# Changes to EIA Oil and Gas Production Programs: Expanded EIA-914













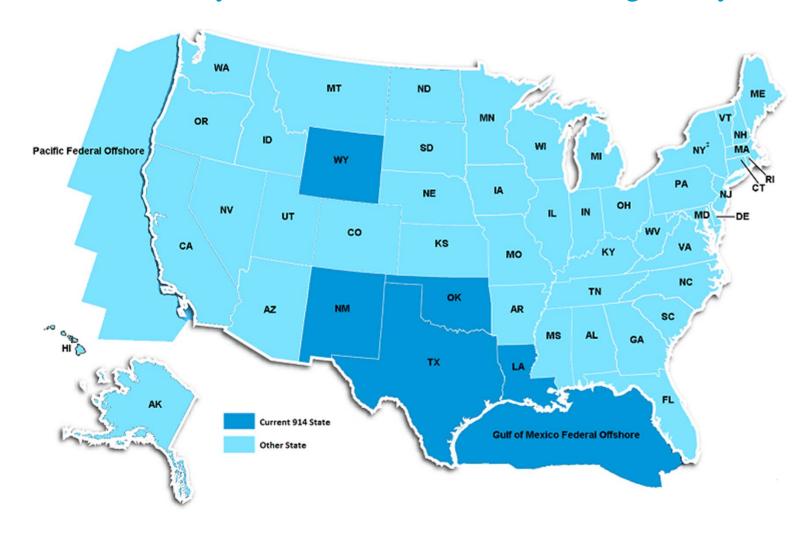


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## Expanded EIA-914 proposal

- Current oil and gas production data is necessary to address questions about the very rapid changes occurring in quantity and quality of domestic output
- Collect monthly data on oil and natural gas production and associated API gravity from operators in 19 states and Federal GOM
- Anticipated benefits of 914 expansion
  - Improves EIA's reporting: Timeliness, transparency, coverage (more states), informs upstream discussions/analyses, reduces estimation errors in statistical models
  - Respondent burden expected to be modest: Roughly 500 respondents out of a 10,000-12,000 producer universe; electronic (web portal) interface
- Inadequacy of existing tools
  - GWPC National Gateway, even with EIA help, is still subject to the same state lags and consistency limitations
  - EIA Drilling Productivity Report (DPR) is an estimate based on a set of assumptions, not a survey of actual production trends

# States covered by EIA-914 since 2005 – natural gas only



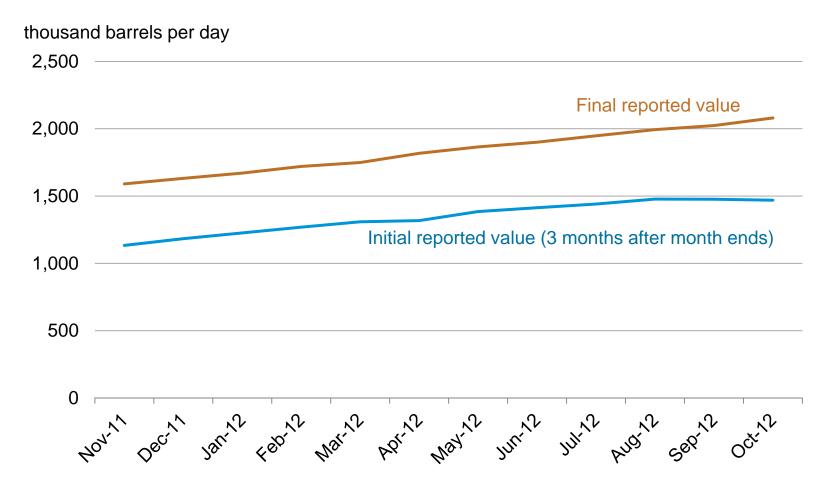
# EIA-914 expansion will provide more timely monthly oil and gas production data

- The <u>proposed revision to the EIA-914</u> survey will expand natural gas production and add monthly oil production
- State reporting of oil and gas production varies widely by
  - Reporting period (monthly, semi-annual, annual)
  - Lag between the end of a month and the reporting of the final data for that month
  - Completeness data in some states takes over two years to be final
- Historical state data combined with EIA survey data allows EIA analysts to estimate absent or incomplete state data

## State lags vary, but some tend to be large

- Over the past 26 months, final crude oil production for the 19 states and the Gulf of Mexico was reported, on average, more than 9 months after the end of a month
- Over the same period, Texas, which produces more than a third of U.S. crude oil production, reported its final crude oil production an average of 29 months after the end of a month
- Also over the same period:
  - 17 percent of the time (taking each state and month as a single observation), final crude oil production was reported 3 months or less after the end of a month
  - 50 percent of the time, final crude oil production was reported at least 6 months after the end of a month
  - 18 percent of the time, final crude oil production was reported 9 to 21 months after the end of a month
  - 11 percent of the time, final crude oil production was reported 22 to 45 months after the end of a month.

