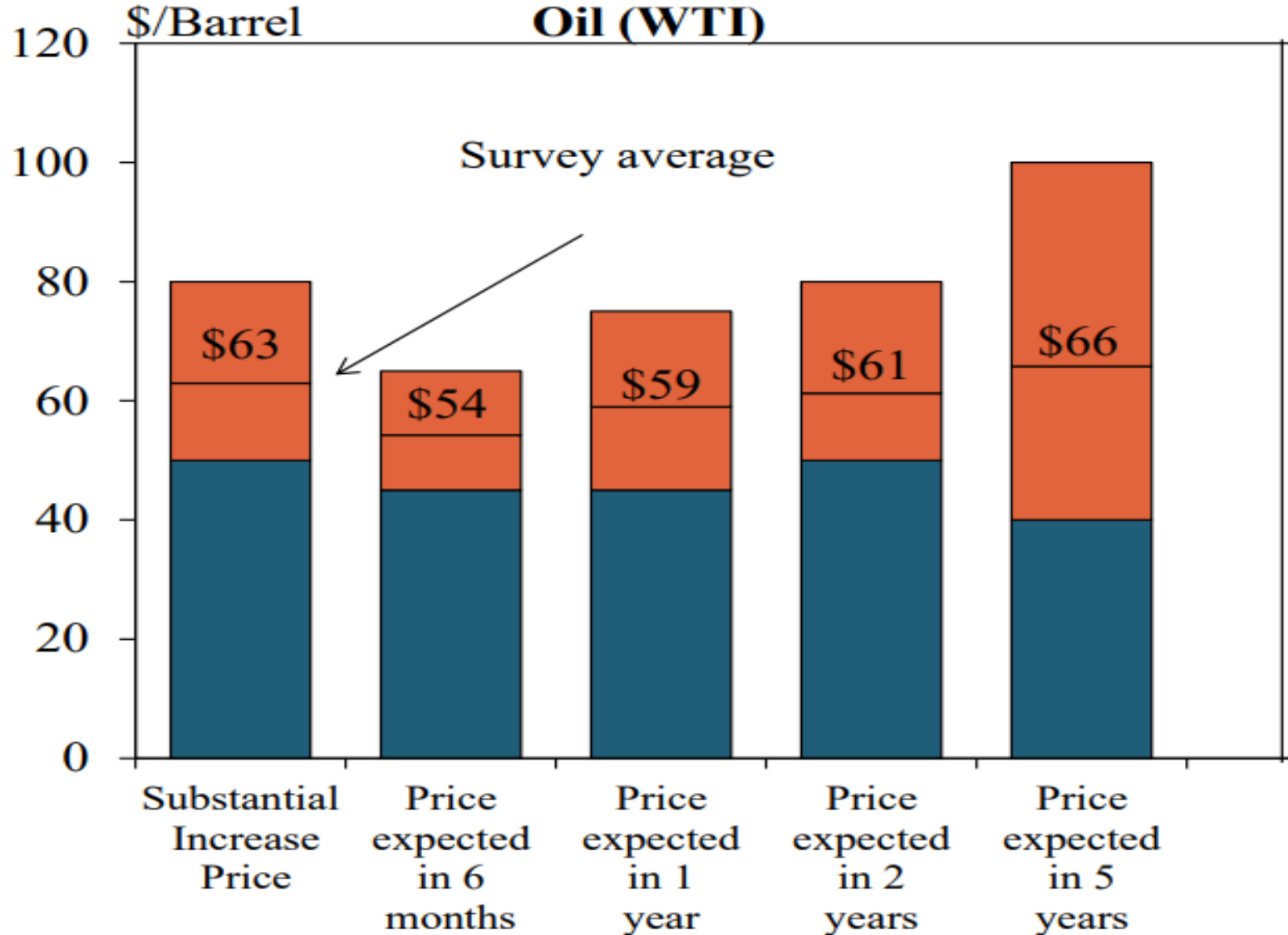
Chris.Akers@state.co.us

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<https://demography.dola.colorado.gov/>

