

Welcome to the Global Hydrocarbon Supply Modeling Project Workshop



April 8, 2014 | Tyson's Corner, VA

By

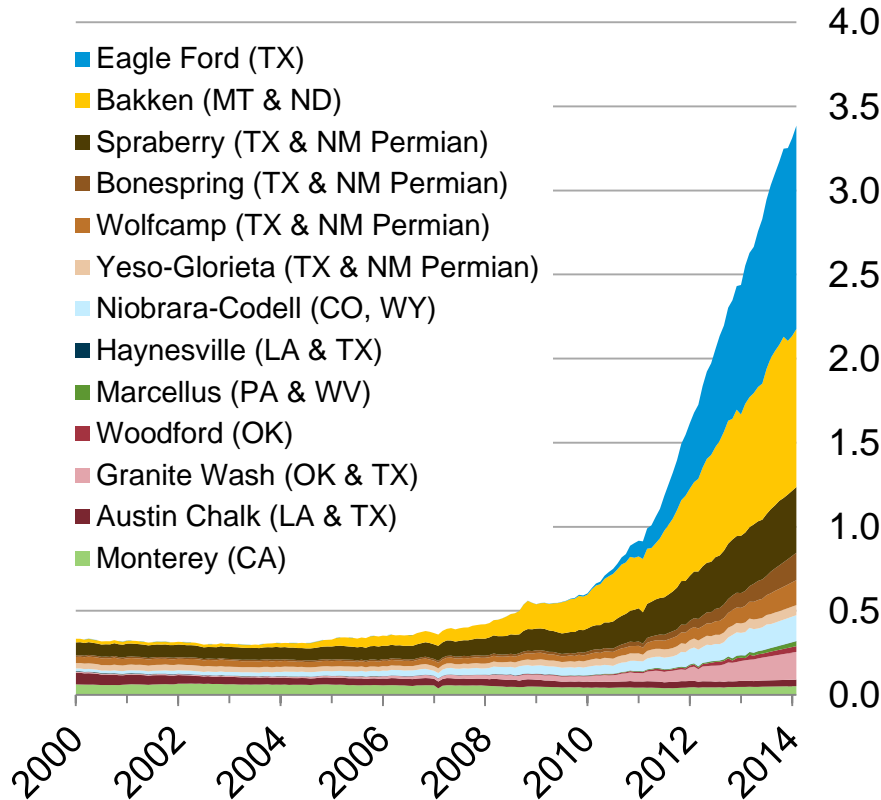
Adam Sieminski, EIA Administrator

EIA's shifting emphasis on modeling

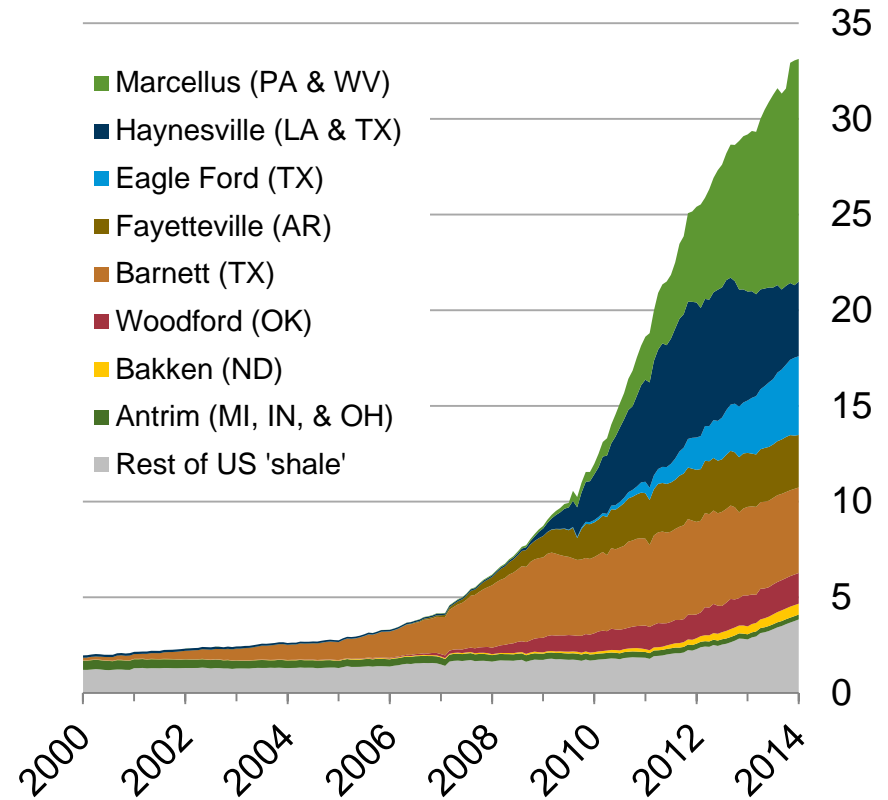
- More international modeling and analysis, less domestic
 - Moving out to where the light is not as bright
- EIA will produce “shorter” *Annual Energy Outlook* and *International Energy Outlook* in alternate years
- Our intent and focus is on improving our analysis and modeling at the international level
- We all look forward to your assistance in moving ahead on that path