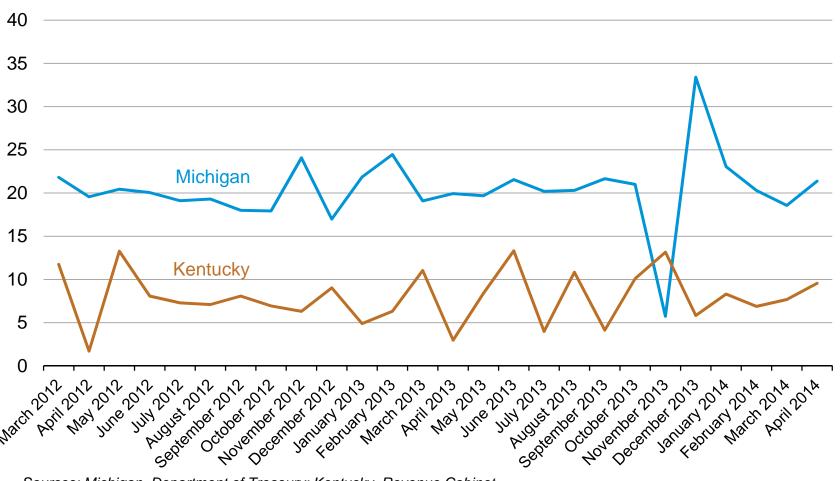
# EIA-914 expansion: Final monthly Texas oil production typically increases about 40 percent from the volume initially reported



Source: Texas Railroad Commission

# State tax agency production typically are volatile regardless of the state

thousand barrels per day



Sources: Michigan, Department of Treasury; Kentucky, Revenue Cabinet

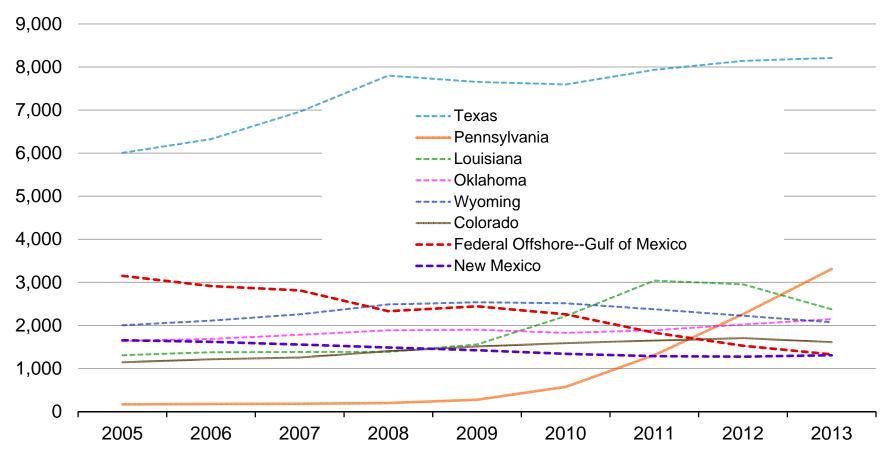
## The volatility of Michigan's production data depends on the source



Sources: Michigan Department of Environmental Quality and Michigan Department of Treasury.

