

U.S. Energy Market Outlook



for

United States Association for Energy Economics

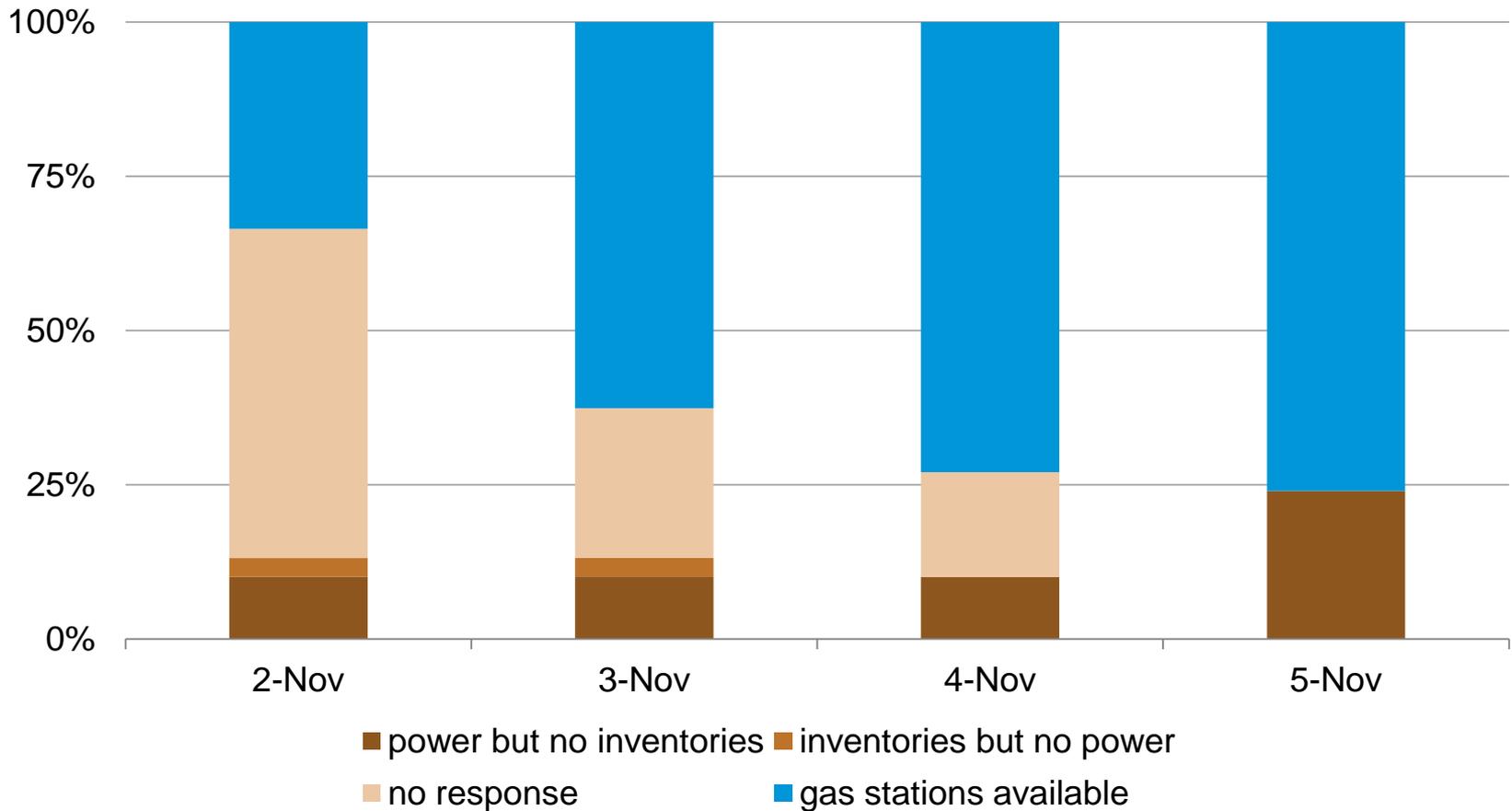
November 7, 2012 | Austin, TX

by

Adam Sieminski, Administrator

New York City metropolitan area gas station availability

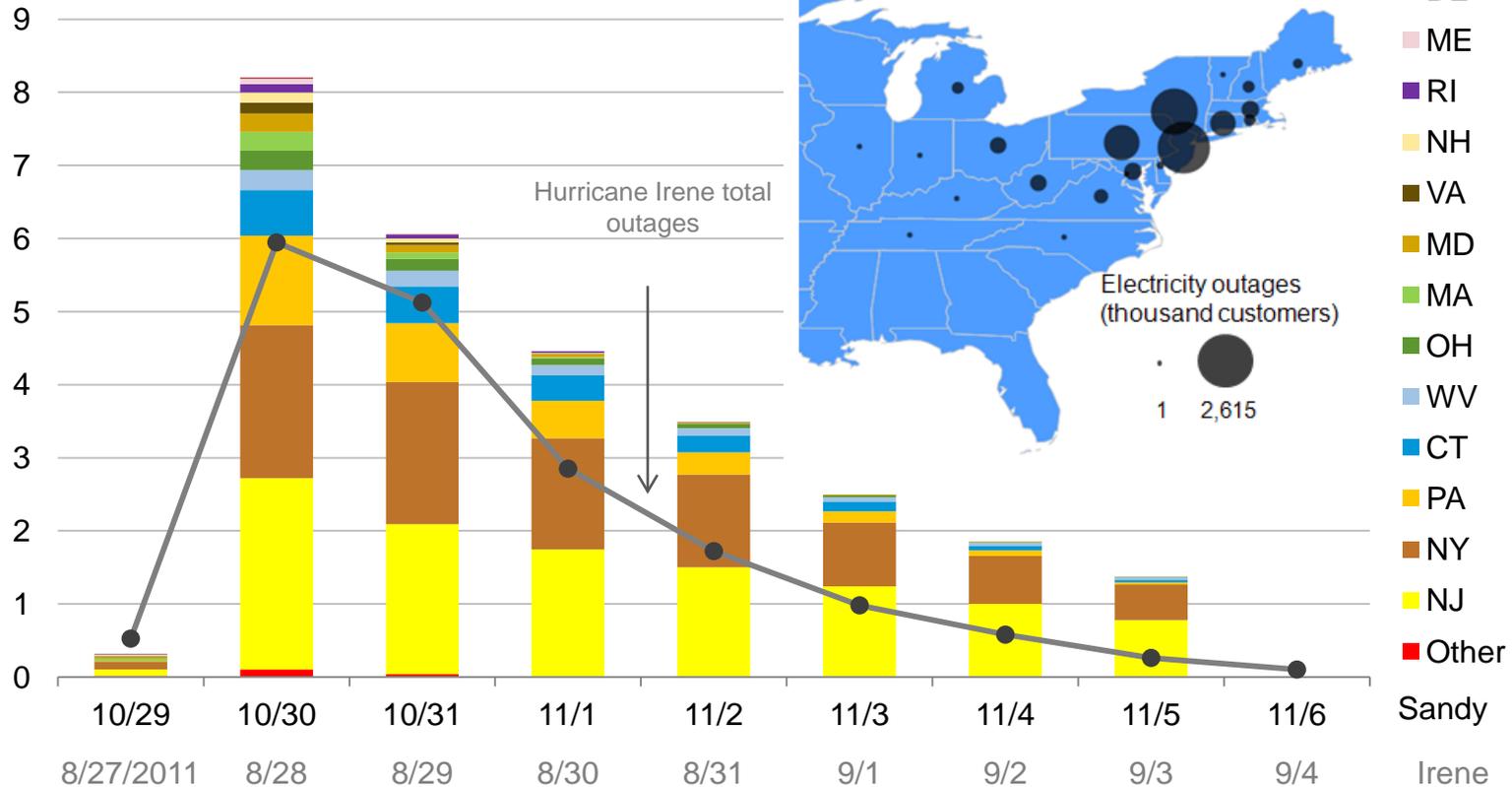
percent of gas stations



Source: EIA Emergency Gasoline Availability Survey

Electric customer outages and restoration times from Hurricane Sandy

