

# US Extractive Industry Overview: Oil, Gas, and Coal



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*United States Extractive Industries Transparency Initiative*  
*Margaret Coleman, Office of Oil, Gas, and Coal Supply Statistics*  
*June 12, 2013/ Washington, DC*

# US Extractive Industries include Oil, Gas, and Coal



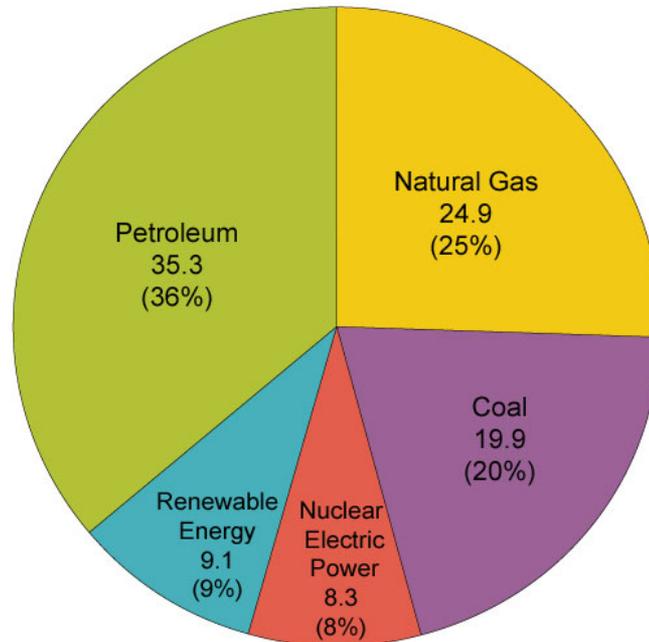
Photo credits: [www.condition-monitoring.com](http://www.condition-monitoring.com), Wyoming State Geological Survey, New York Times, and Getty Images

# Oil, Gas, and Coal make up over 80% of US energy needs

## Primary Energy Use by Source, 2011

Quadrillion Btu and Percent

Total U.S. = 97.5 Quadrillion Btu

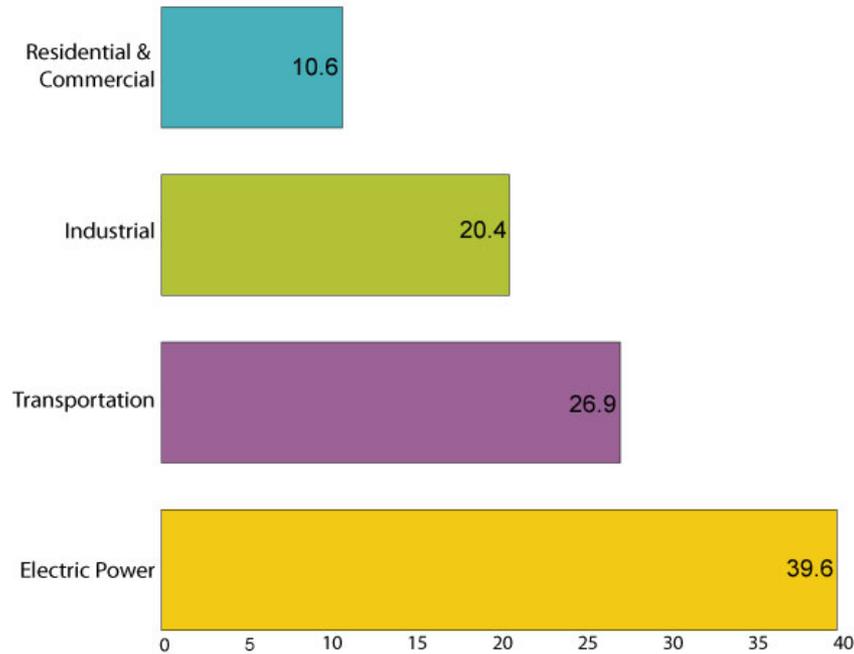


Source: U.S. Energy Information Administration, *Monthly Energy Review*, Table 1.3 (March 2012), preliminary 2011 data.

