

Energy Prices, Power, and Trade



for

The Energy Council

March 5, 2016 | Washington, D.C.

by

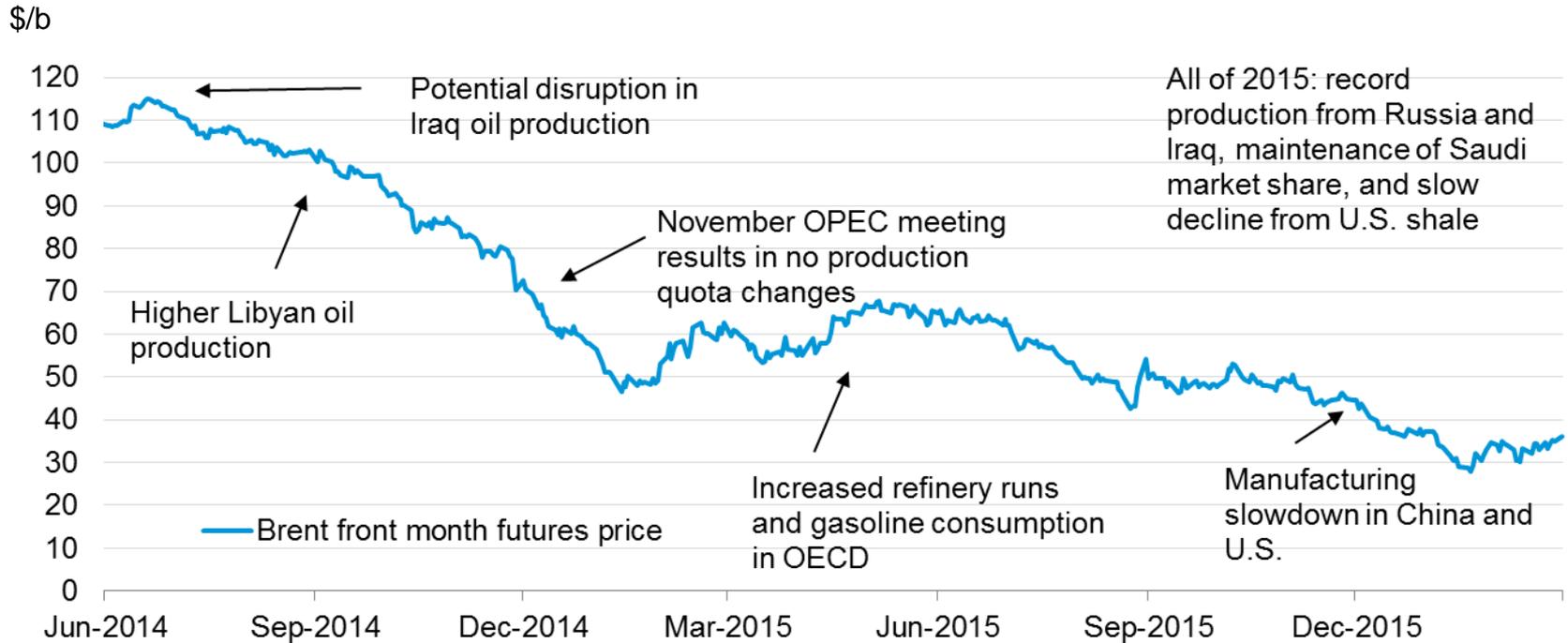
Adam Sieminski, Administrator

U.S. Energy Information Administration



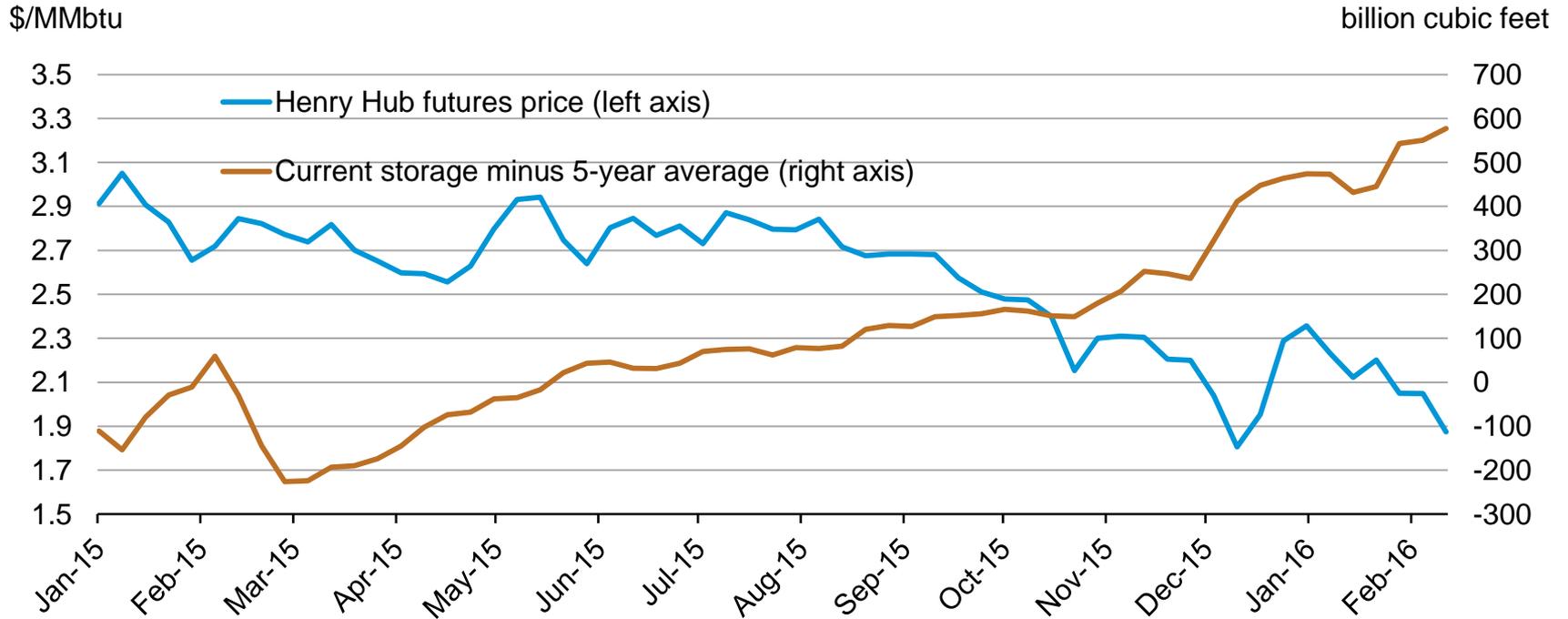
Energy Markets Update

Continued robust supply and increasingly weak economic demand continue to pressure crude prices downward



Source: EIA, Bloomberg

Resilient production and a warm winter have contributed downward pressure on U.S. natural gas prices