Hurricane Sandy Power Outages million customers



Notes: Other states include: North Carolina, Vermont, Kentucky, District of Columbia, Michigan, Indiana, and Illinois.

Source: EIA based on U.S. Department of Energy, Office of Electricity Delivery and Reliability situation reports. Data reflects most recent reports available through November 5, 10:00 AM EDT.

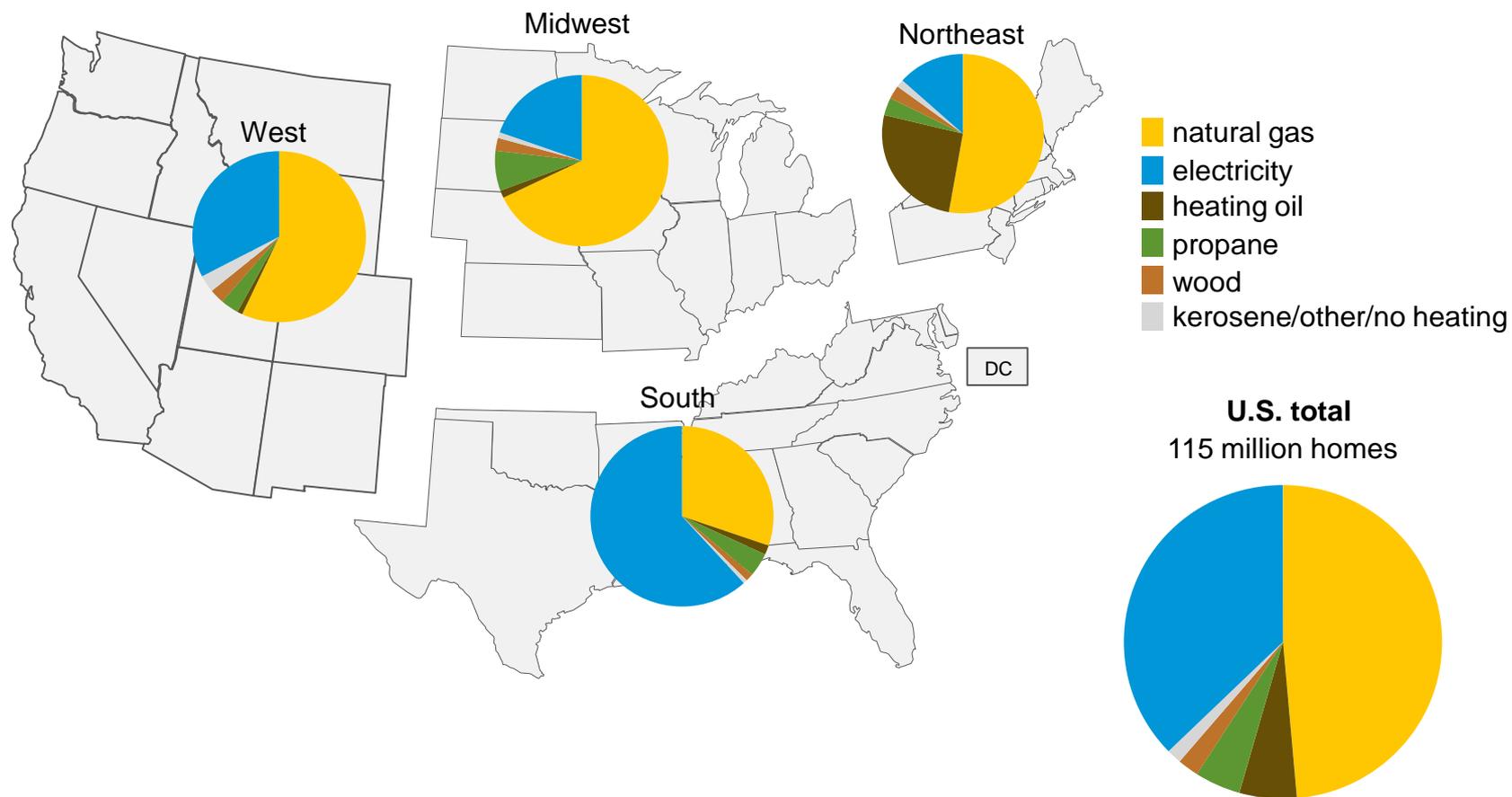
Four basic principles:

- Better, faster, cheaper
- Best practices
- Faster delivery
- More good people

Recent changes in the heating oil market

Heating fuel market shares vary regionally

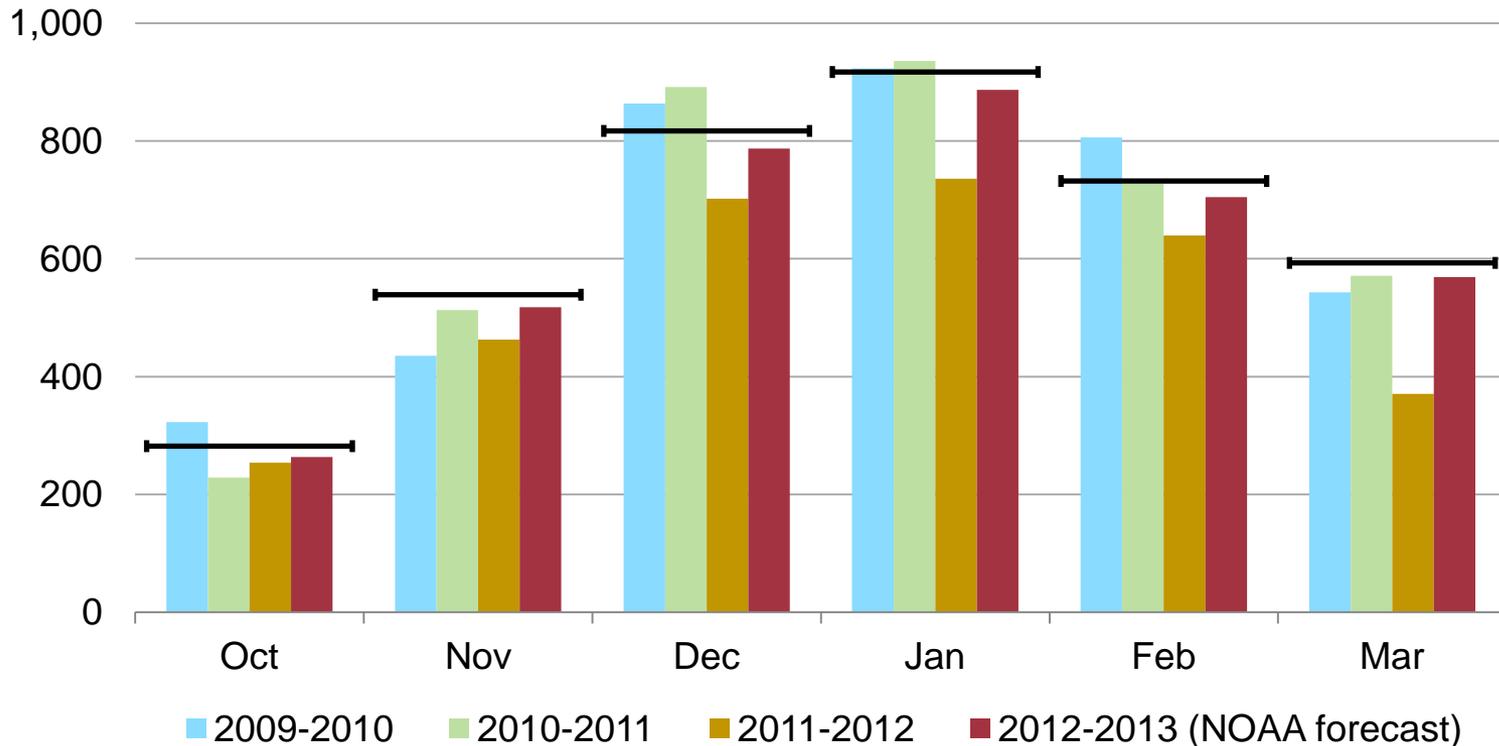
Number of homes by primary space heating fuel and Census Region, winter 2012-13



Source: EIA Short-Term Energy Outlook, October 2012

The U.S. winter 2012-13 heating season forecast is about 2% warmer than the 30-year average, but 18% colder than last winter

U.S. current population-weighted heating degree-days



Note: Horizontal bars indicate monthly average degree days over the period 1971-2000.

Source: EIA calculations based on NOAA state history and forecasts (August 15, 2012) weighted by same-year populations.

Expenditures are expected to increase this winter (October 1– March 31) for all fossil fuels

Percent change in fuel bills from last winter (forecast)

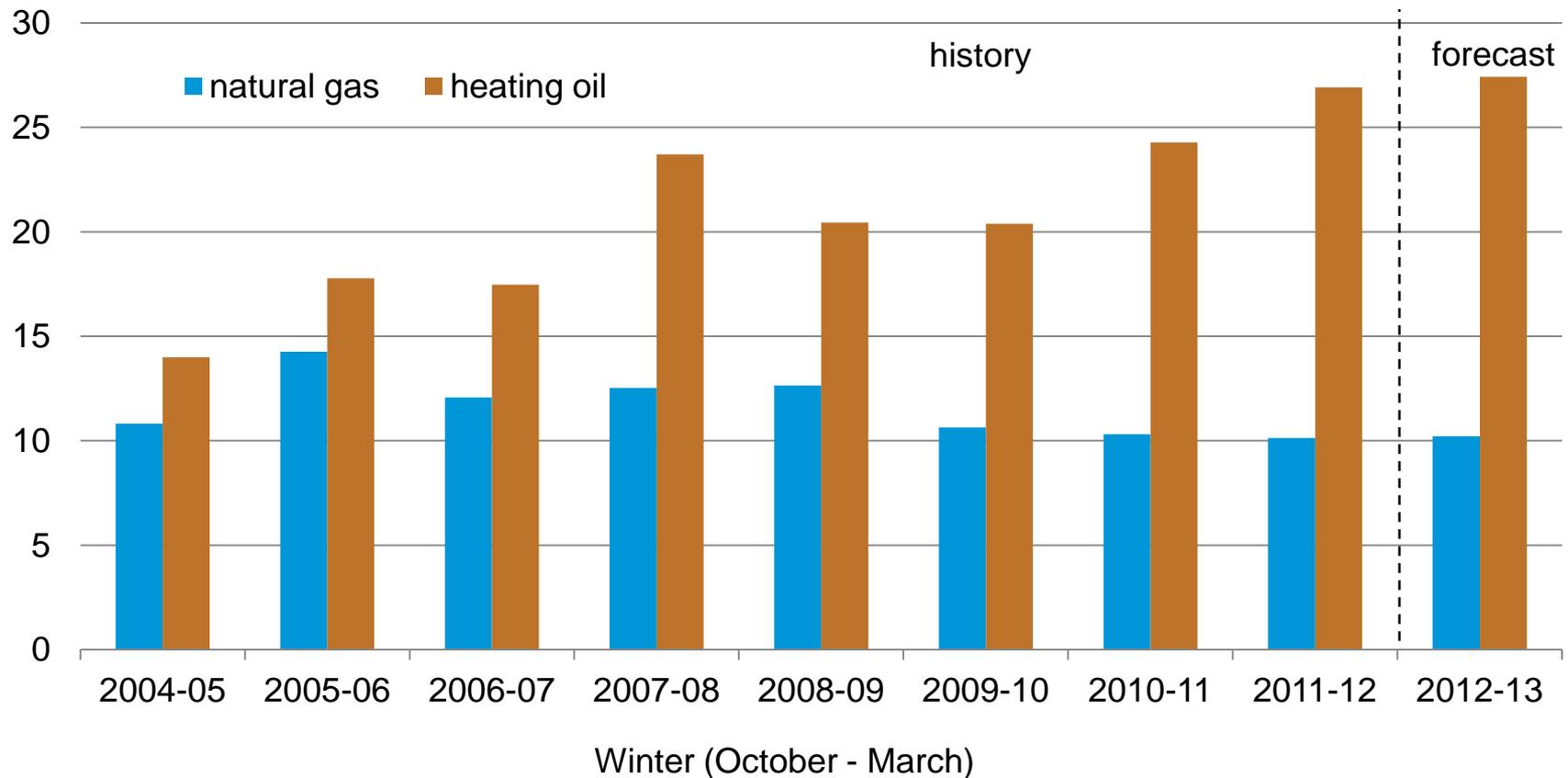
Fuel bill	Base case forecast	If 10% warmer than forecast	If 10% colder than forecast
Heating oil	19	7	32
Natural gas	15	3	28
Propane *	13	-	-
Electricity	5	2	11

* Propane expenditures are a volume-weighted average of the Northeast and Midwest regions. All others are U.S. volume-weighted averages. Propane prices in warm and cold cases are not available.