The U.S. has experienced a rapid increase in natural gas and oil production from shale and other tight resources

U.S. tight oil production
million barrels of oil per day



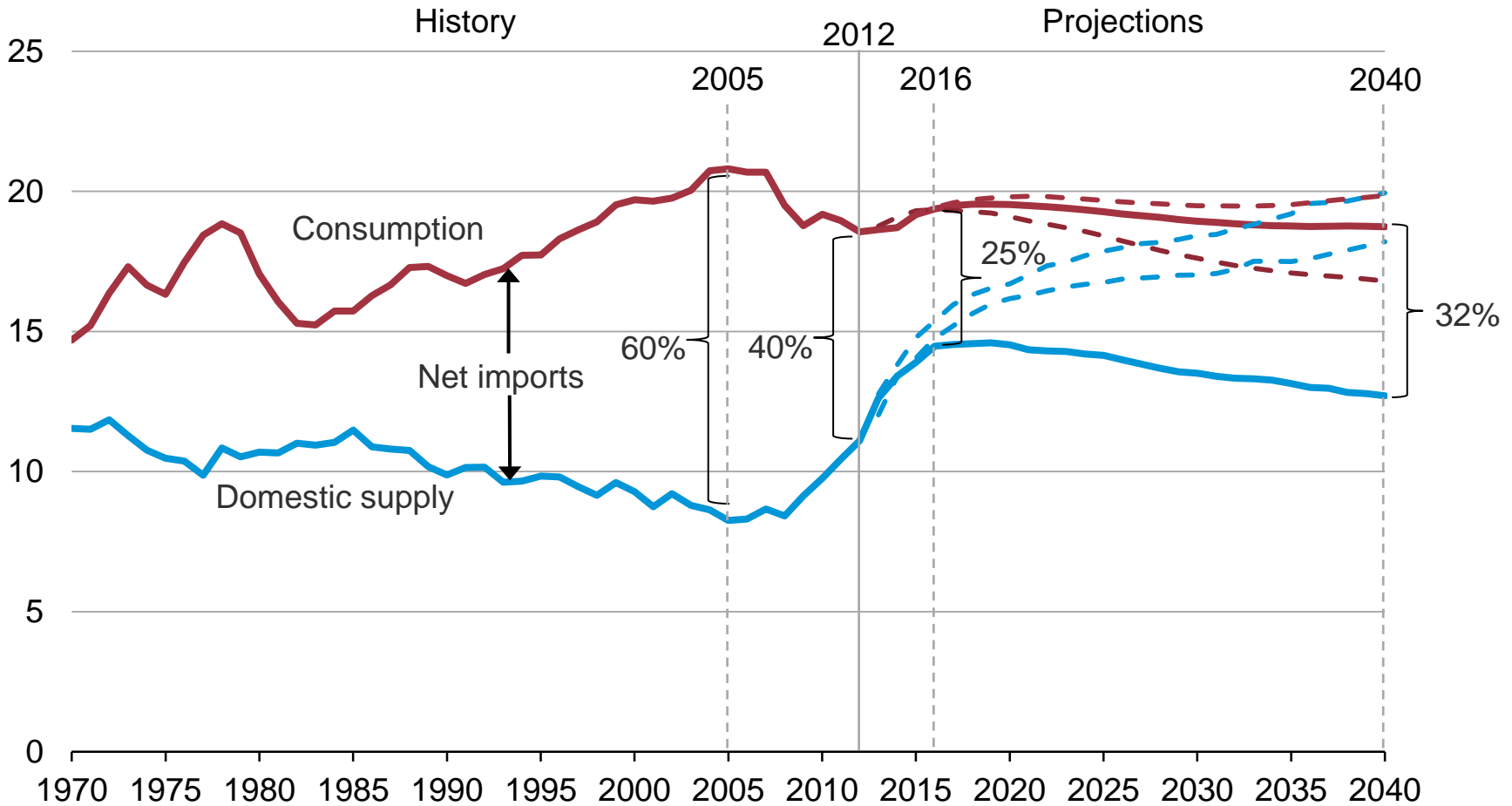
U.S. dry shale gas production
billion cubic feet per day



Sources: EIA derived from state administrative data collected by DrillingInfo Inc. Data are through February 2014 and represent EIA's official tight oil & shale gas estimates, but are not survey data. State abbreviations indicate primary state(s).