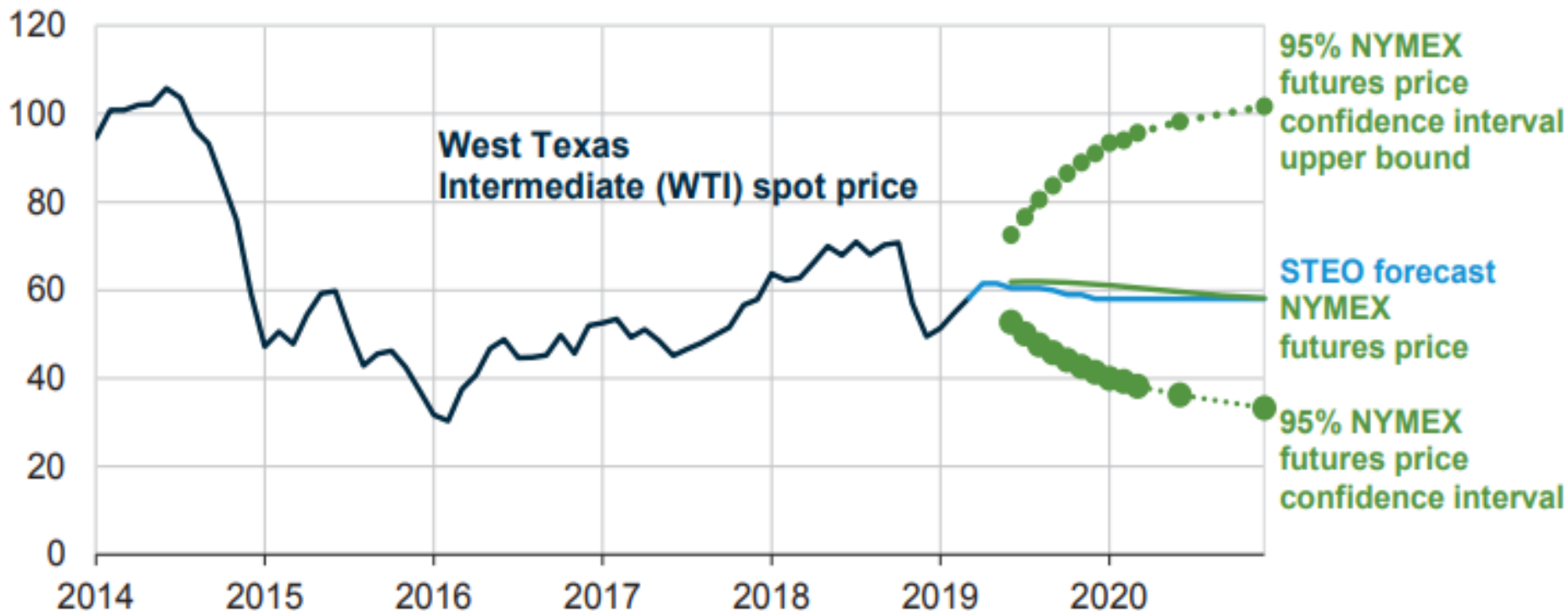


FEDERAL RESERVE 10J ENERGY SURVEY Q4_2018



WTI OIL PRICE FORECAST

West Texas Intermediate (WTI) crude oil price and NYMEX confidence intervals
dollars per barrel



Note: Confidence interval derived from options market information for the five trading days ending Apr 4, 2019. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Source: Short-Term Energy Outlook, April 2019, and CME Group



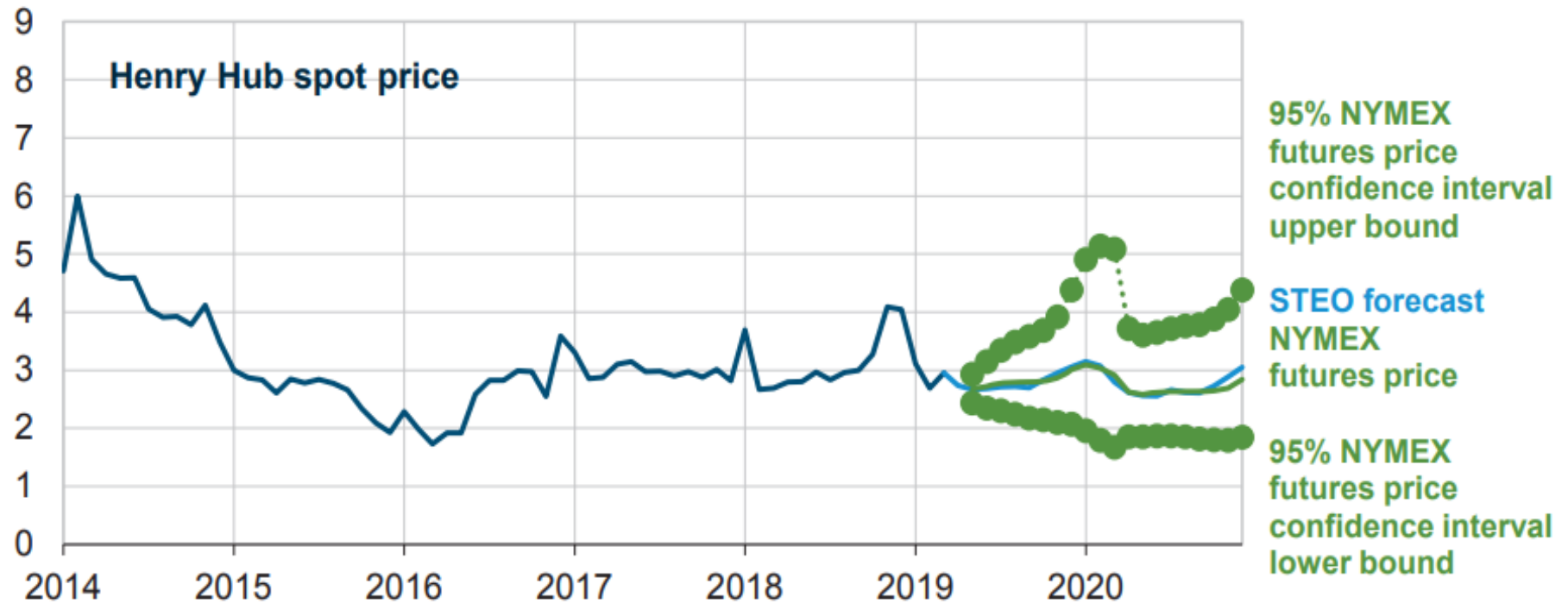
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https://www.eia.gov/outlooks/steo/pdf/steo_full.pdf

NATURAL GAS PRICE FORECAST

Henry Hub natural gas price and NYMEX confidence intervals

dollars per million Btu



Note: Confidence interval derived from options market information for the five trading days ending Apr 4, 2019. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Source: Short-Term Energy Outlook, April 2019, and CME Group