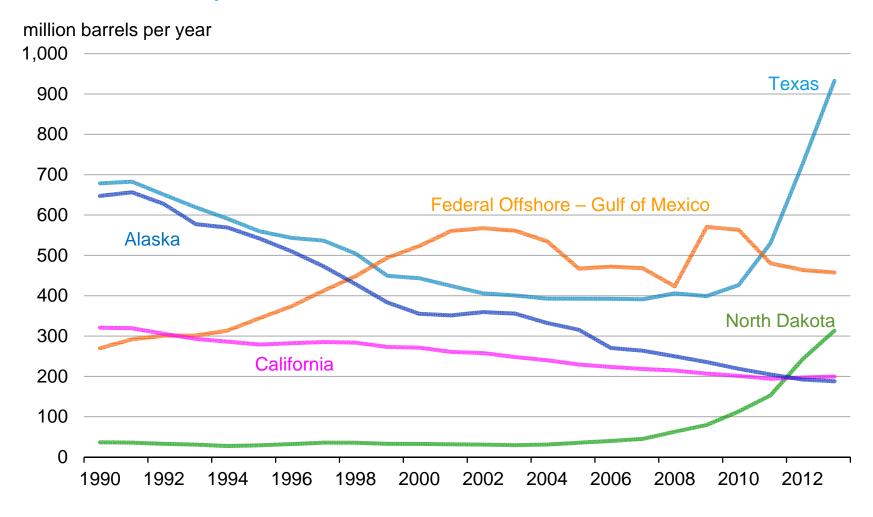
# Colorado natural gas production now exceeds two of the original EIA-914 states, and Pennsylvania production exceeds five

billion cubic feet per year



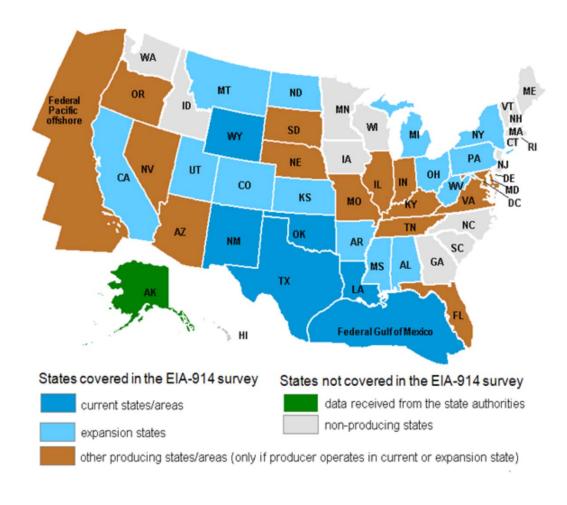
Sources: Colorado, 2013, Colorado Oil and Gas Conservation Commission; Pennsylvania, 2013, Department of Environmental Protection; and all other years and states/areas: U.S. Energy Information Administration, Natural Gas Annual 2012 (and earlier years) and Monthly Natural Gas Gross Production Report.

# After a long decline, crude oil production grew dramatically in the last few years



Source: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/pet\_crd\_crpdn\_adc\_mbbl\_a.htm

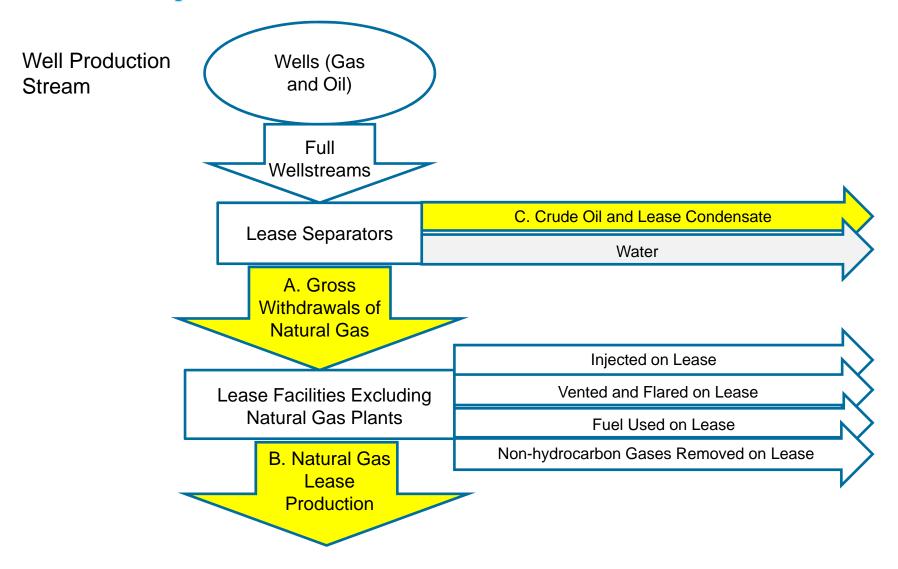
# EIA-914 expansion will add 20 states/areas to oil and 14 states to current coverage of natural gas