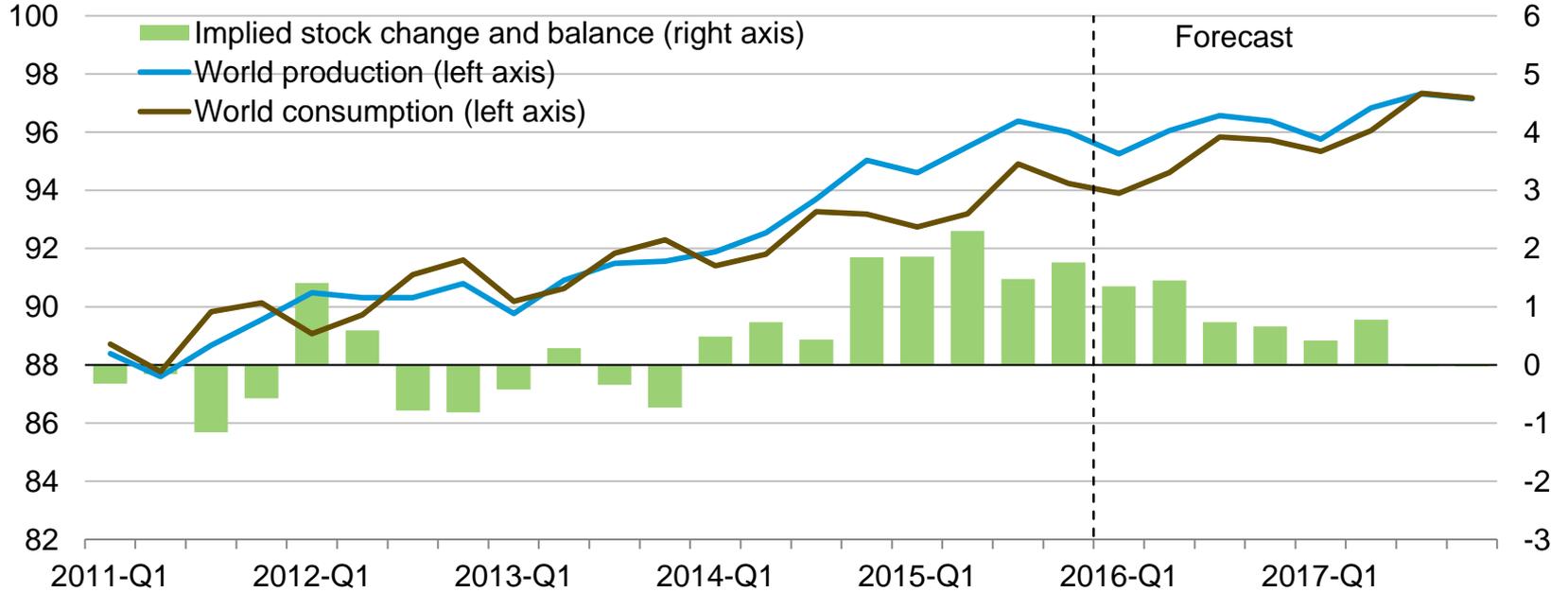


Source: EIA

Global oil inventories are forecast to continue building into 2017

world supply and demand
million barrels per day

implied stock change
million barrels per day

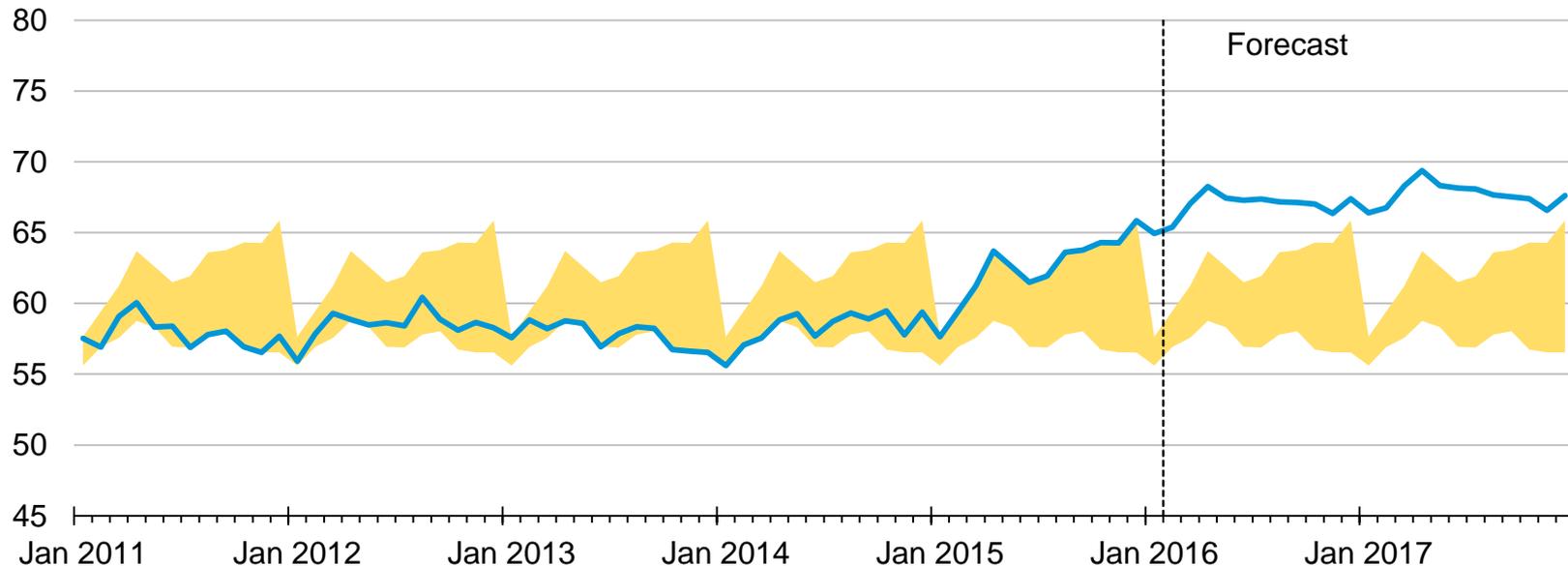


Source: EIA, Short-Term Energy Outlook, February 2016

Crude and products stocks are expected to remain high compared to demand in OECD countries

OECD Commercial stocks of crude oil and other liquids

Days of supply



Note: Colored band around days of supply of crude oil and other liquids stocks represents the range between the minimum and maximum from Jan. 2011 - Dec. 2015.

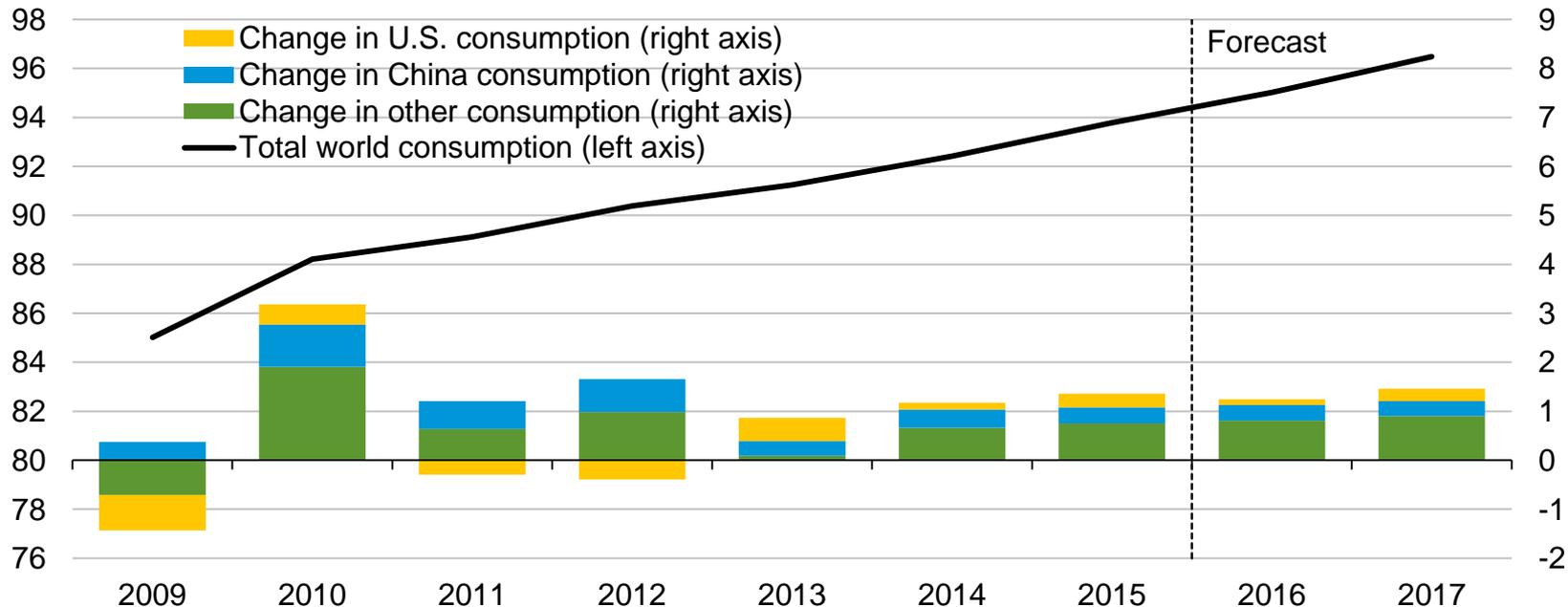
Source: EIA, *Short-Term Energy Outlook*, February 2016