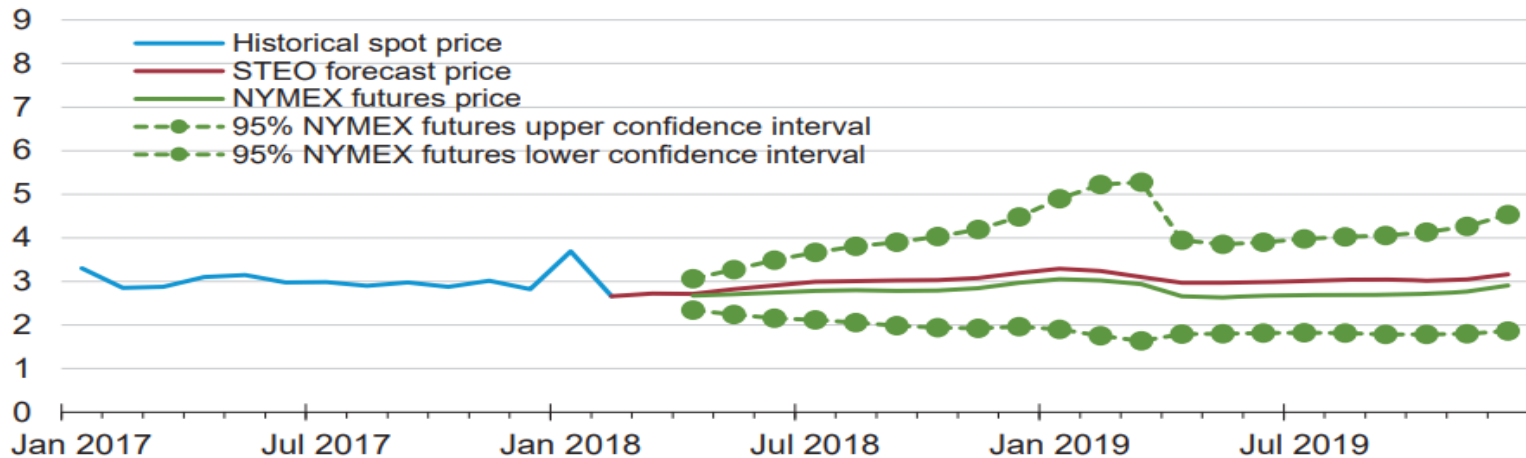


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https://www.eia.gov/outlooks/steo/pdf/steo_full.pdf

NATURAL GAS PRICE FORECAST

Henry Hub natural gas price
dollars per million Btu



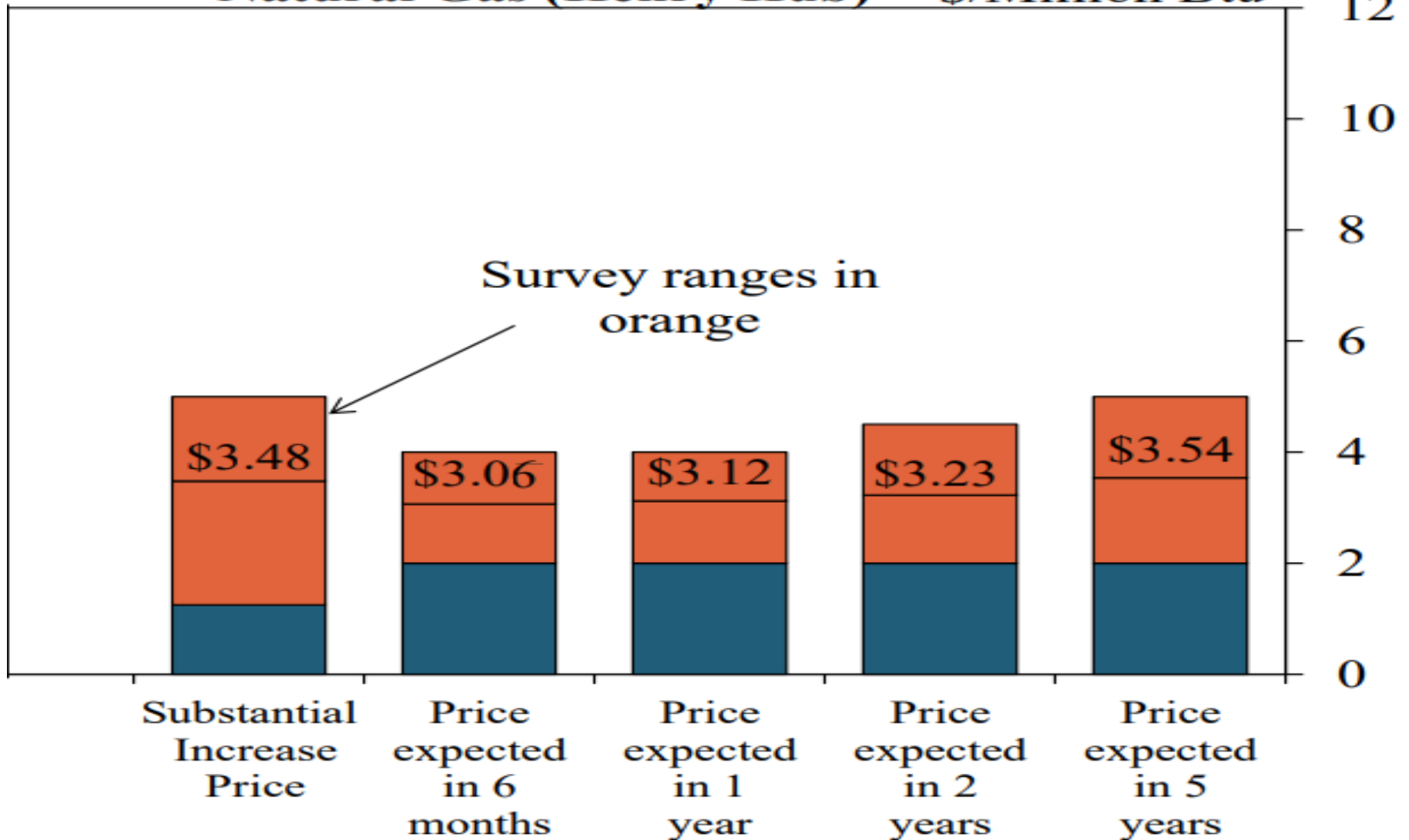
Note: Confidence interval derived from options market information for the 5 trading days ending Mar 1, 2018. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Source: Short-Term Energy Outlook, March 2018, and CME Group.