# 2011 Energy Use by Sector

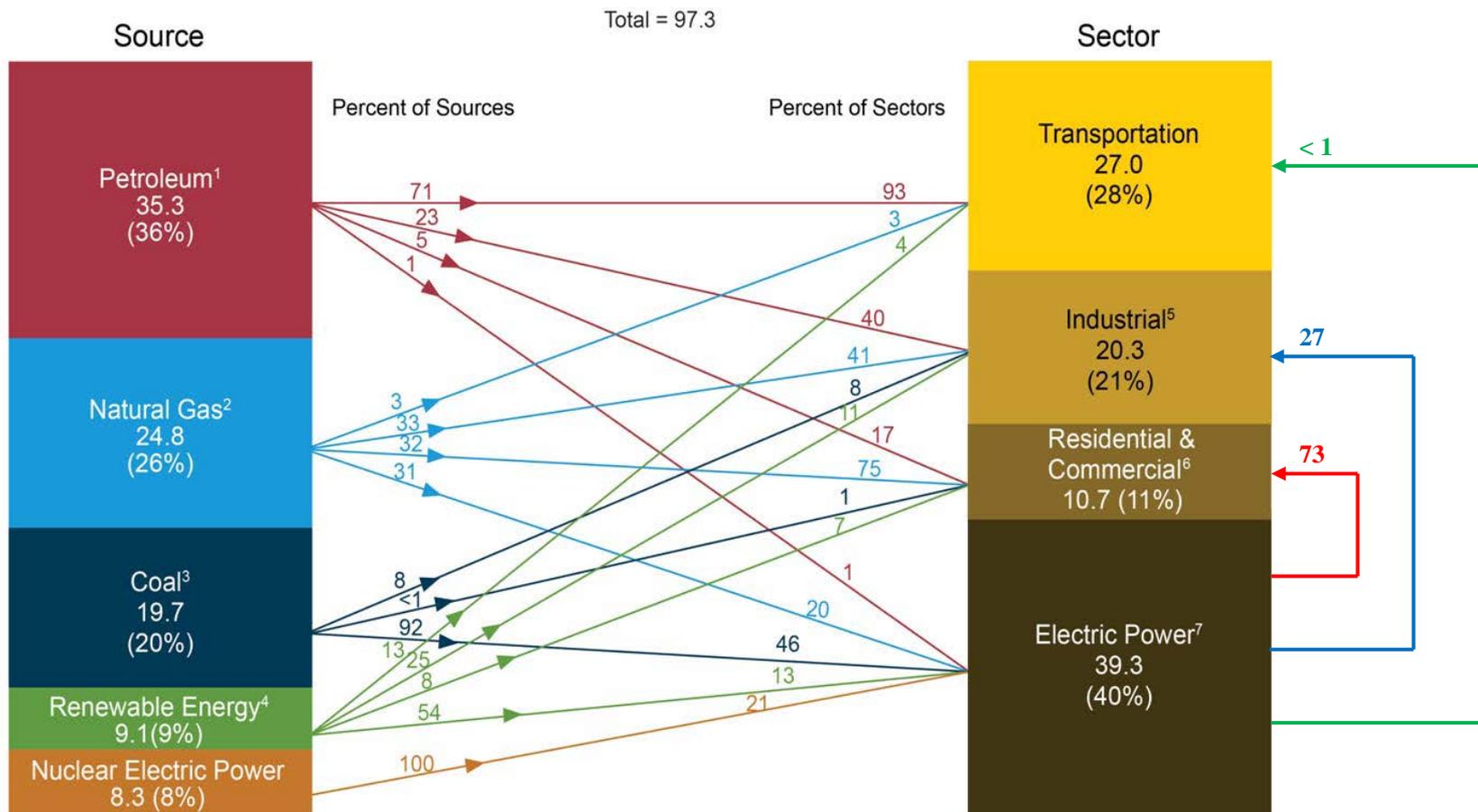
## Primary Energy Use by Sector, 2011

Quadrillion Btu



Source: U.S. Energy Information Administration, *Monthly Energy Review*, Table 2.1 (March 2012), preliminary 2011 data.

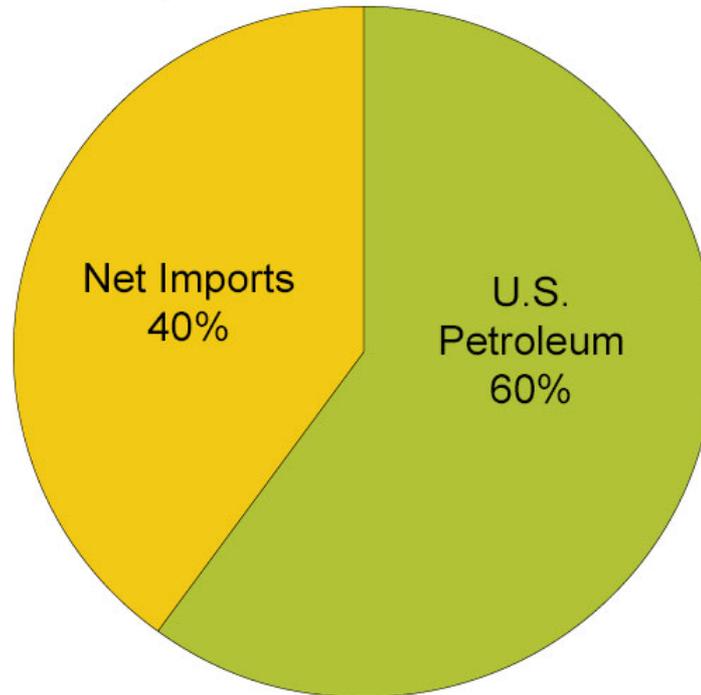
# Primary Energy Consumption by Source and Sector, 2011



Source: EIA Annual Energy Review, 2011

In 2012 US produced 60% of petroleum, 94% of natural gas, >100% of coal domestic demand

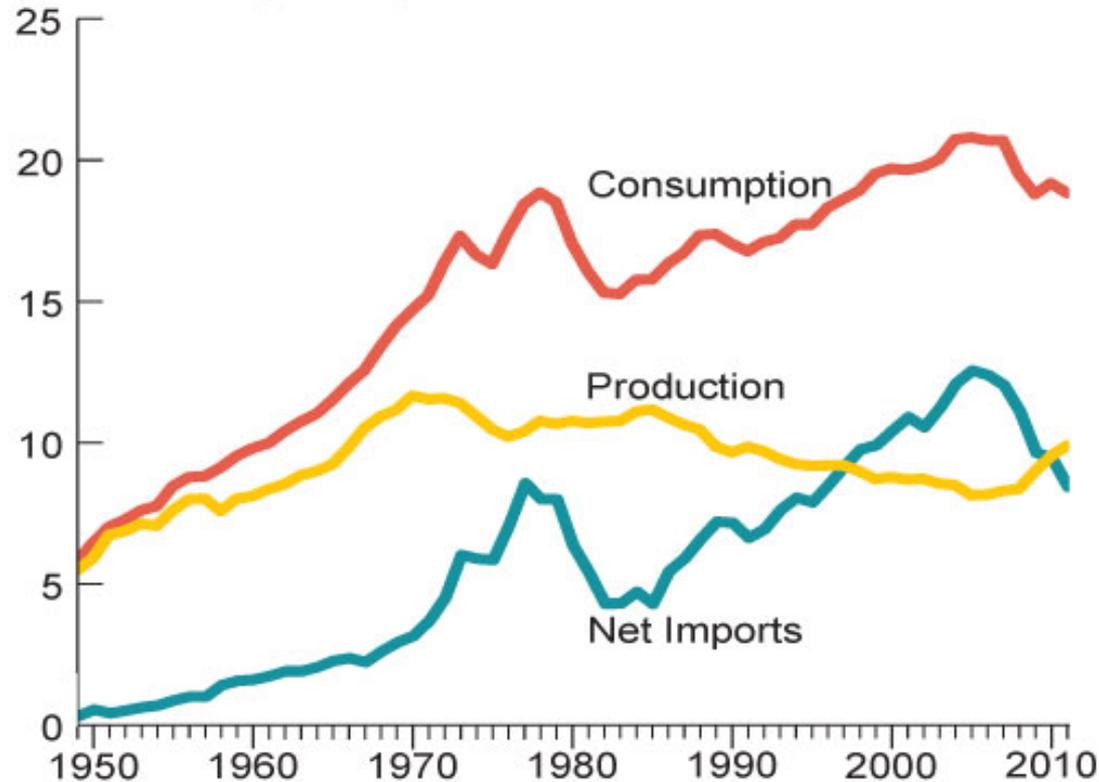
**Net Imports and Domestic Petroleum as Shares of U.S. Demand, 2012**