EIA forecasts global liquids consumption growth at 1.3 million b/d in 2016 and 1.5 million b/d in 2017

World liquid fuels consumption

million barrels per day

annual change (mmb/d)

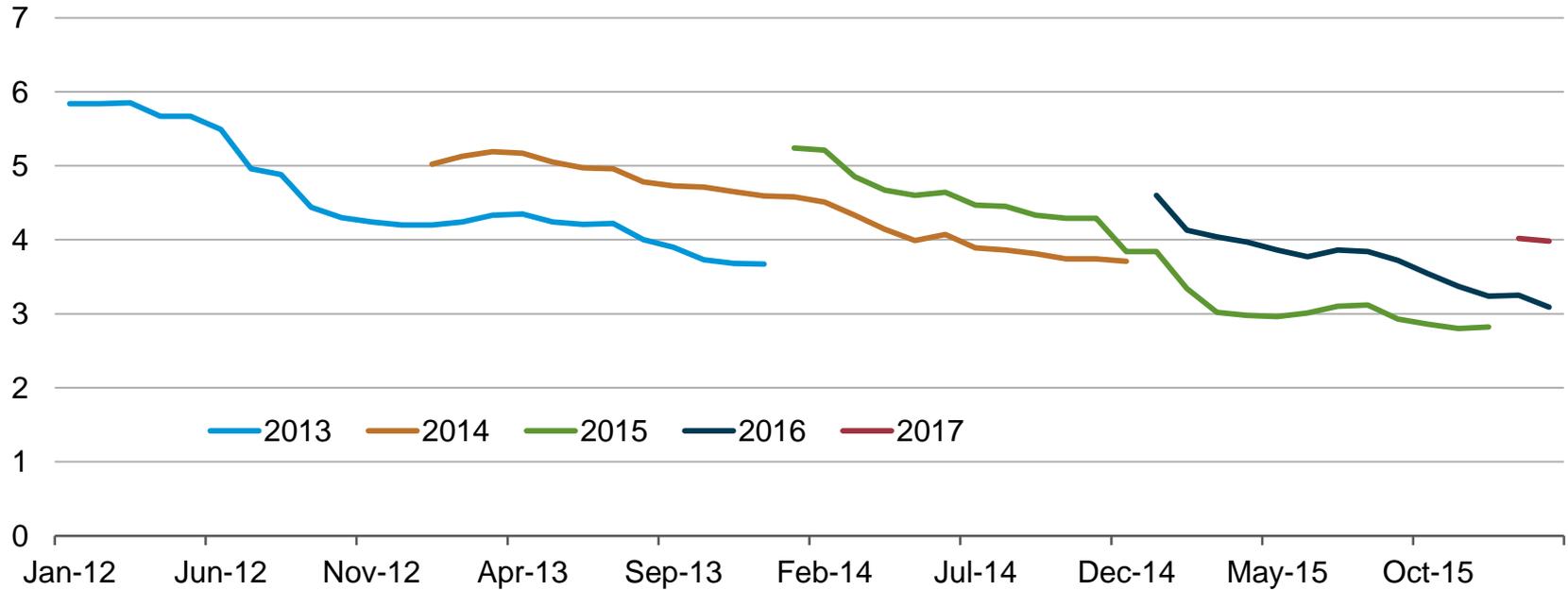


Source: EIA, Short-Term Energy Outlook, February 2016

Non-OECD economic growth has been lower than expectations

GDP growth in non-OECD countries

annual expectations by date of forecast

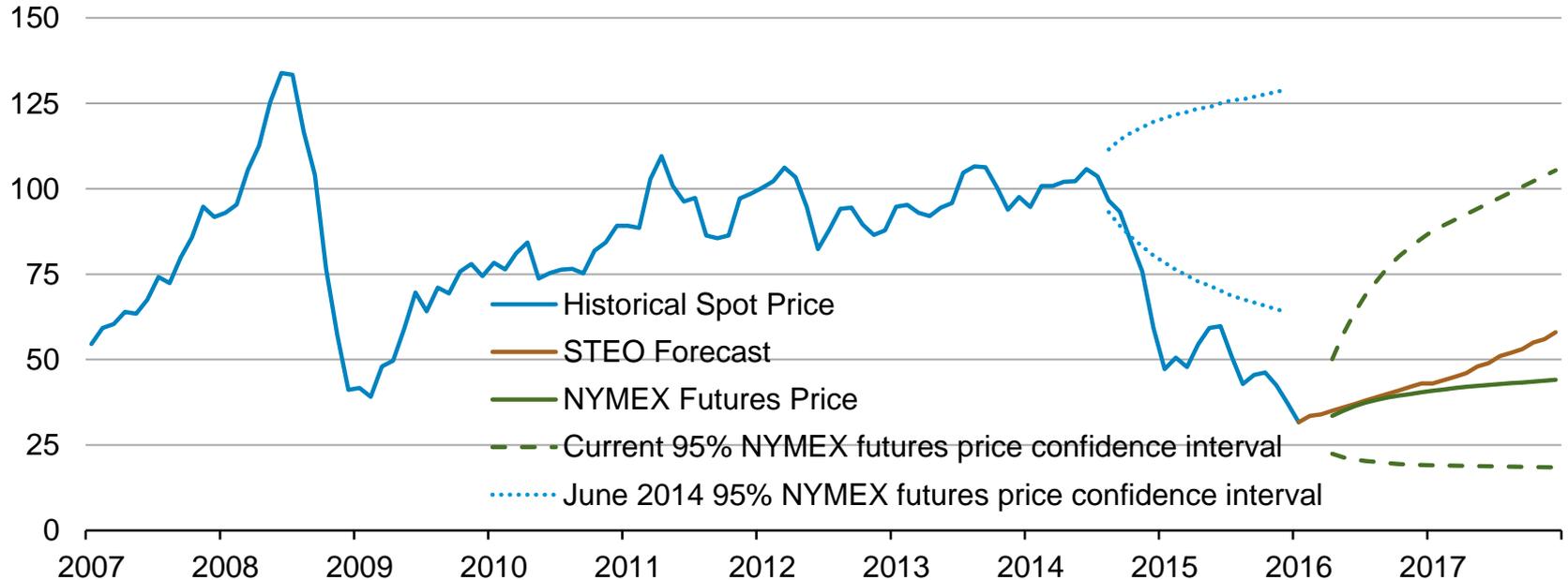


Source: EIA, Short-Term Energy Outlook

EIA expects WTI oil prices to remain low compared with recent history, but the market-implied confidence band is very wide