Source: EIA Short-Term Energy Outlook, October 2012

Heating oil remains much more expensive than natural gas

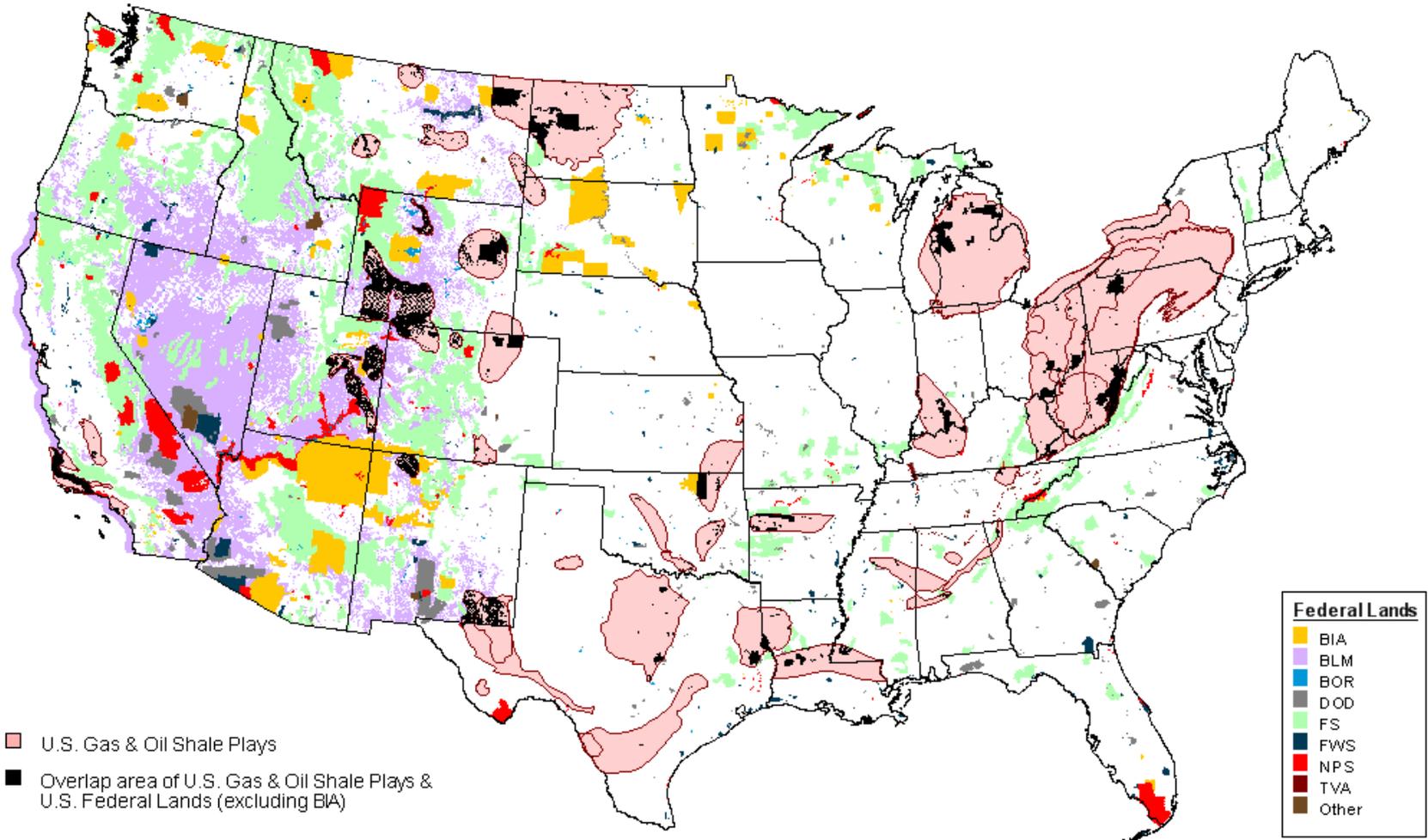
U.S. average residential winter heating fuel prices
dollars per million Btu



Source: EIA Short-Term Energy Outlook, October 2012

Key issues in the domestic fuel market

Lower 48 oil and gas shale plays and federal lands

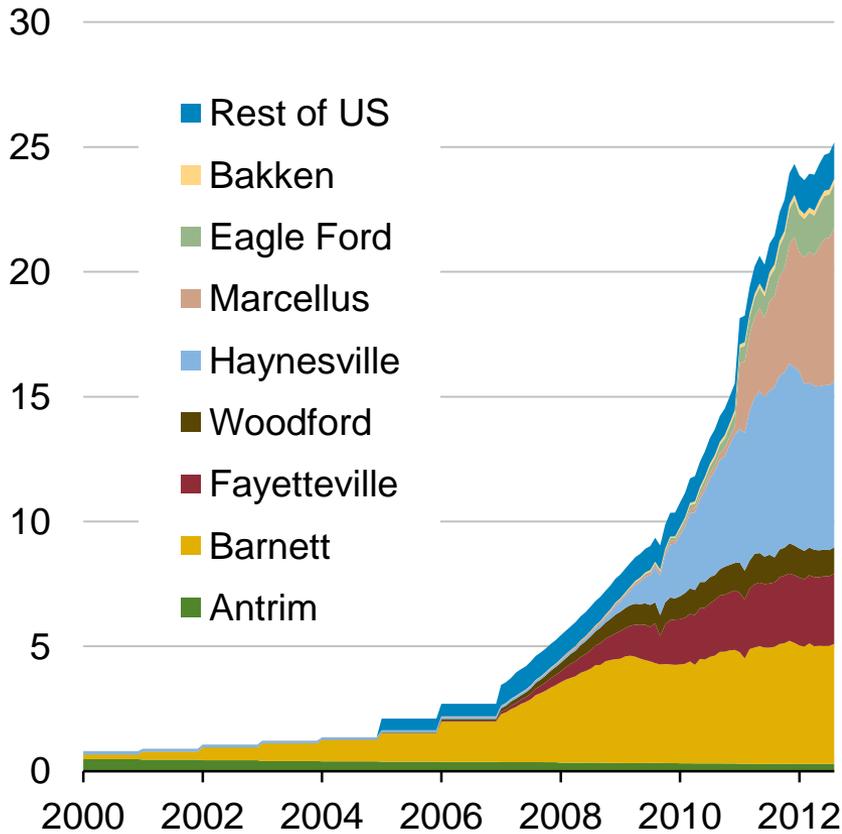


Source: U.S. Geological Survey, U.S. Department of the Interior 's National Atlas of the United States

Domestic production of shale gas and tight oil has grown dramatically over the past few years