Source: U.S. Energy Information Administration, *Monthly Energy Review* (April 2013).

# U.S. Petroleum and Other Liquids, Consumption, Production, and Imports (1949-2011)

million barrels per day

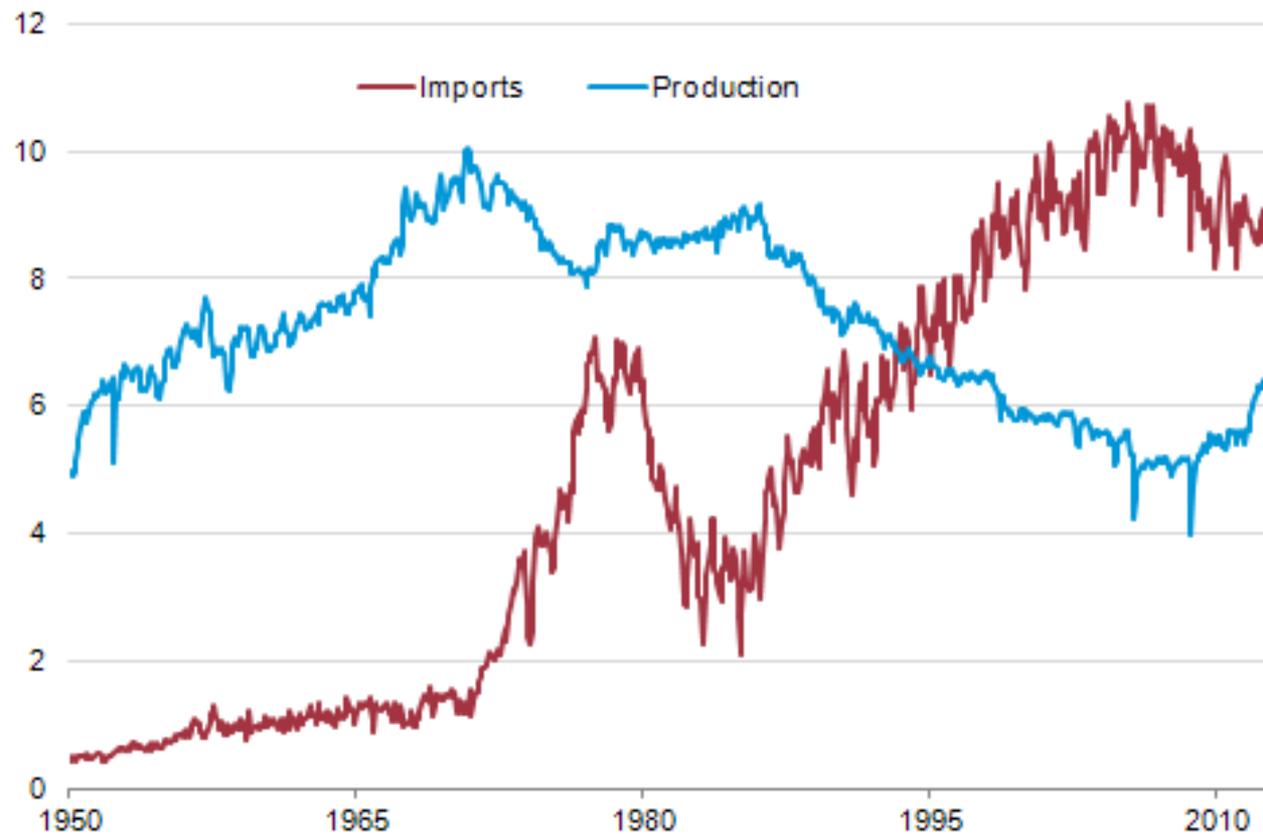


Source: U.S. Energy Information Administration, *Monthly Energy Review*, Table 3.1 (April 2012), preliminary data, and *Annual Energy Review*, Table 5.1a (October 2011).

# Monthly U.S. crude oil imports and production

**Figure 1. Monthly U.S. crude oil imports and production**

million barrels per day



Source: U.S. Energy Information Administration.