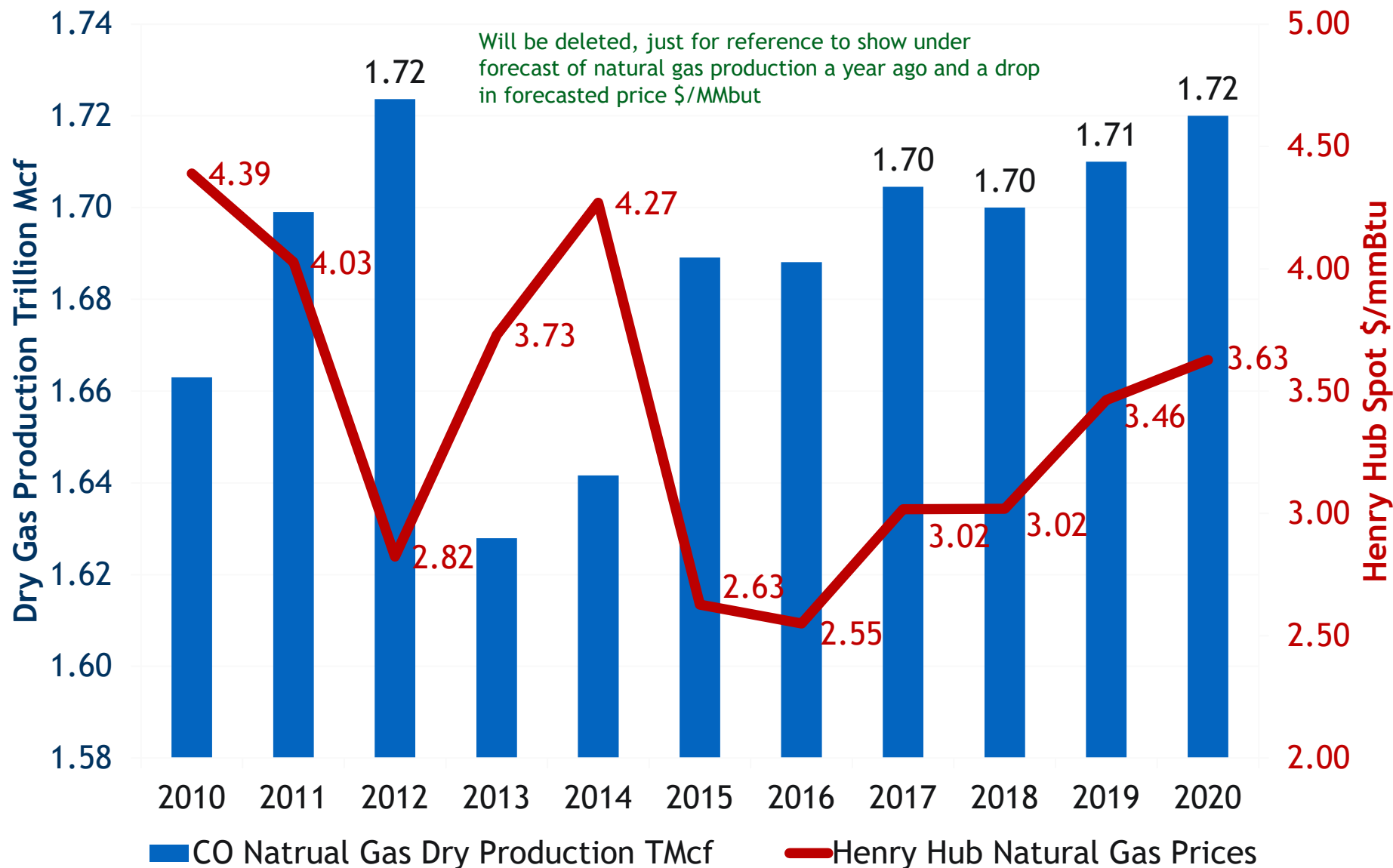


FEDERAL RESERVE 10J ENERGY SURVEY Q4_2018

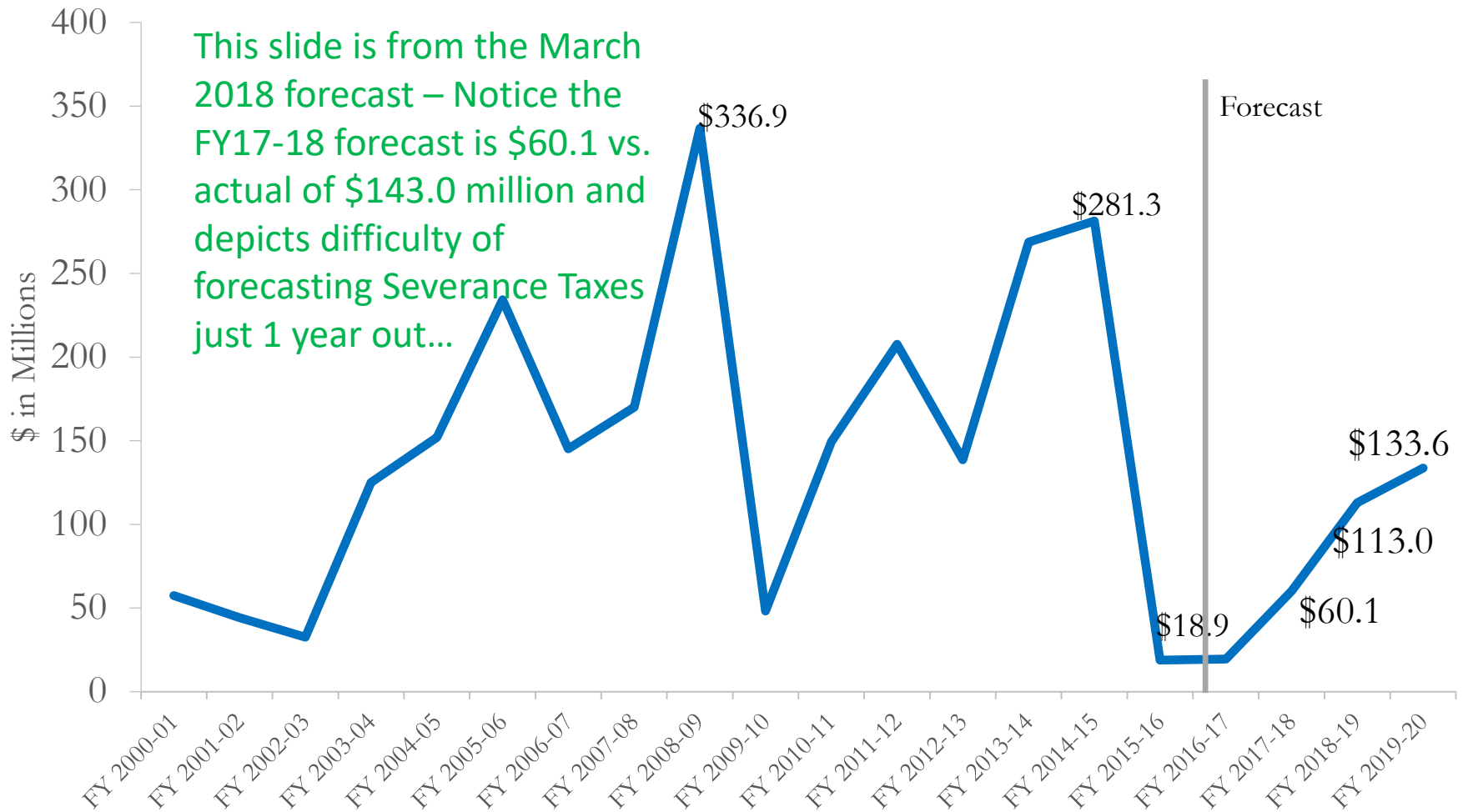
Natural Gas (Henry Hub) \$/Million Btu