WTI price

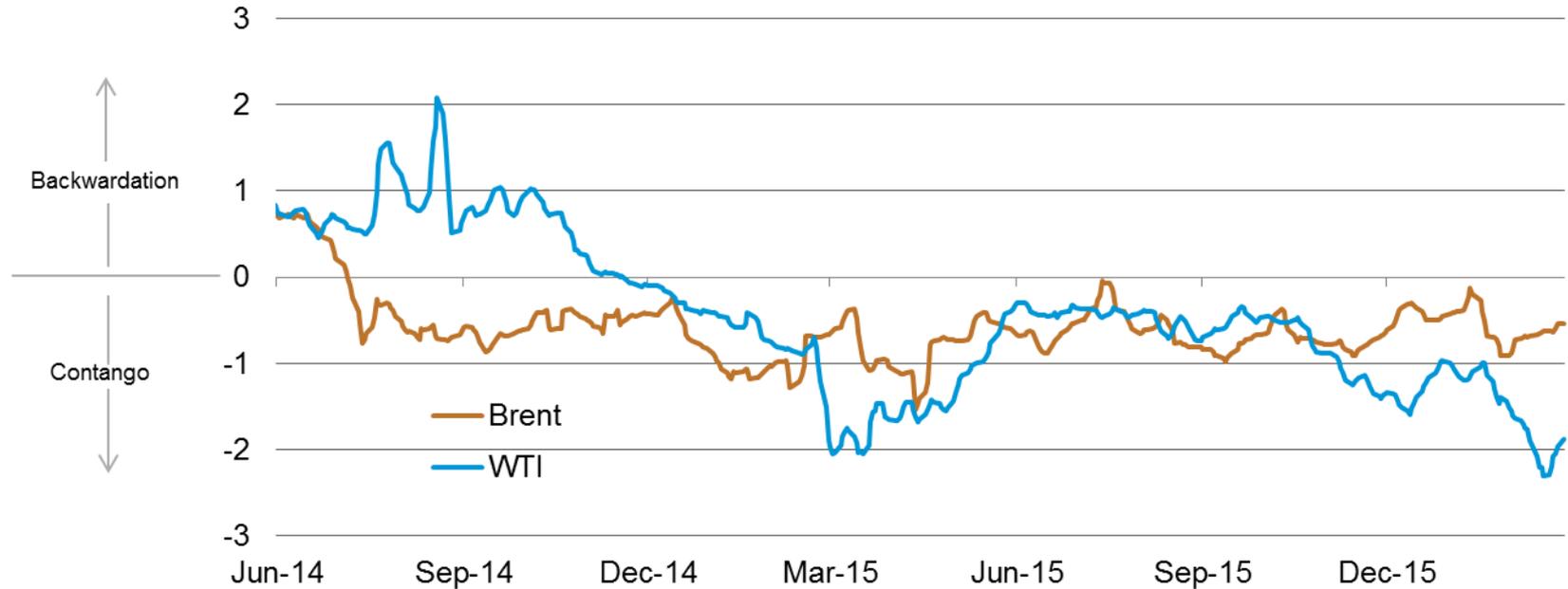
dollars per barrel



Source: EIA, Short-Term Energy Outlook, February 2016

U.S. crude oil price spreads suggest on-land storage is becoming more expensive

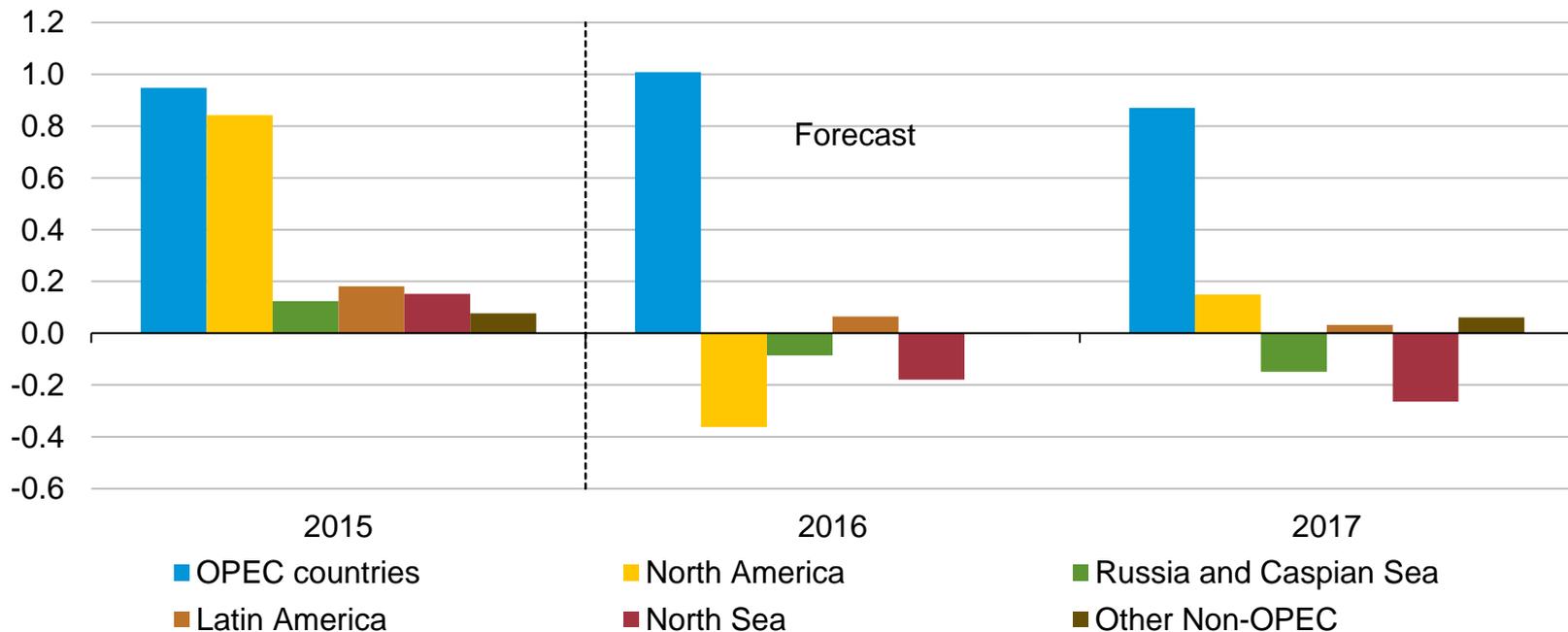
Crude oil 1st-2nd month spreads
\$/b, 5-day moving average



Source: Bloomberg

OPEC drives production growth as North American and other non-OPEC production declines