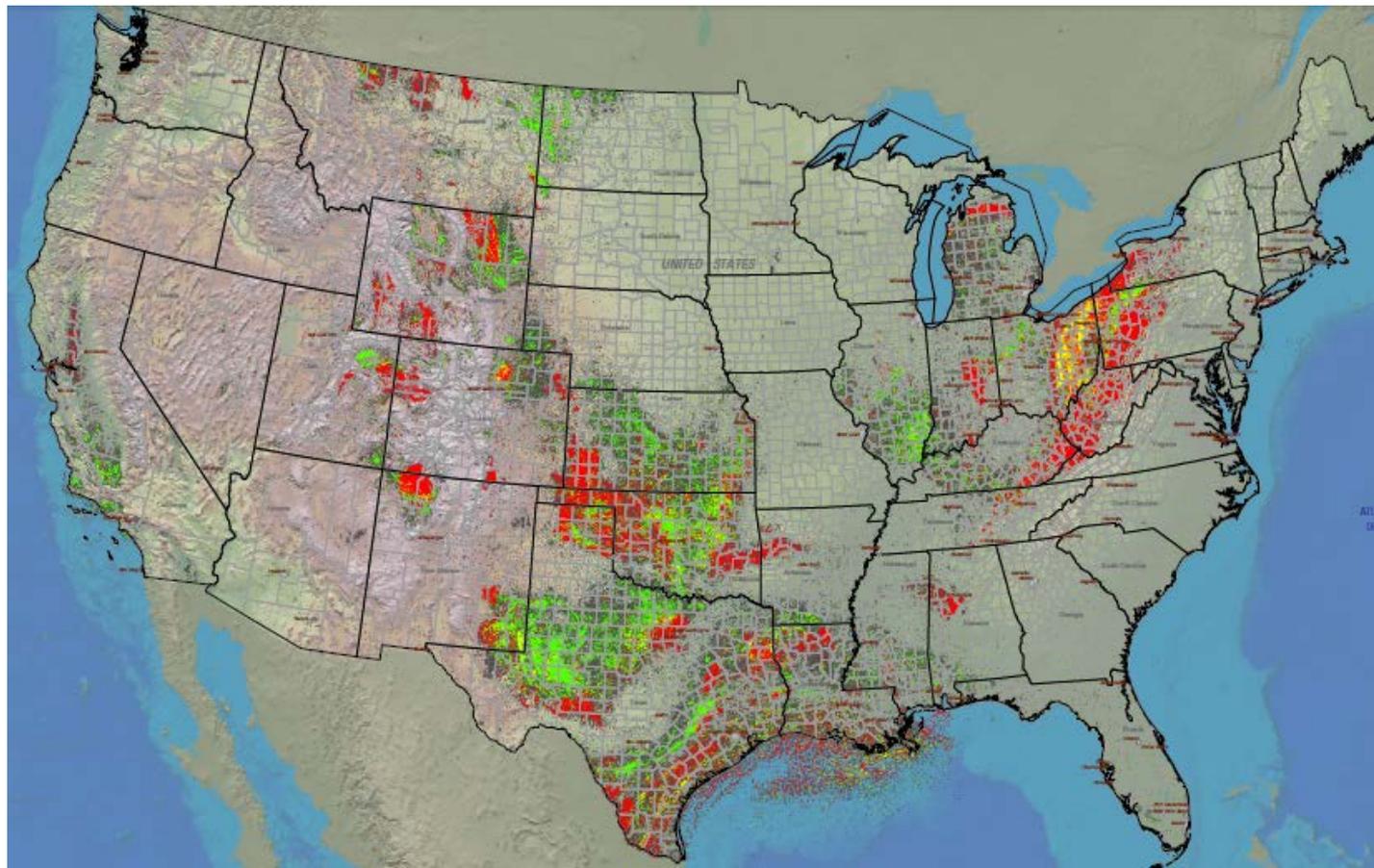
# US Oil, Gas, and Coal Industries Resources

- Oil and gas sectors comprise both onshore and offshore drilling
- Oil, gas, and coal resources may be owned by:
  - Private land owners
  - State governments
  - Federal government
  - Indian tribes
  - Individual Indian land and mineral owners
  - Any combination thereof

# Oil and Gas Industry Overview

- Upstream oil and gas industry ~10,000 active companies
- About 1 million currently producing wells
- 560,000 oil wells
- 483,000 gas wells
- Over 3 million total wells estimated have been drilled

# Oil and Gas Exploration and Production, Lower 48



## EXPLANATION

Oil and Gas Exploration and Production  
(shown as quarter-mile square cells)

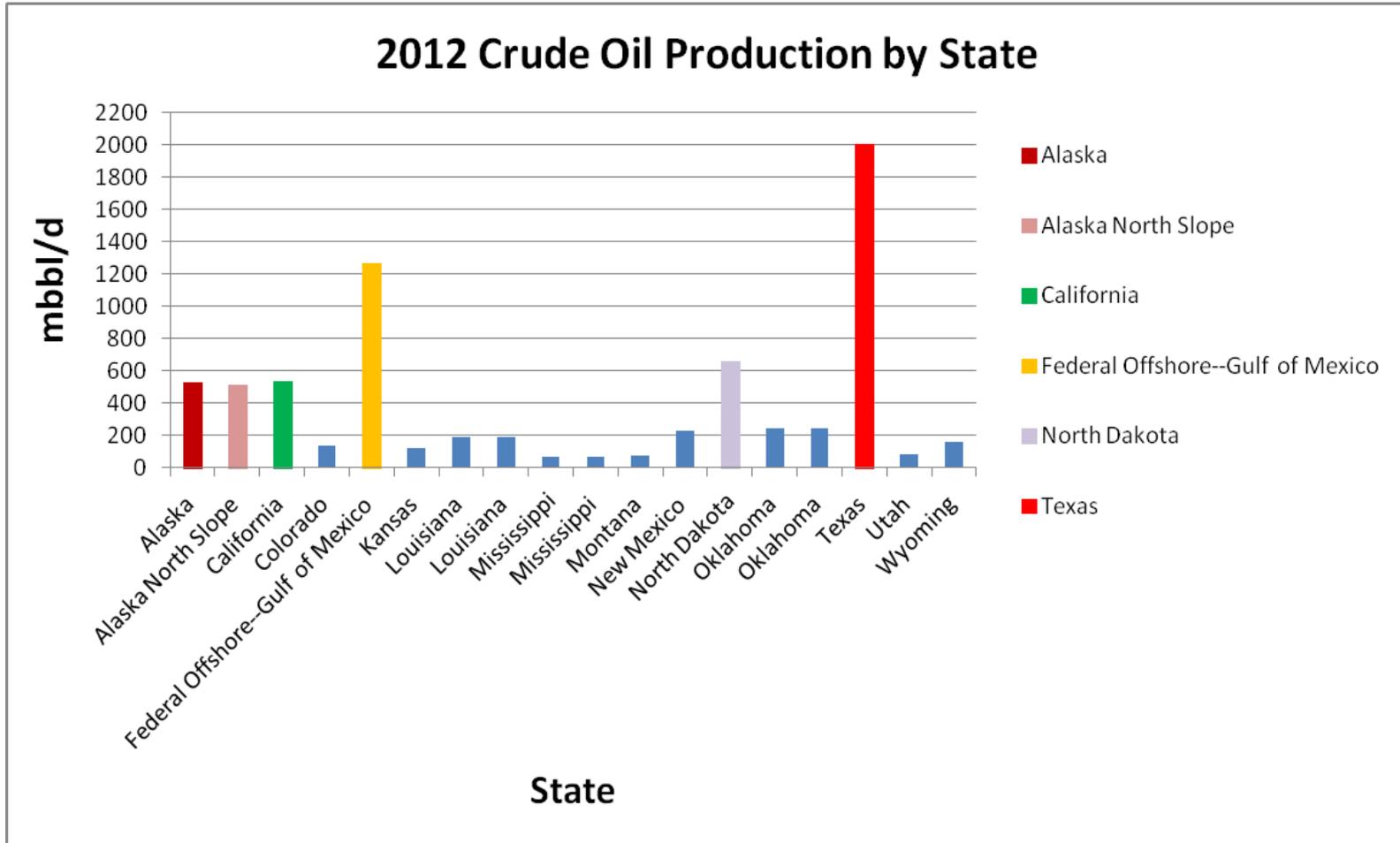
-  Oil
-  Gas
-  Oil and gas
-  Dry or unknown