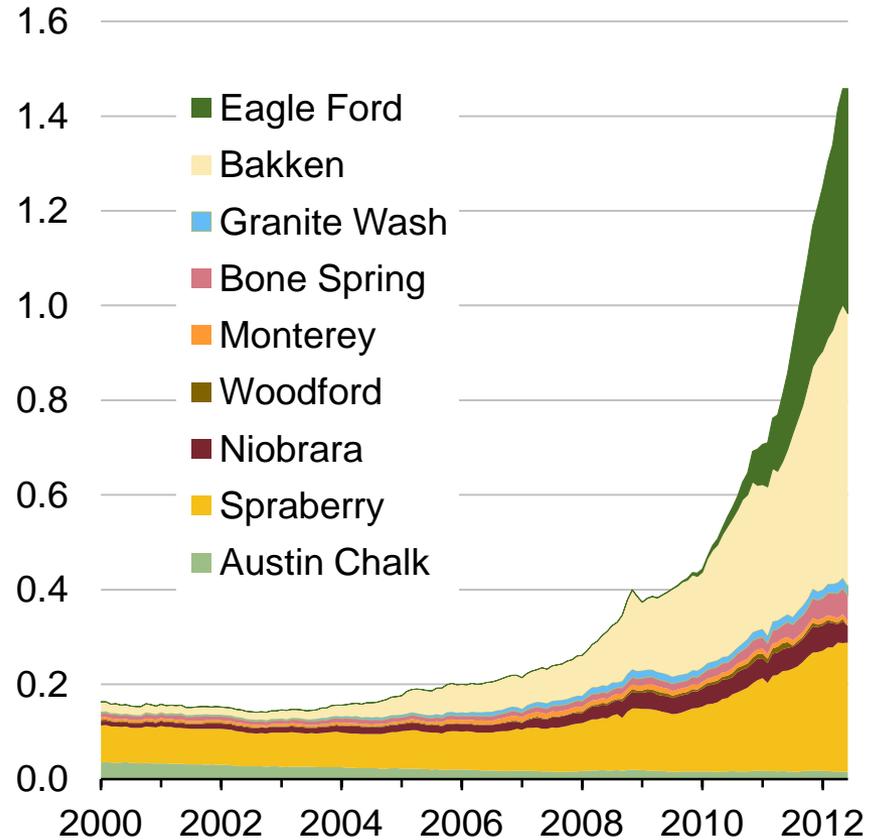
shale gas production (dry)

billion cubic feet per day



tight oil production for select plays

million barrels of oil per day

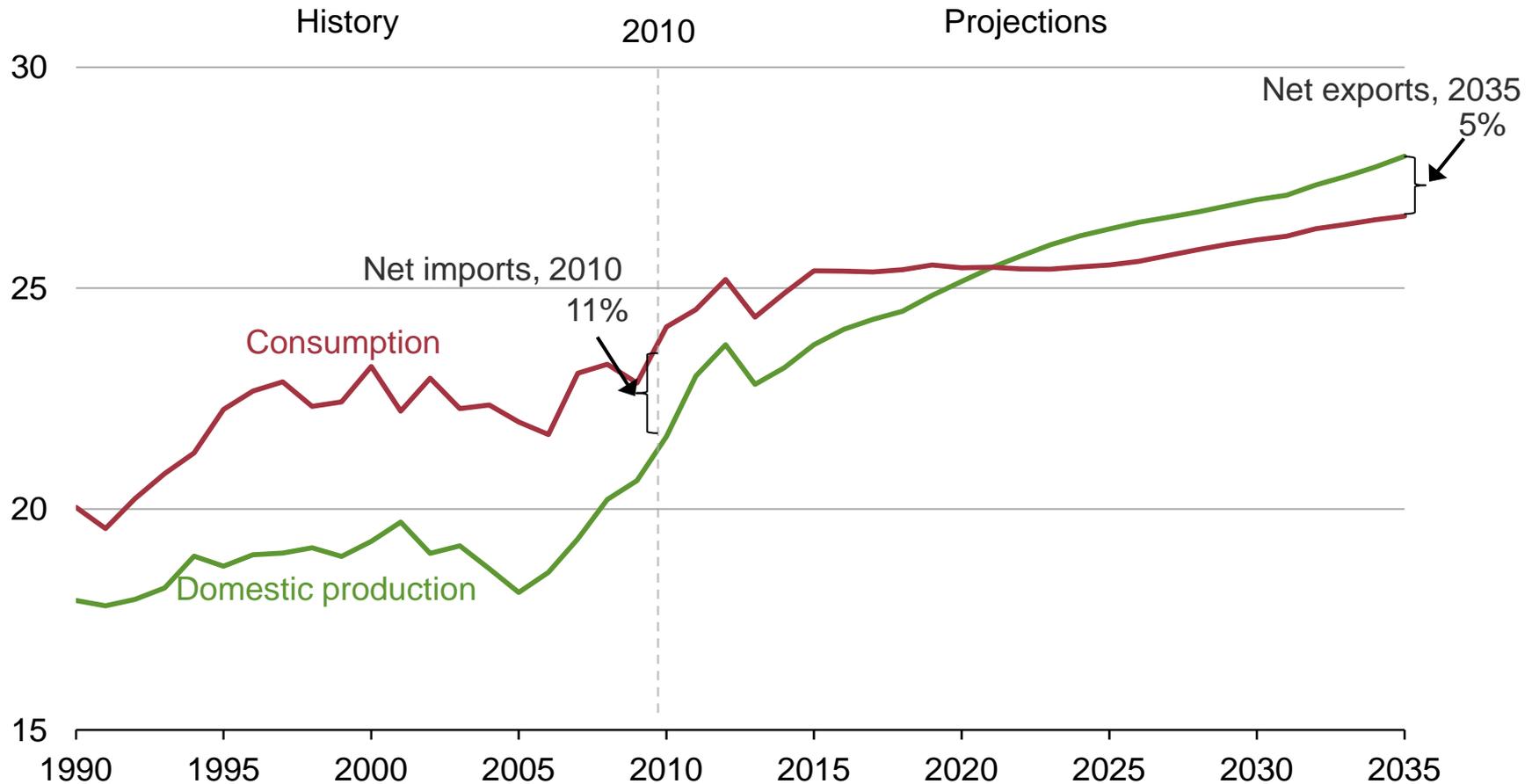


Sources shale gas: Lippman Consulting, Inc. gross withdrawal estimates as of August 2012 and converted to dry production estimates with EIA-calculated average gross-to-dry shrinkage factors by state and/or shale play.

Source tight oil: HPDI, Texas RRC, North Dakota department of mineral resources, and EIA, through June 2012.