World crude oil and liquid fuels production growth
million barrels per day

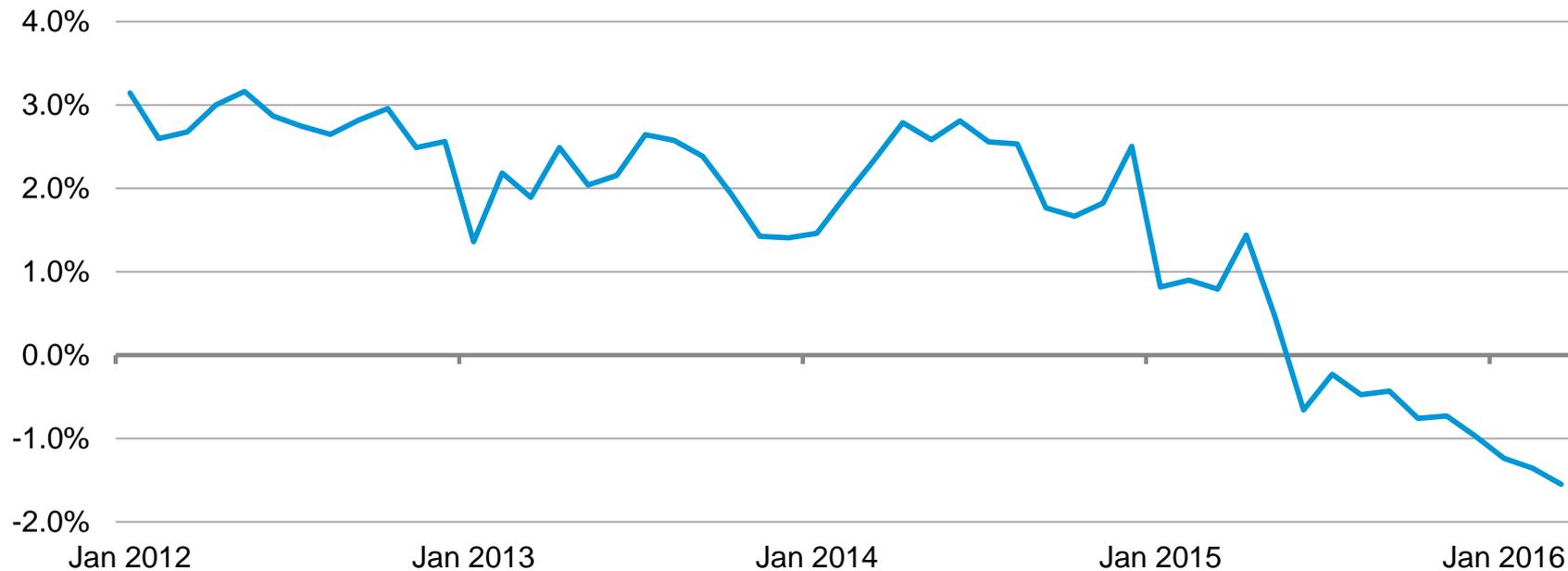


Source: EIA, Short-Term Energy Outlook, February 2016

Production growth in top crude producing regions (Permian, Bakken, Niobrara, and Eagle Ford) reverses in early 2015

monthly percent change

three month rolling average

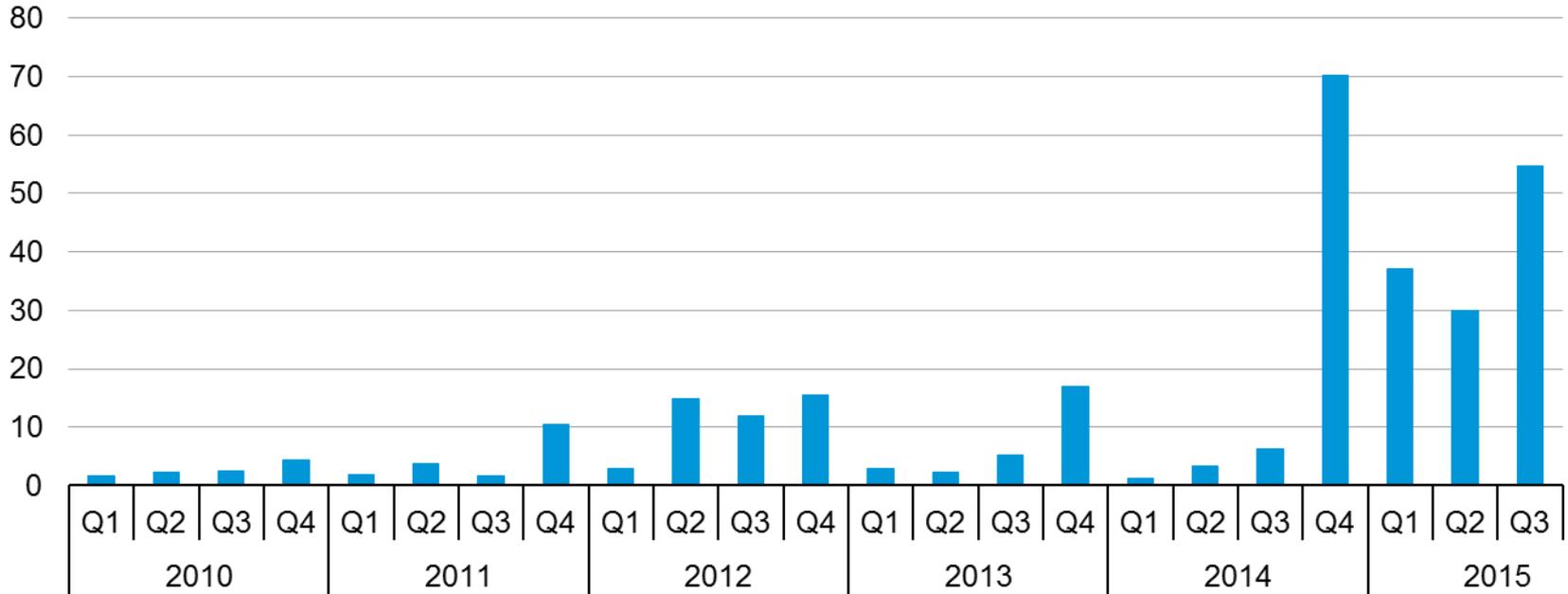


Source: EIA, *Drilling Productivity Report*, February 2016

Oil companies have written down almost \$200 billion worth of assets in the past year

Oil company asset write-downs

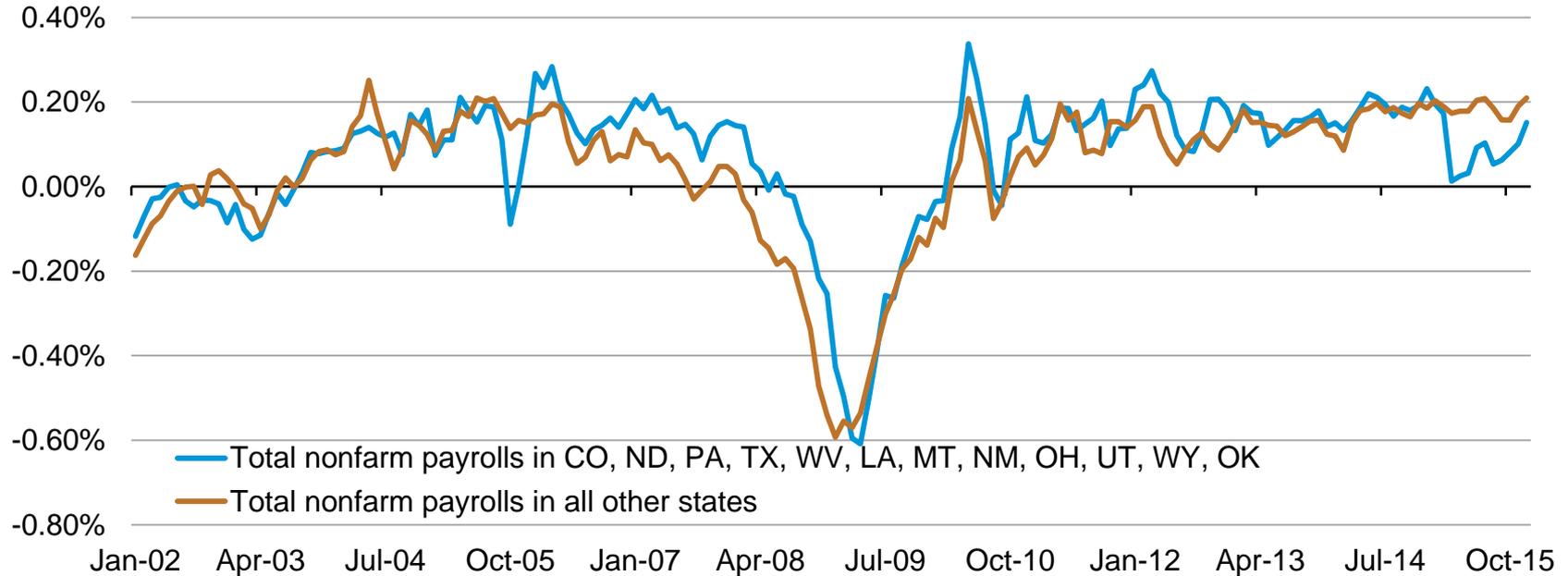
Billion 2015\$



Source: EIA, Evaluate Energy

Employment growth in energy-producing states has slowed compared with other states since the downturn in prices