CO Dry Gas Production & Henry Hub \$/MMBtu 2010-17 Actual, 2018-20 Forecast



State Severance Tax Revenue

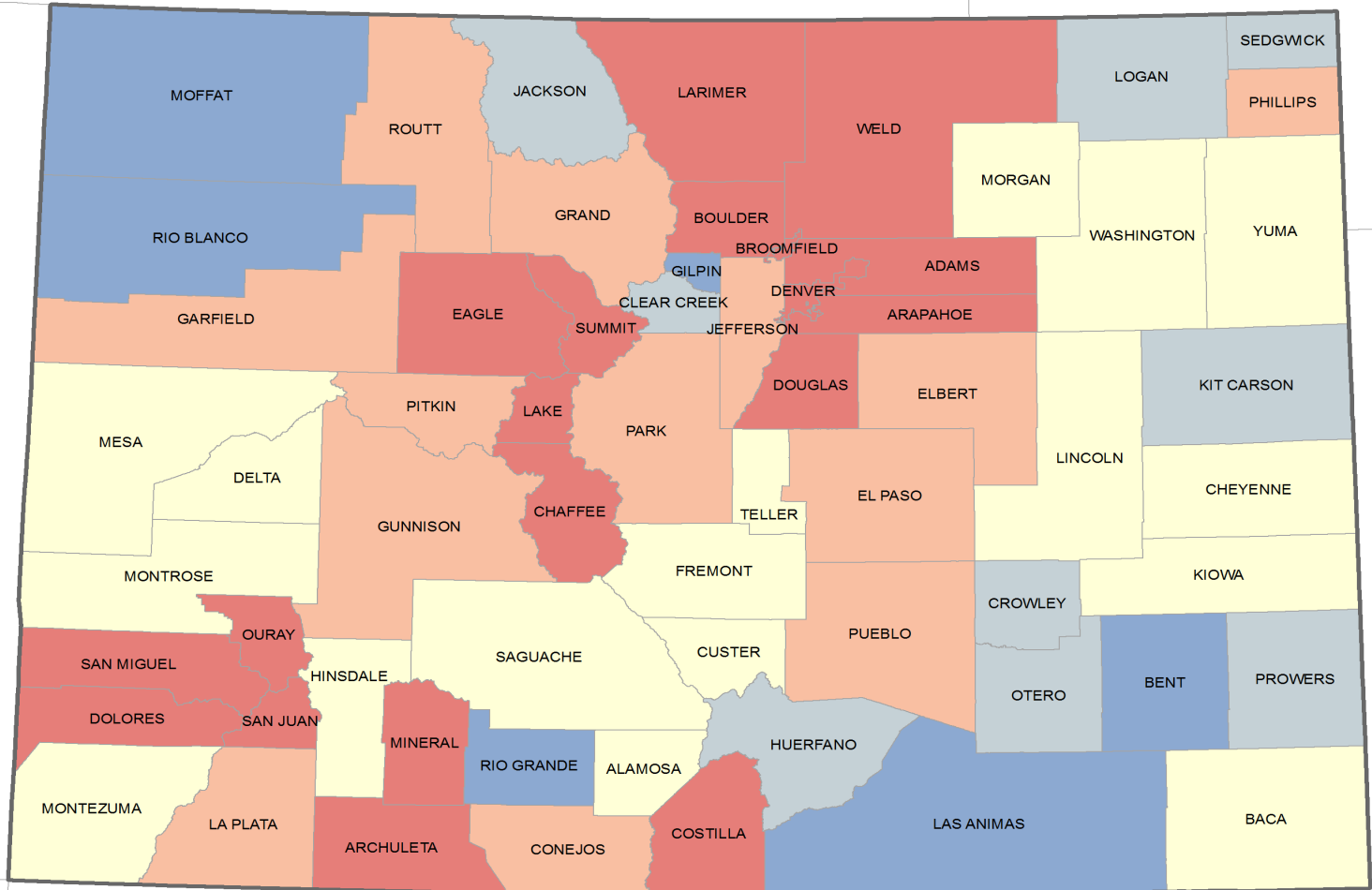
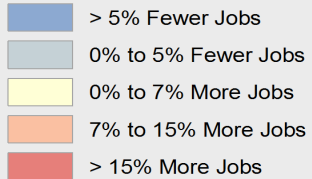