Source: USGS, [http://pubs.usgs.gov/dds/dds-069/dds-069-q/graphic/us\\_production.pdf](http://pubs.usgs.gov/dds/dds-069/dds-069-q/graphic/us_production.pdf)

# Oil Industry Production Overview

- US is the world's third largest oil producer
- Currently producing over 7 million barrels a day (Jan – March 2013)
- Production from 31 states and coastal waters off Alaska, California, and Gulf of Mexico
- In 2012, ~80% crude oil production from five states and the Federal Gulf:
  - Texas (31%)
  - Federal Gulf of Mexico (19%)
  - North Dakota (10%)
  - California (8%)
  - Alaska (8%)
  - Oklahoma (4%)

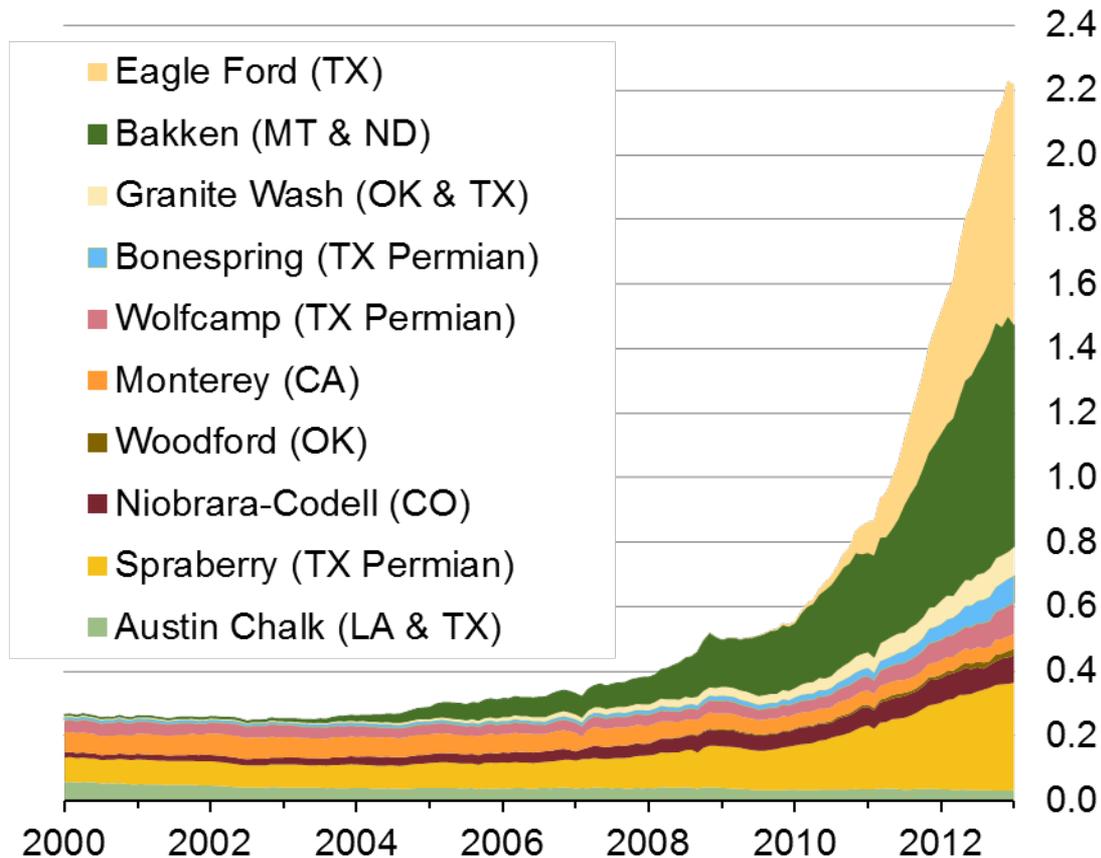
# 2012 Crude Oil Production by State



# North American Shale Plays



# Tight oil production for selected plays (million barrels of oil per day)



Source: U.S. Energy Information Administration based on DrillingInfo, Inc.