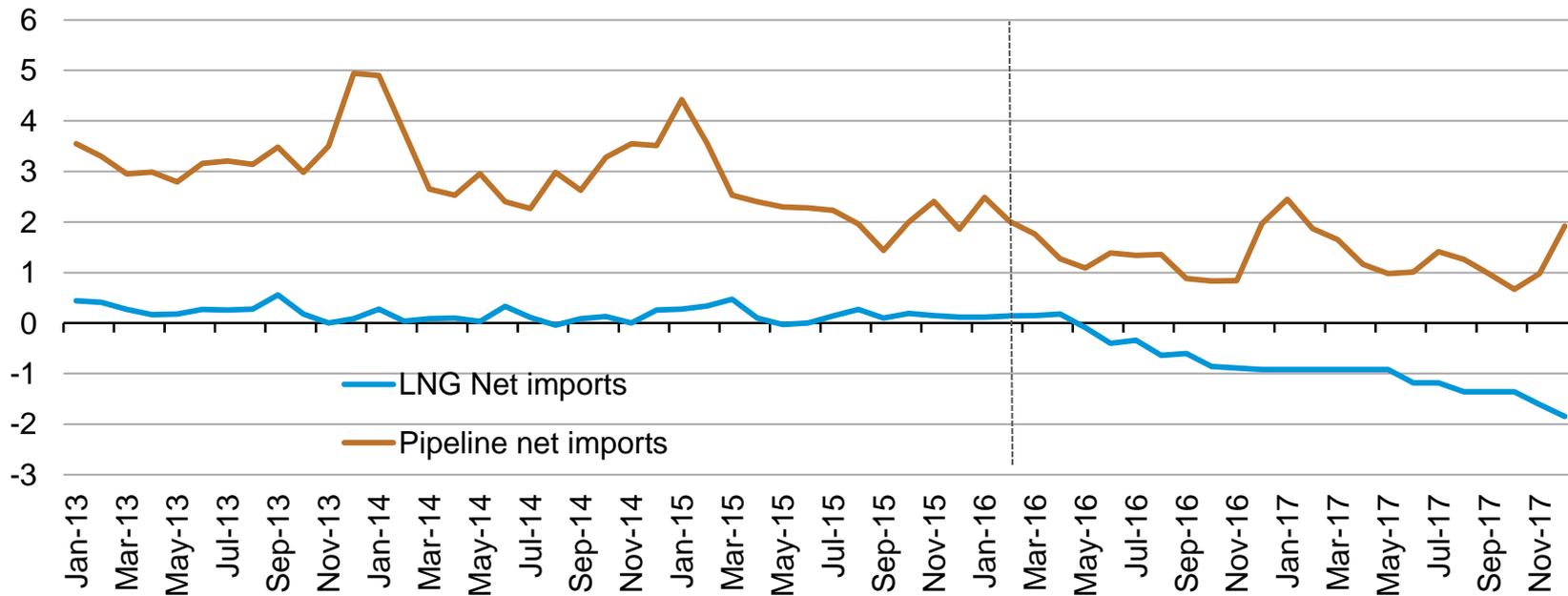
Total nonfarm payrolls monthly percent change
three month moving average



Source: U.S. Bureau of Labor Statistics

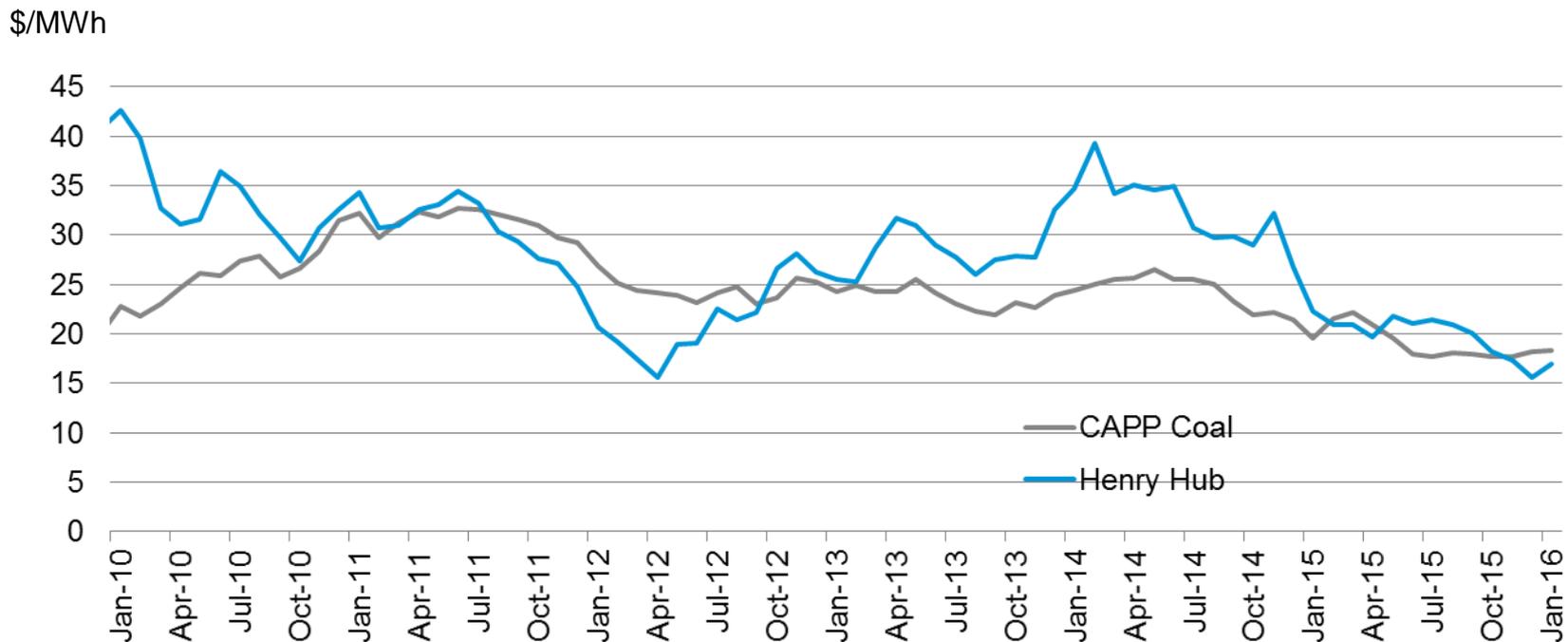
The U.S. is expected to become a LNG net exporter later this year; increased pipeline exports to Mexico reduce pipeline net imports