Source: OSPB March 2018 Forecast



Employment Change Since 2010

2017 Jobs vs 2010 Jobs



Colorado State Demography Office, 07/24/2018

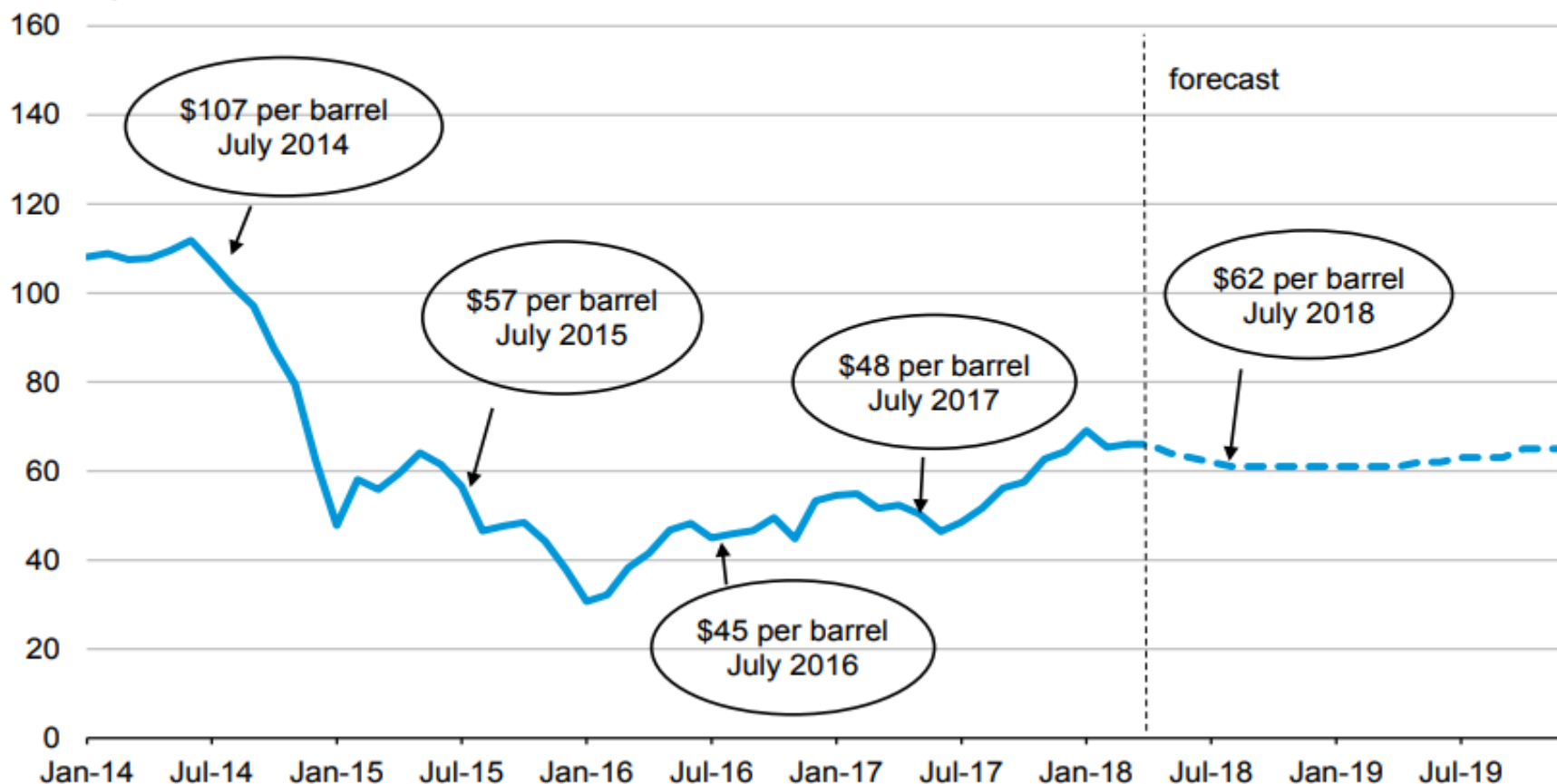


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<http://colmigateway.com>

EIA forecasts Brent crude oil prices to average \$63 per barrel this summer (April-September), \$12 per barrel (29 cents per gallon) higher than last summer