# Natural Gas Industry Overview

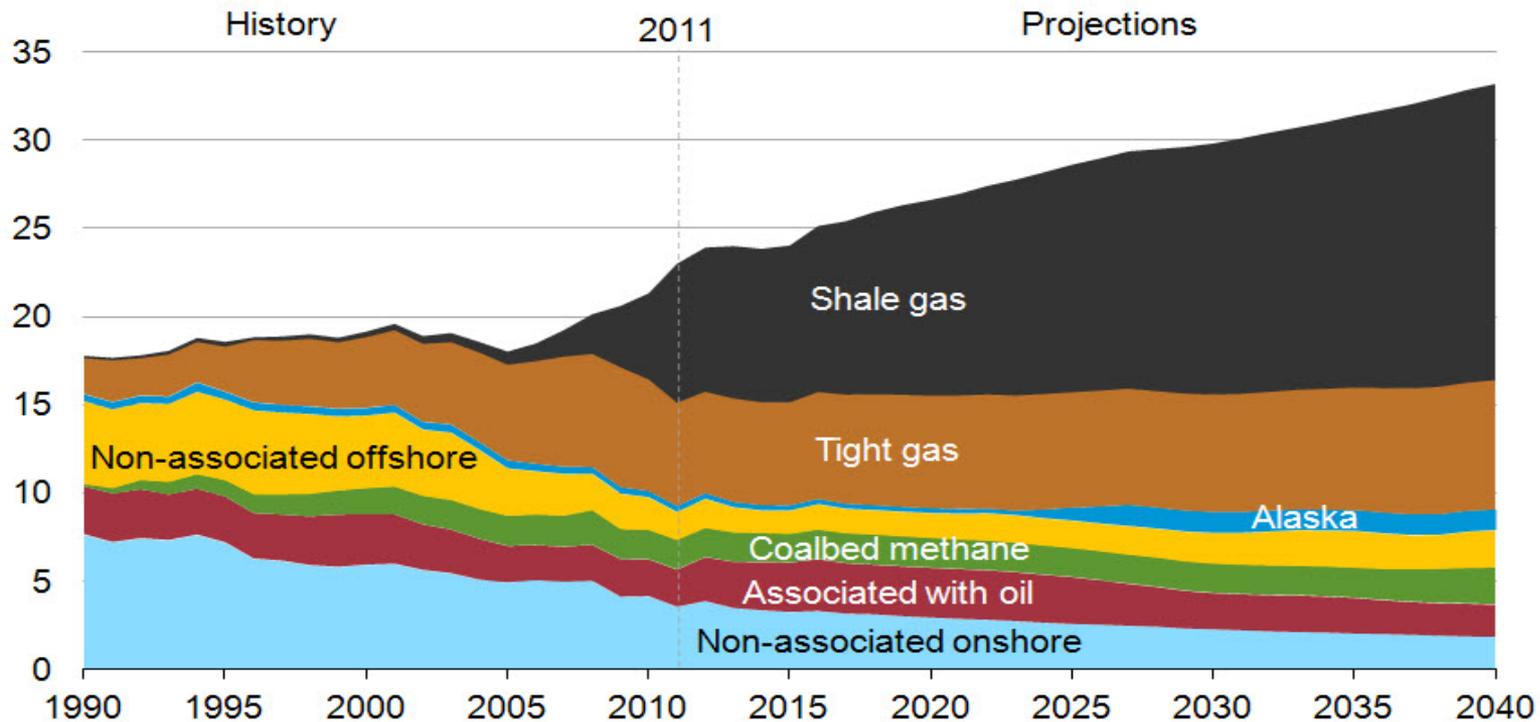
- US and Russia are the worlds' two largest natural gas producers – produce similar volumes >20,000 bcf annually
- 22,902 billion cubic feet dry natural gas produced annually (2011)
- Proved reserves of 304.625 trillion cubic feet (2010)
- Most natural gas consumed in US produced domestically
- Some imported from Canada via pipelines
- Small amount shipped to US as LNG

# North American Shale Plays



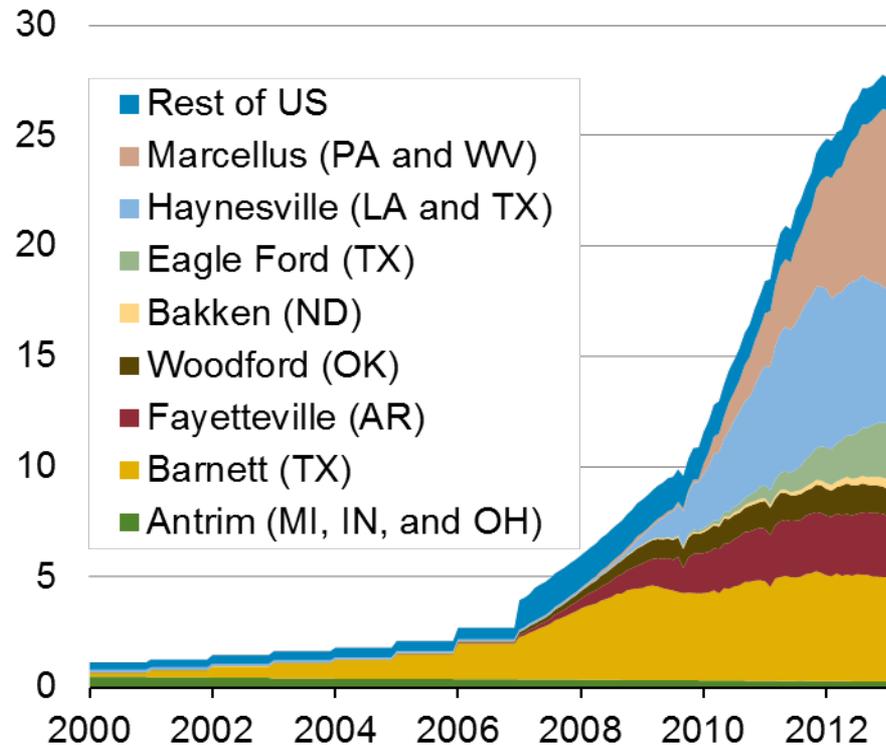
# Production of natural gas from shale formations has rejuvenated the industry