billion cubic feet per day



Source: EIA, Short-Term Energy Outlook, February 2016

Natural gas is increasingly competitive with coal in the eastern United States

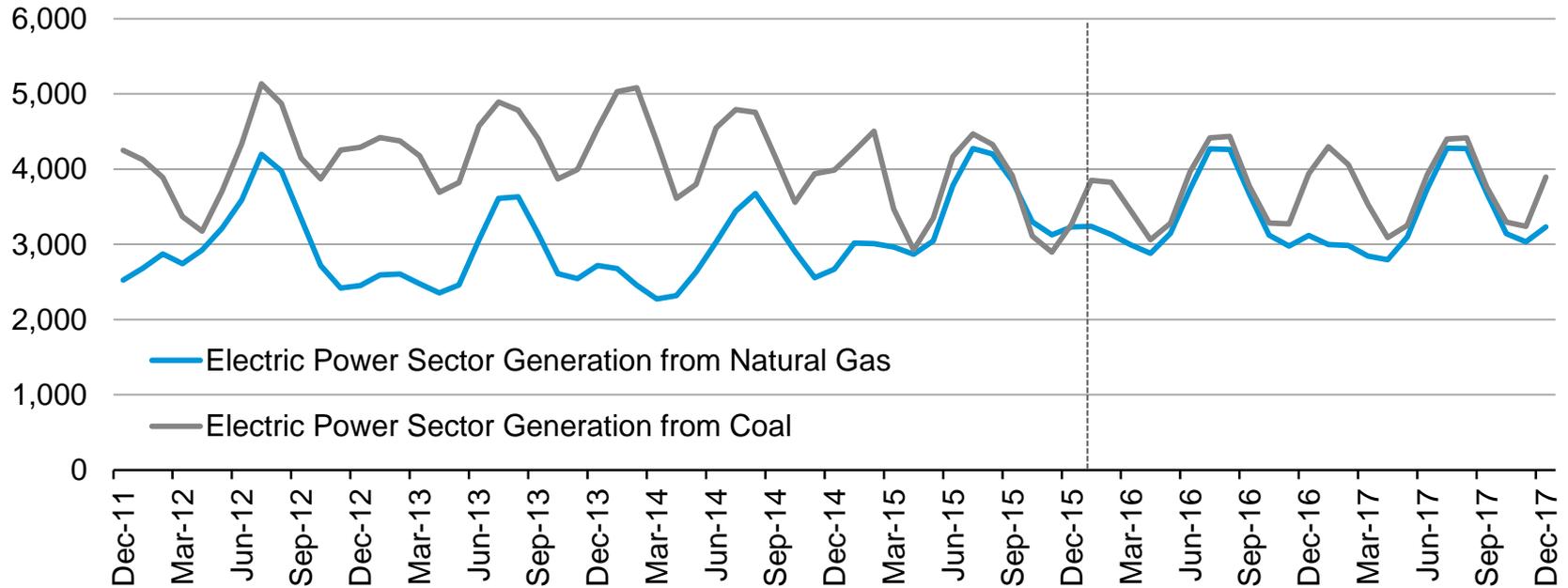


Source: Bloomberg

Note: Prices compared using average energy content and efficiency rates

This has led to some months with higher generation from natural gas, which is expected to remain close with coal throughout 2017

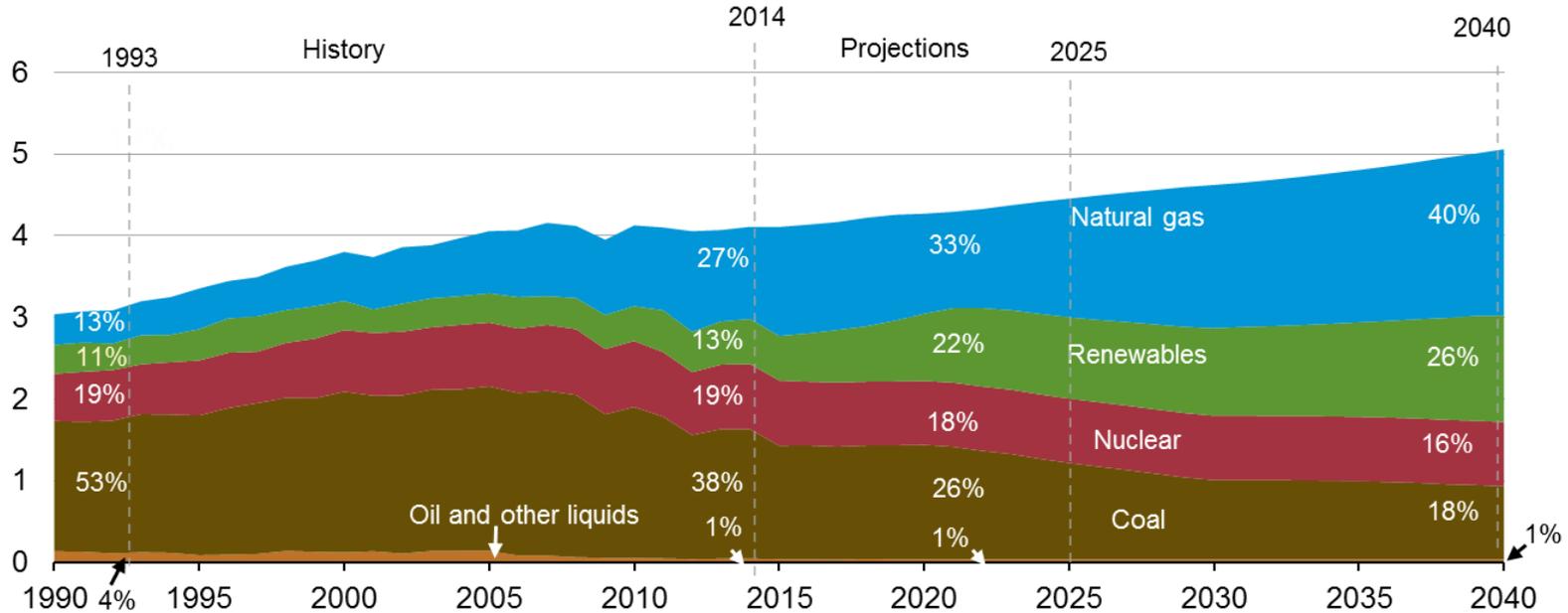
thousand megawatthours per day



Source: EIA, Short-Term Energy Outlook, February 2016

Renewables and natural gas together account for 66% of generation in 2040 while coal's share falls to 18%

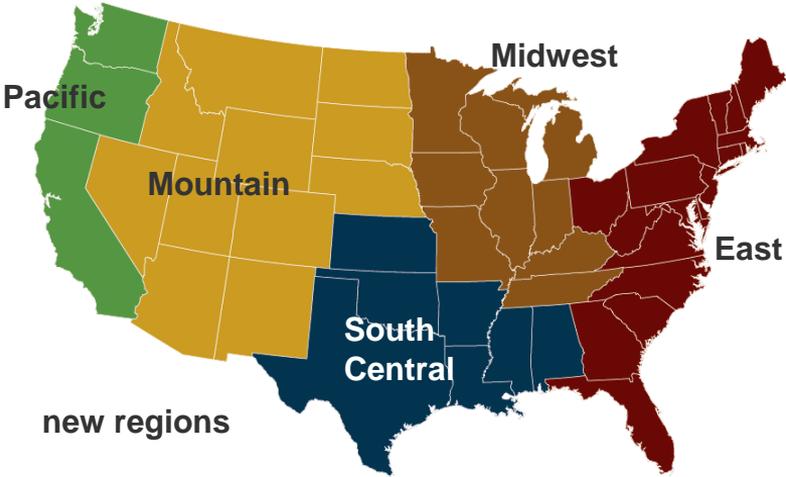
U.S. electricity net generation
trillion kilowatthours