Lower 48 states expanded survey coverage:

gas: 92%oil: 89%

# EIA-914 expansion will add crude oil and lease condensate



# Summing up the value of an expanded EIA-914

- Improves knowledge of an important industry development
  - Timeliness
  - Transparency
  - Coverage (more states)
  - Reduces estimation errors in EIA statistical models
- Informs upstream discussions/analyses

#### For more information

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

Annual Energy Outlook | www.eia.gov/aeo

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

International Energy Outlook | www.eia.gov/ieo

Monthly Energy Review | www.eia.gov/mer

Today in Energy | www.eia.gov/todayinenergy

State Energy Portal | www.eia.gov/state

Drilling Productivity Report | <a href="https://www.eia.gov/petroleum/drilling/">www.eia.gov/petroleum/drilling/</a>

# Supplemental slides

	States in current	States in Proposed EIA-
	EIA-914	914 expansion
Alabama		✓
Alaska	state agencies	state agencies
Arizona		
Arkansas		✓
California		✓
Colorado		✓
Federal Gulf of Mexico	✓	✓
Federal Pacific Offshore		
Florida		
Illinois		
Indiana		
Kansas		✓
Kentucky		
Louisiana	✓	✓
Maryland		
Michigan		✓
Mississippi		✓
Missouri		
Montana		✓
Nebraska		
Nevada		
New Mexico	✓	✓
New York		✓
North Dakota		✓
Ohio		✓
Oklahoma	✓	✓
Oregon		
Pennsylvania		✓
South Dakota		
Tennessee		
Texas	✓	✓
Utah		✓
Virginia		
West Virginia		✓
Wyoming	✓	✓

#### Statistical issues

- Cognitive Testing
- Sample Automation
  - New Monthly Sampling Process
    - Two cutoff samples per state: oil and gas
    - Each state has a production cutoff rate for oil and one for gas
    - Design criteria to determine cutoff production rates within selected states
      - Gas: 85% coverage
      - Oil: 85% coverage or a production rate of more than 500 barrels of production/day
    - Must be automated
    - Estimated 534 respondents
      - Need to gather contact info

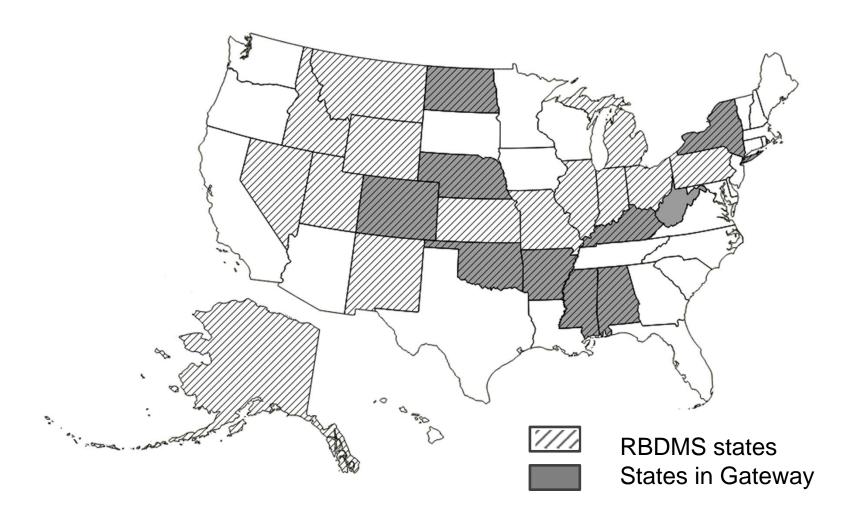
#### Disclosure

- Must have at least three respondents in a category to publish its value
- State/gravity combinations falling below that threshold must be suppressed
- Form EIA-914 data are and will continue to be CIPSEA protected

#### National Gateway Overview

- Provide a repository for all publicly available oil and gas well-level data - no central repository for state level data exists
- Joint state-federal collaboration EIA does not collect well-level data

# **Current Gateway Partners**



## Benefits of National Gateway

- Detailed dataset for analysis and forecasting
- Improve analysis and mapping of emerging plays and technology
- Improve collaboration with states (commercial databases EIA uses are developed from state databases)
- Potential for standardizing data definitions
- Standardize and streamline downloading data from state websites
- Underground Injection Control data transferred from EIA to EPA
- Gateway will support Well Finder App