## U.S. dry natural gas production trillion cubic feet



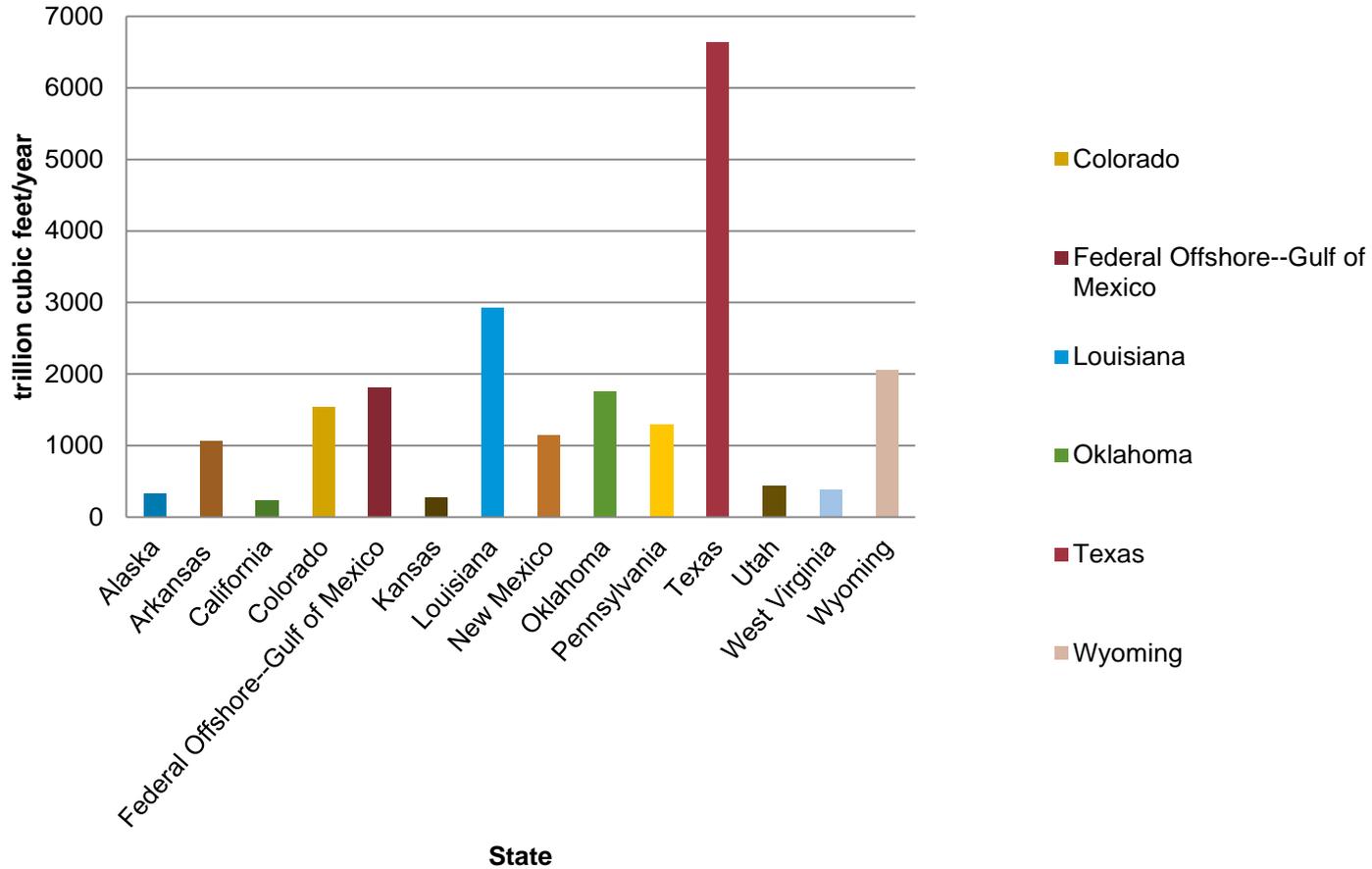
Source: U.S. Energy Information Administration, *Annual Energy Outlook 2013 Early Release*