Brent crude oil spot price (monthly average)
dollars per barrel



Source: EIA, Short-Term Energy Outlook, April 2018



2018 Summer Fuels Outlook



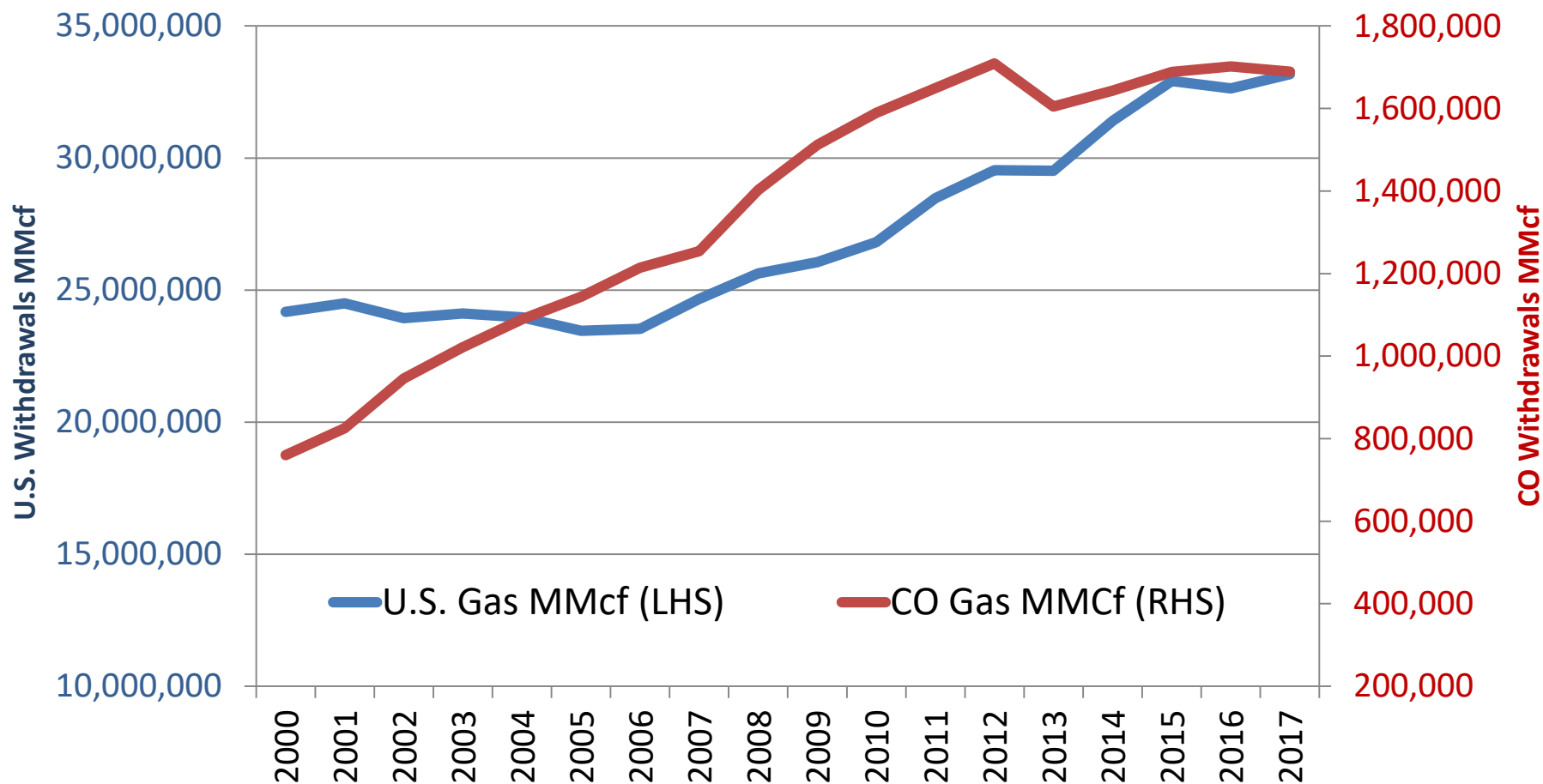
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Source:

<http://cogcc.state.co.us/documents/data/downloads/statistics/CoWklyMnthlyOGStats.pdf>