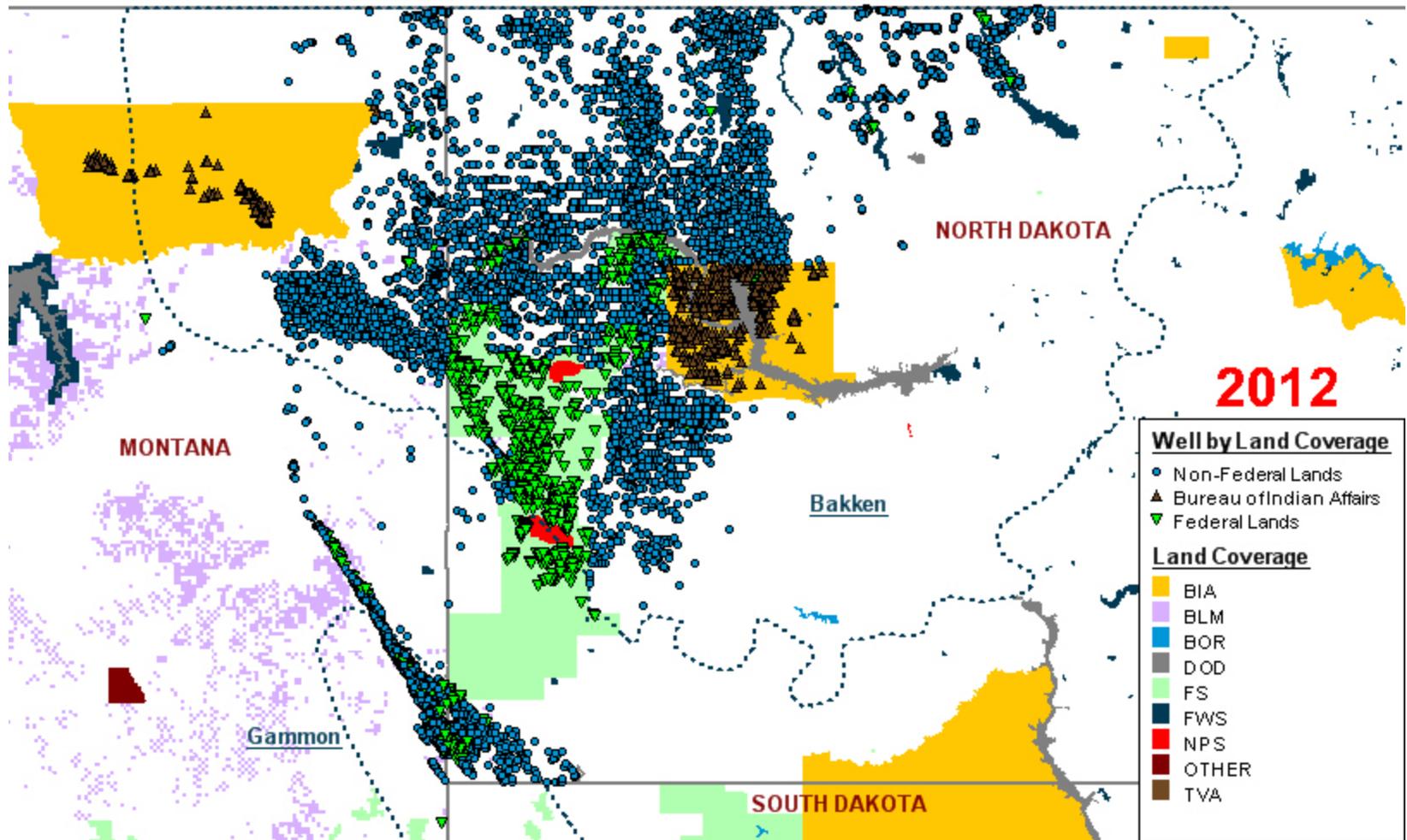
U.S. becomes a net natural gas exporter in 2022

U.S. dry natural gas
trillion cubic feet



Source: EIA, Annual Energy Outlook 2012

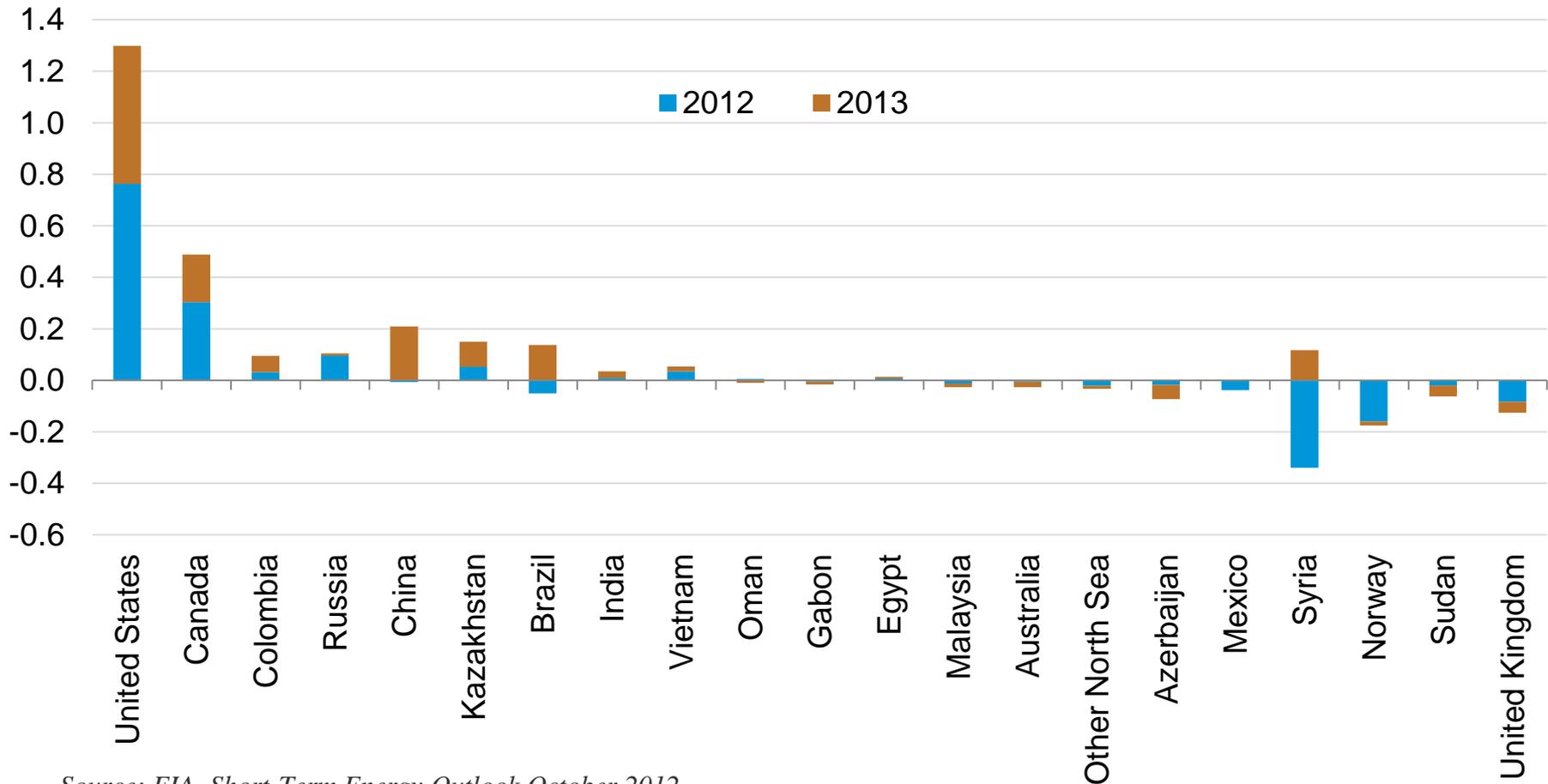
Bakken production on federal, non-federal and BIA lands



Source: EIA

U.S. leads the league table for non-OPEC crude oil and liquid fuels growth over the next two years