# Shale gas production (dry) for selected plays (billion cubic feet per day)



Source: U.S. Energy Information Administration based on LCI Energy Insight

# 2011 Dry Natural Gas Production by State



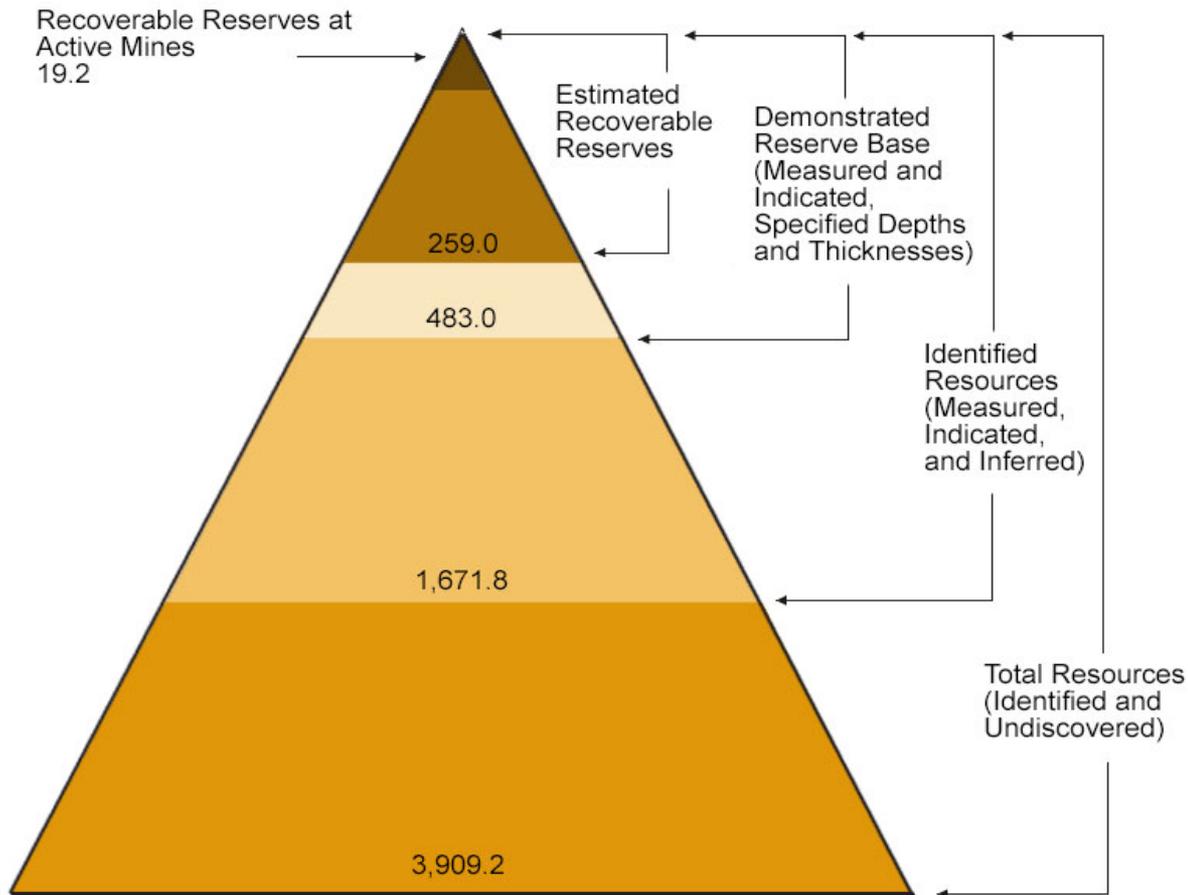
# Coal Industry Overview

- US holds world's largest estimated recoverable reserves of coal
- Enough coal to last more than 200 years based on current production
- US is a net exporter of coal (~12% of production in 2012)
- In 2012 coal production 1.02 billion short tons (preliminary)
- More than 90% of coal consumption is used to generate electricity across all sectors
- Electricity generation annual share declined from 49% in 2007 to 37% in 2012 as power producers switched to natural gas

# US Coal Resources and Reserves

## U.S. Coal Resources and Reserves

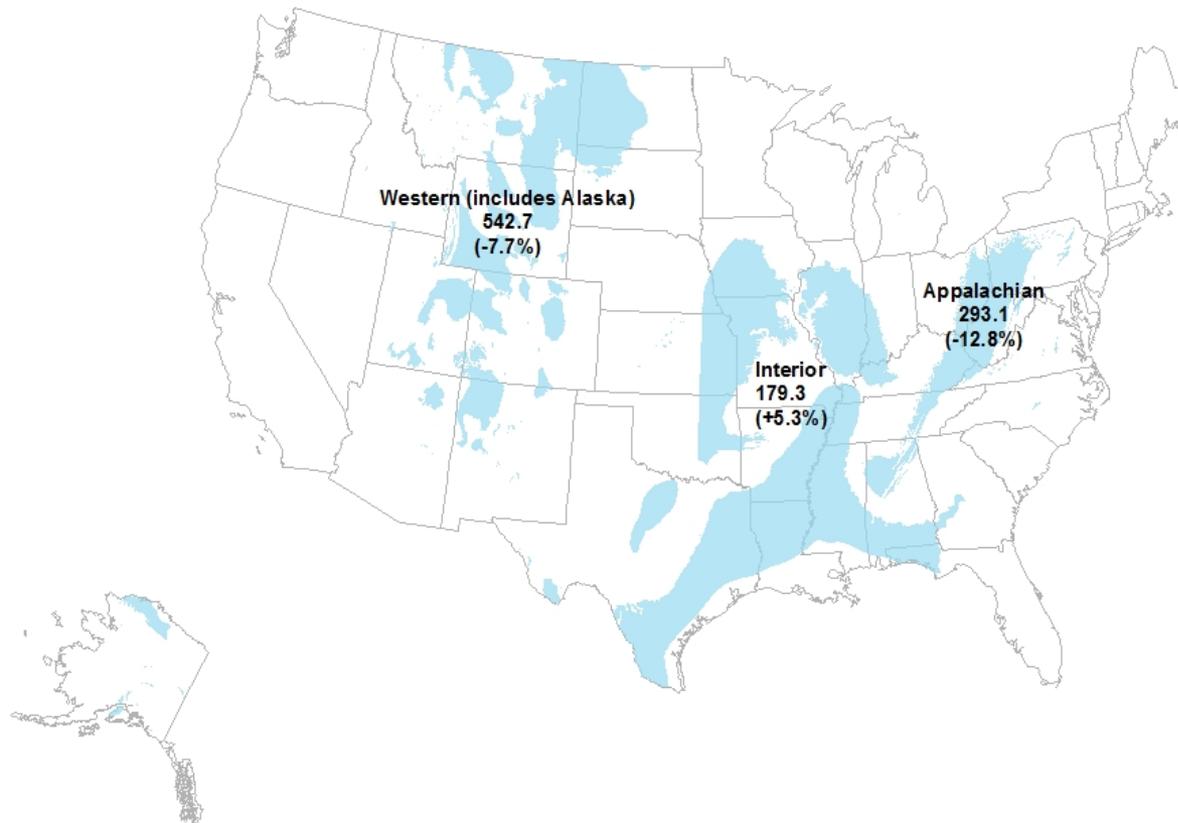
(Billion short tons as of January 1, 2012)



Source: U.S. Energy Information Administration, *Annual Coal Report 2011* (November 2012).

# Coal Production by region

Coal production by region in million short tons, 2012  
(percent change from 2011)



Source: U.S. Energy Information Administration,  
*Quarterly Coal Report*, October-December 2012 (March 2013), preliminary 2012 data.  
Production does not include refuse recovery.



# For more information

U.S. Energy Information Administration home page | [www.eia.gov](http://www.eia.gov)

Short-Term Energy Outlook | [www.eia.gov/steo](http://www.eia.gov/steo)

Annual Energy Outlook | [www.eia.gov/aeo](http://www.eia.gov/aeo)

International Energy Outlook | [www.eia.gov/ieo](http://www.eia.gov/ieo)

Monthly Energy Review | [www.eia.gov/mer](http://www.eia.gov/mer)

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