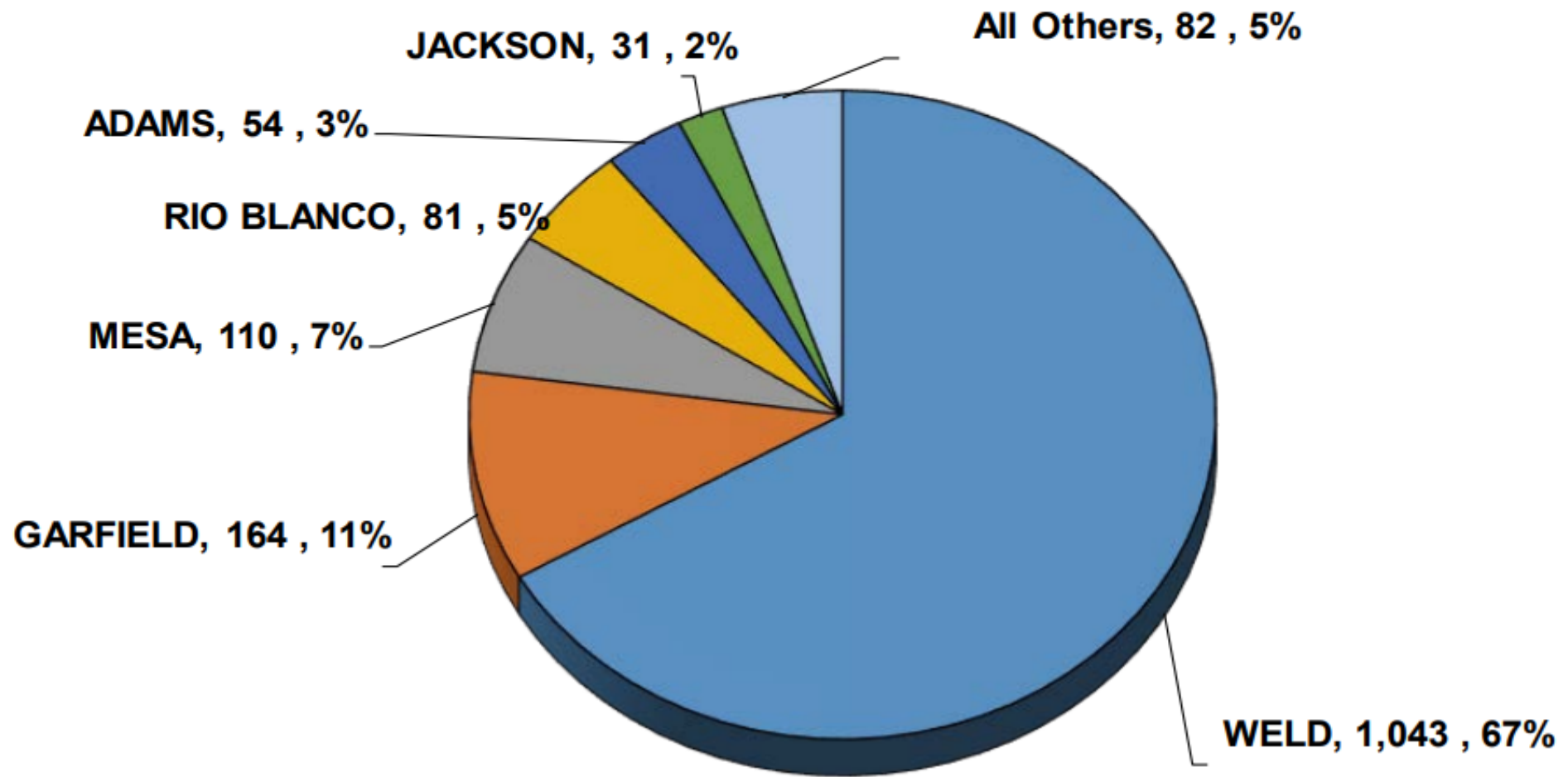
NATURAL GAS PRODUCTION 2000 TO 2018

Natural Gas Withdrawals U.S. vs. CO



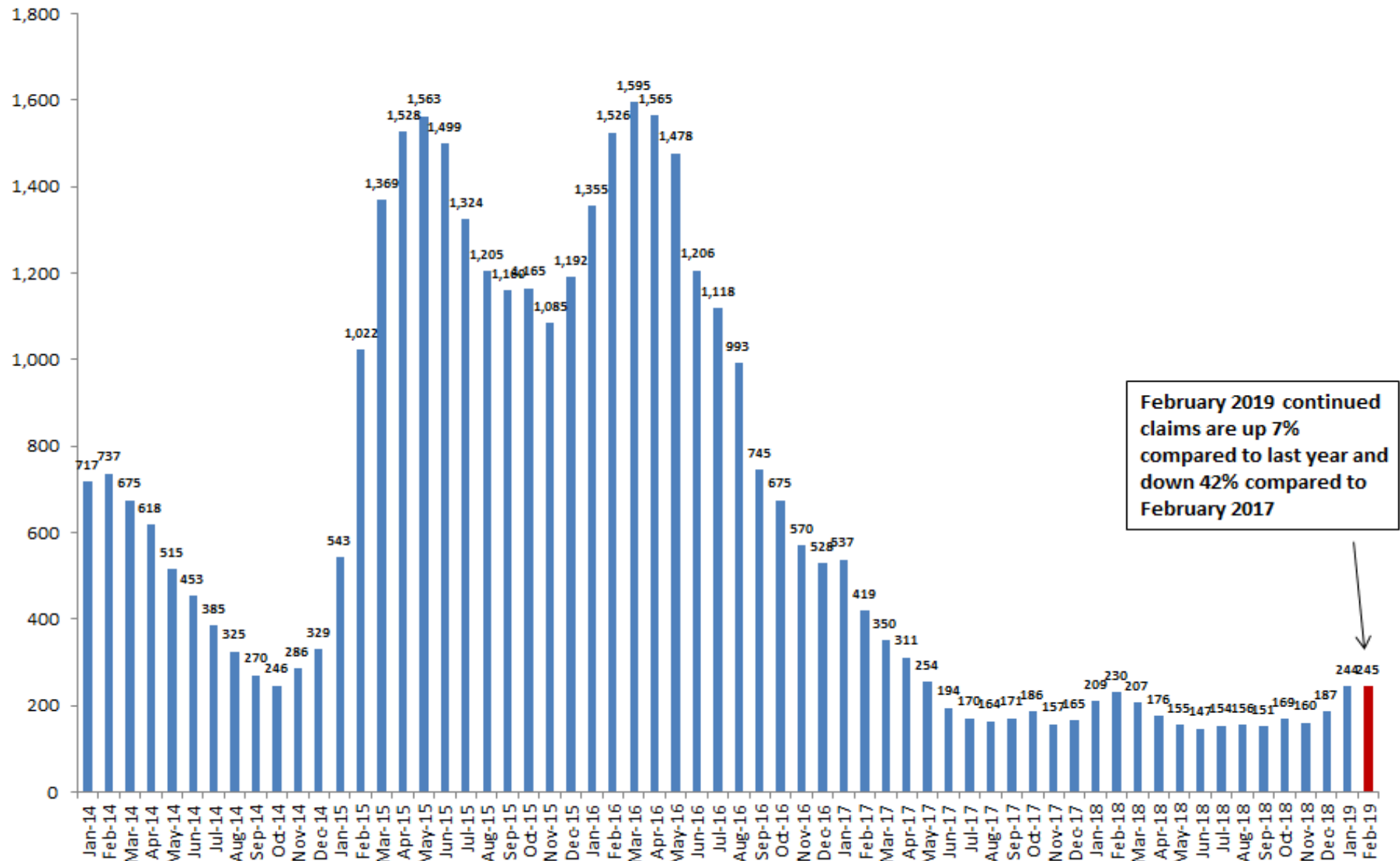
COLORADO OIL AND GAS 2017 DRILLING PERMITS BY COUNTY

as of 6-1-2017



Colorado Mining Sector - Continued Weeks Claimed

(Reflects Week of 19th for Each Month)



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Source: Colorado Dept. of Labor & Employment - UIRR

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 2018 Forecast



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