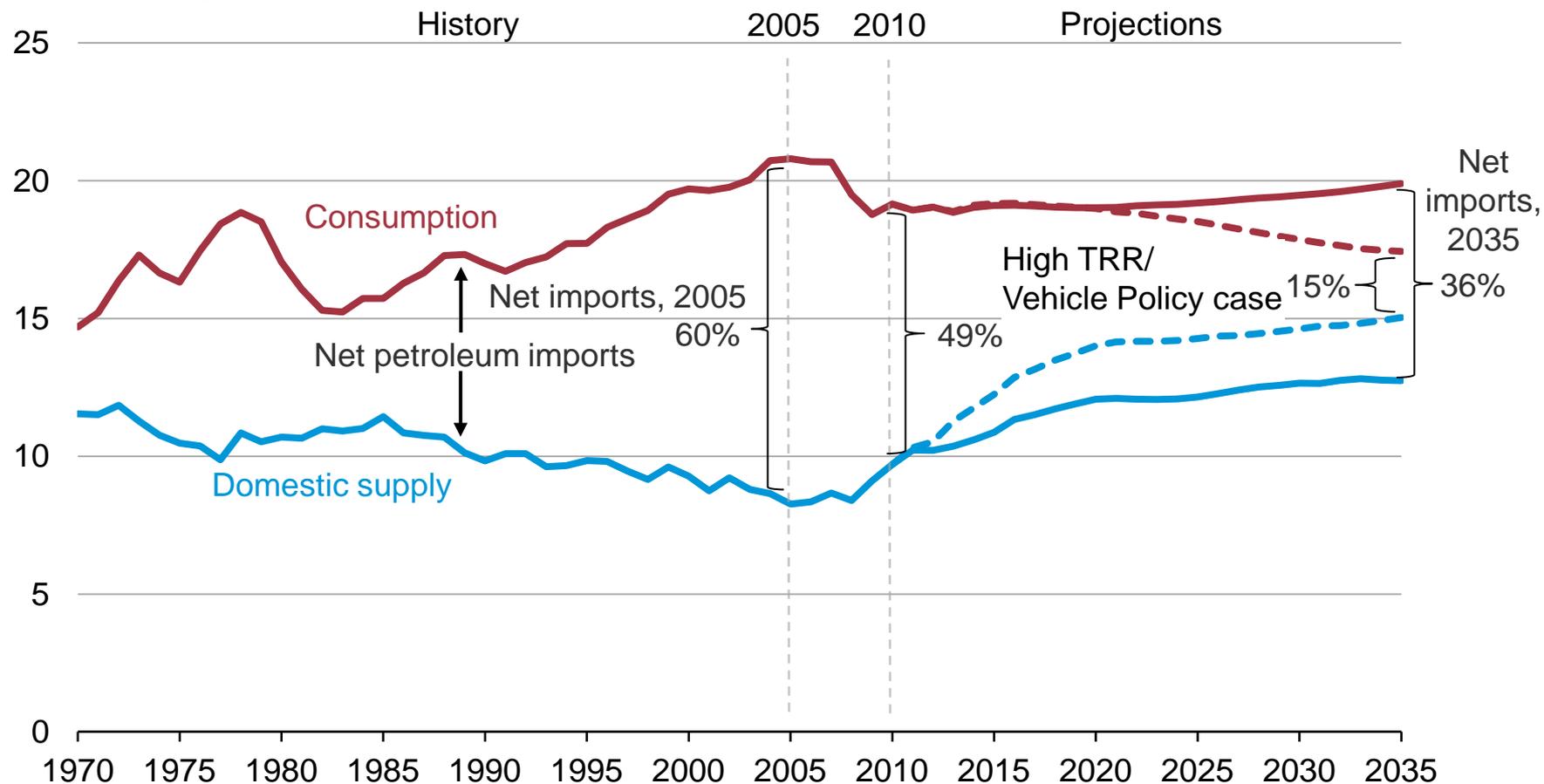
change in production from previous year
million barrels per day



Source: EIA, Short-Term Energy Outlook October 2012

U.S. dependence on imported petroleum declines ...moves even lower in various side case scenarios

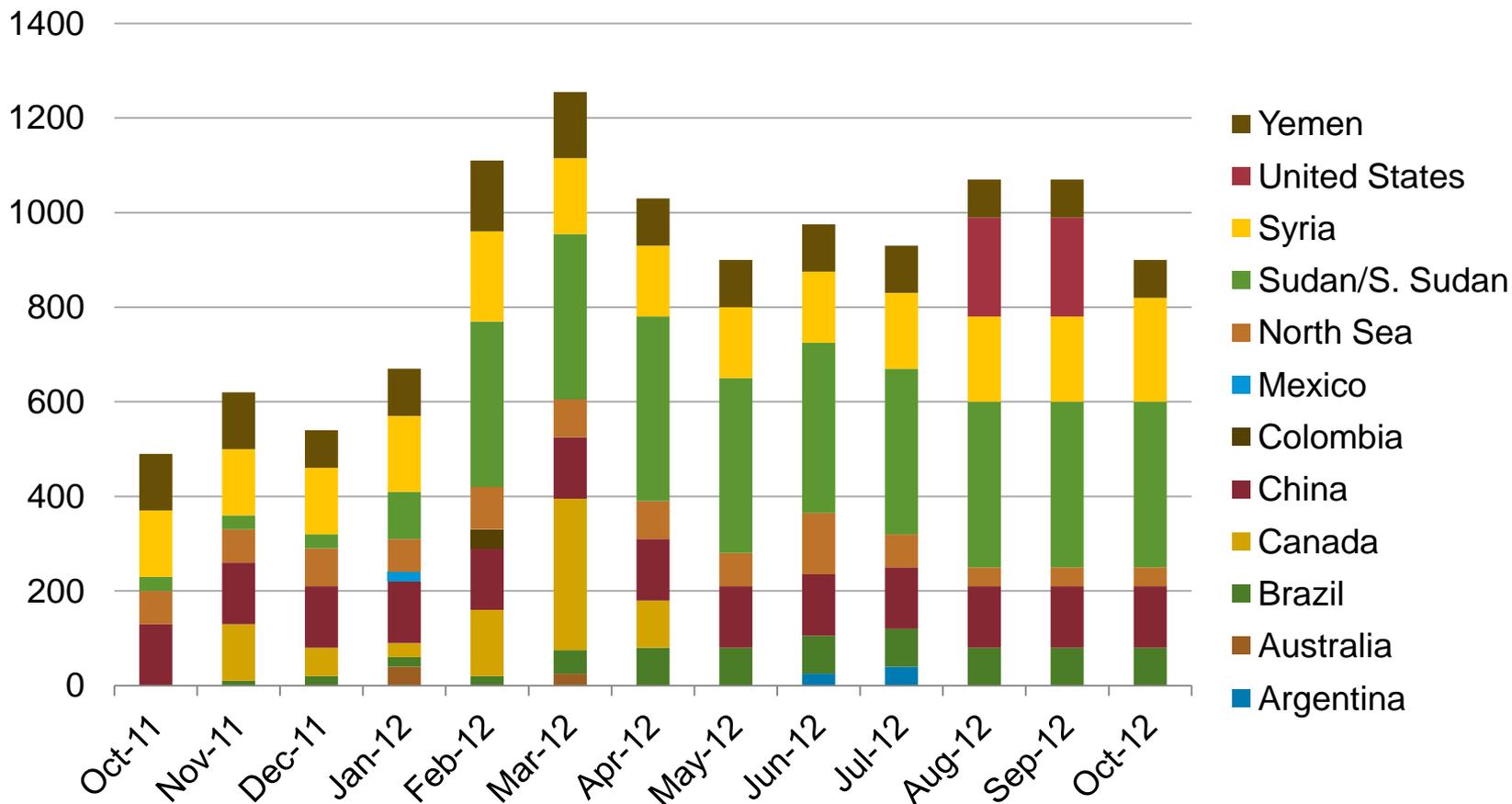
U.S. liquid fuel supply
million barrels per day