Source: EIA current thinking; preliminary results subject to change

New EIA features and tools

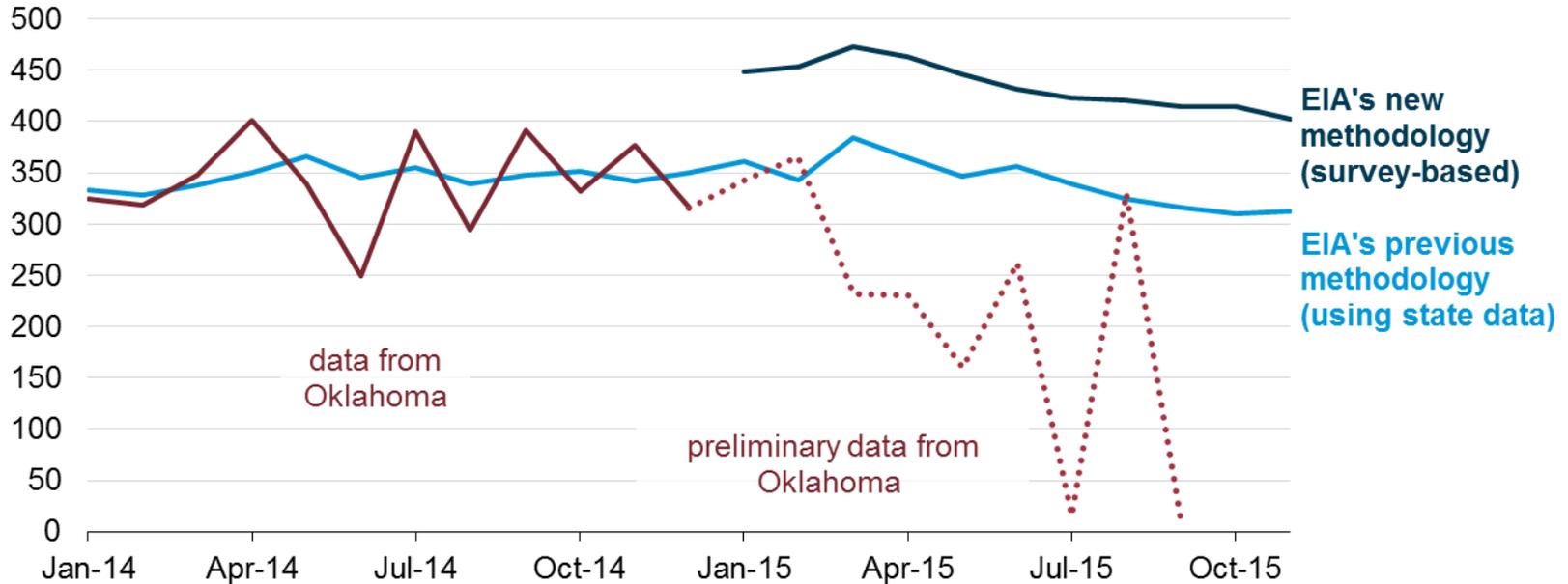
New natural gas storage regions



Source: EIA, Weekly Natural Gas Storage Report

EIA improves monthly reporting of crude oil production

Oklahoma crude oil production
thousand barrels per day

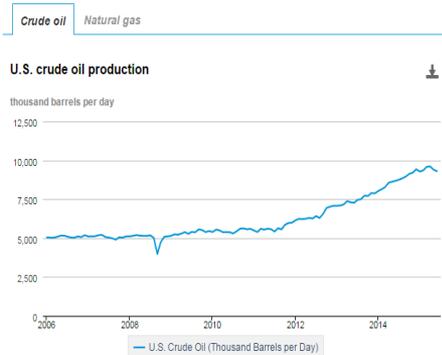


Source: EIA and data from the Oklahoma Tax Commission and Corporation Commission, as compiled by DrillingInfo

A redesigned U.S. oil and natural gas production page provides interactive graphics, state tables, and more

Monthly Crude Oil and Natural Gas Production

Release date: August 31, 2015 | Next release date: September 30, 2015



Source: U.S. Energy Information Administration

CRUDE OIL (thousand barrels per day)

State/Area	Jun-15	May-15	Percent change	Jun-14	Percent change
U.S.	9,296	9,400	-1.1↓	8,676	7.1↑
Alabama	27	27	0.5	27	2.4
Alaska	481	473	1.8↑	485	-0.7↓
Arizona	0	0	25.0↑	0	18.5↑
Arkansas	19	19	0.5↑	19	0.4↑
California	542	561	-3.3↓	557	-2.7↓
Colorado	324	326	-0.7↓	256	26.6↑

Additional data and methodology

Table 1. Crude oil and lease condensate production in the United States

Table 2. Crude oil and lease condensate production in the United States with monthly and annual changes

Table 3. Natural gas gross withdrawals in selected states and the Federal Gulf of Mexico

Table 4. Natural gas gross withdrawals in selected states and the Federal Gulf of Mexico with monthly and annual changes

Comparisons and statistical measures

Crude oil comparisons with other estimates

Natural gas comparisons with other estimates

Comparison with previous methodology

Methodology

EIA expanded geographic coverage of natural gas production in 2015



Available to the public:

- Interactive graphics
- Monthly estimates of crude oil and natural gas by state
- Comparisons with prior months and with prior estimation methods
- Downloadable historical data
- Statistical measures of errors for each estimate
- Methodology report
- Links to other EIA data and analyses

<http://www.eia.gov/petroleum/production/>

EIA and DOE collaborating with Mexico and Canada to coordinate energy information and analysis

NORTH AMERICAN COOPERATION ON ENERGY INFORMATION (NACEDI)

OVERVIEW DATA ANALYSIS & PROJECTIONS

Energy Infrastructure of North America



North America Static Maps

- [Natural Gas Processing Plants](#) PDF
- [Liquefied Natural Gas Import and Export Terminals](#) PDF
- [Refineries and Upgraders](#) PDF
- [Electric Power Plants](#) PDF
- [Renewable Electric Power Plants](#) PDF

Map Resources

- [Map Definitions](#)
- [Map Data \(Spreadsheets, Shapefiles, Web Services\)](#)

Related Links

- [Government of Canada: Energy Infrastructure of North America Map](#)
- [Government of Mexico: North American Energy Map](#)

Layers/Legend

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Trilat Layers

- Natural Gas Processing Plants
- Liquefied Natural Gas Terminals
- Refineries
 - Refinery
 - Upgrader
 - Asphalt Refinery
- Refineries, by Types
 - Refinery
 - Upgrader
 - Asphalt Refinery
- Power Plants, 100 MW or more
 - Biomass
 - Coal
 - Geothermal
 - Hydroelectric
 - Natural Gas
 - Nuclear
 - Other
 - Petroleum
 - Pumped Storage
 - Solar
 - Wind

For more information

U.S. Energy Information Administration home page | www.eia.gov

Annual Energy Outlook | www.eia.gov/aeo

Short-Term Energy Outlook | www.eia.gov/steo

International Energy Outlook | www.eia.gov/ieo

Monthly Energy Review | www.eia.gov/mer

Today in Energy | www.eia.gov/todayinenergy

State Energy Profiles | www.eia.gov/state

Drilling Productivity Report | www.eia.gov/petroleum/drilling/

International Energy Portal | www.eia.gov/beta/international/?src=home-b1