Source: EIA, Annual Energy Outlook 2012

Estimated unplanned production disruptions among non-OPEC producers, through October 2012

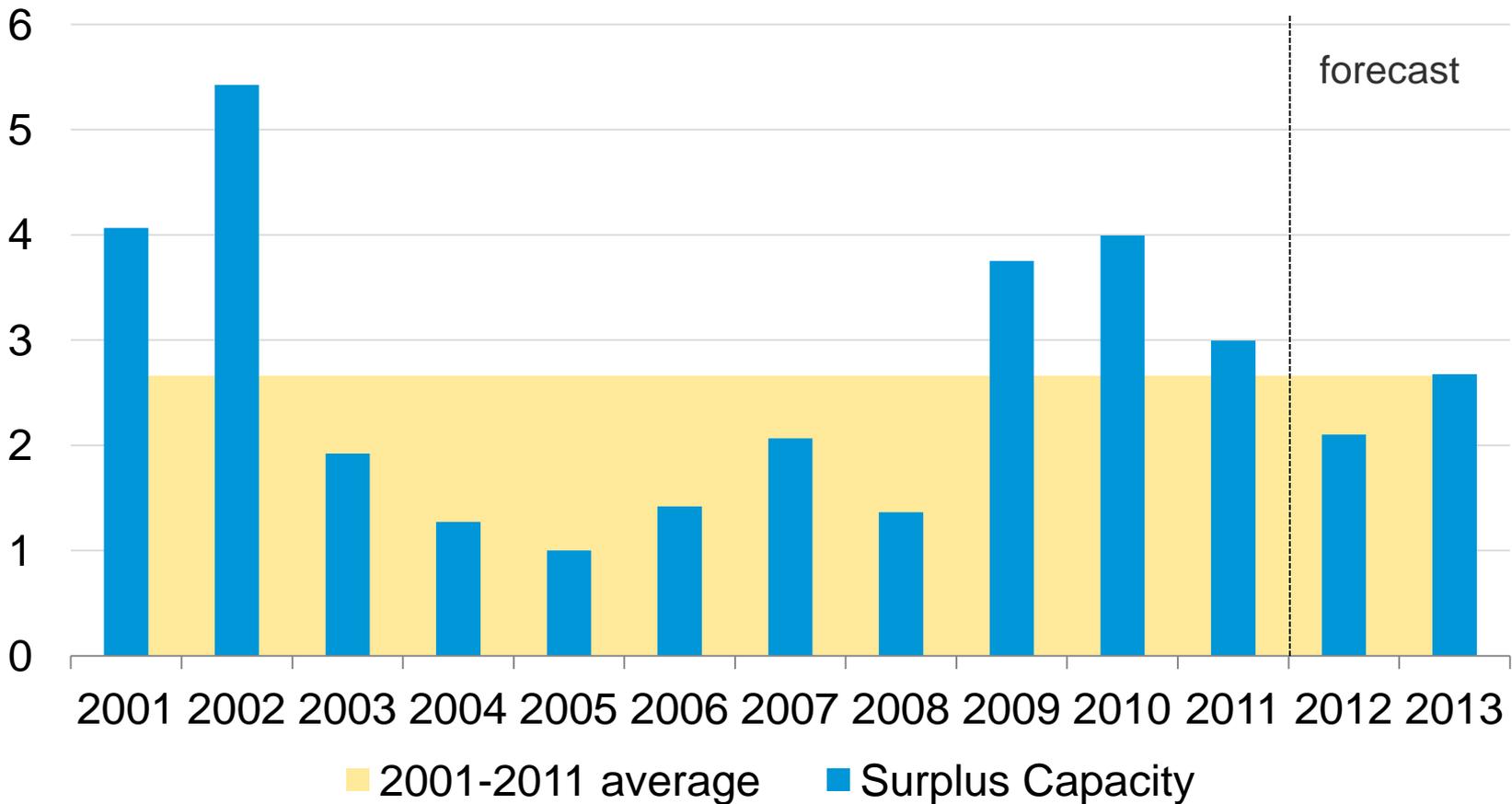
thousand barrels per day



Source: EIA Availability and Price of Petroleum and Petroleum Products Produced in Countries Other Than Iran Report, October 2012

OPEC surplus crude oil production capacity

million barrels per day



Source: EIA Short-Term Energy Outlook, October 2012

EIA updates state level datasets with mapping features and energy infrastructure datasets

Interactive map links to state level energy data

U.S. Overview

U.S. Territories: American Samoa | Guam | Northern Mariana Islands | Puerto Rico | U.S. Virgin Islands

State Total Energy Rankings, 2010

State	Production		Consumption per Capita		Expenditures per Capita	
	U.S. Share	Rank	Million Btu	Rank	Dollars	Rank
Alaska	2.3%	12	899	2	8,807	1
Alabama	1.8%	13	410	12	4,494	11
Arkansas	1.7%	14	385	17	4,128	21
Arizona	0.8%	27	218	45	3,021	50
California	2.4%	9	210	48	3,134	48
Colorado	2.4%	7	301	32	3,319	45
Connecticut	0.3%	40	211	47	3,877	25
District of Columbia	0.0%	51	307	29	4,033	23
Delaware	0.0%	49	205	34	4,019	24
Florida	0.7%	31	233	43	3,194	47

MORE STATE DATA & ANALYSIS

by Source

- Petroleum
- Natural Gas
- Electricity
- Coal
- Renewable & Alternative Fuels
- Nuclear
- Environment
- Total Energy

Summary Reports

- State Electricity Summary
- State Renewable Electricity Statistics
- State Nuclear Summary
- Natural Gas Summary Statistics

PENNSYLVANIA
State Profile and Energy Estimates

Profile Overview

Pennsylvania, U.S. Rankings

Consumption

Total Energy per Capita	33
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Production

Total Energy	5
Crude Oil	19
Natural Gas	8
Coal	4
Electricity	2
Carbon Dioxide Emissions	3

Prices

Natural Gas	14
Electricity	16

QUICK FACTS

- Pennsylvania was the fourth largest coal-producing State in the Nation in 2011, and the only State producing anthracite coal, which has a higher heat value than other kinds of coal.
- Annual cross-national gas production more than doubled in Pennsylvania in 2011, exceeding 1

Source: EIA

For more information

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

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

Annual Energy Outlook | www.eia.gov/aeo

International Energy Outlook | www.eia.gov/ieo

Monthly Energy Review | www.eia.gov/mer