U.S. dependence on imported liquids declines, particularly in the near term

U.S. liquid fuel supply
million barrels per day



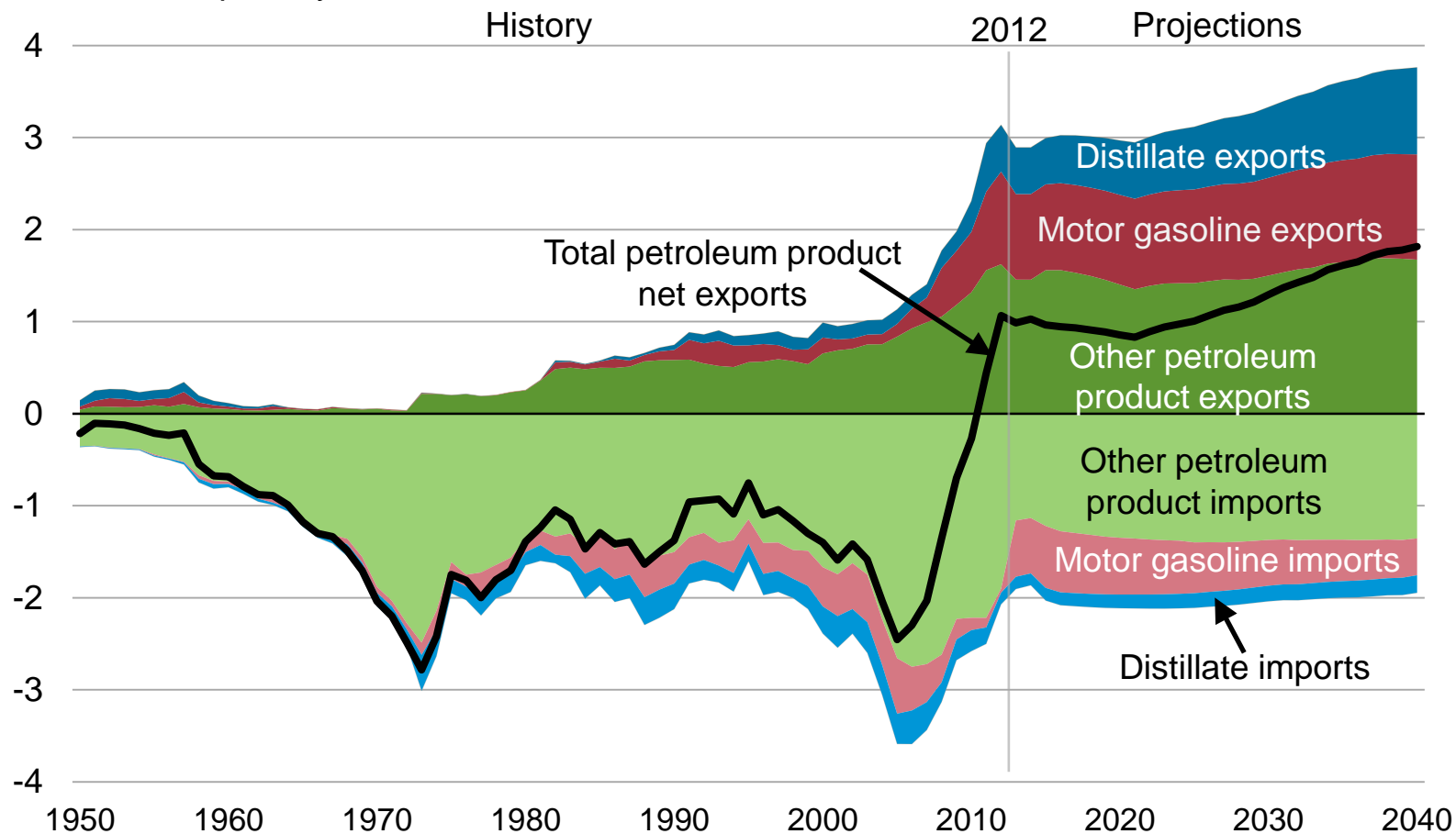
Source: EIA, Annual Energy Outlook 2014 Reference case and draft analysis

U.S. crude oil and natural gas production is up dramatically since 2010 and will continue to grow rapidly; this has strategic implications for the United States

- Refinery operations/investment
- Logistics infrastructure investment
- Exports of petroleum products
- Exports of crude oil and natural gas (LNG)
- Operation of the Strategic Petroleum Reserve

What is the future total trade in petroleum products?

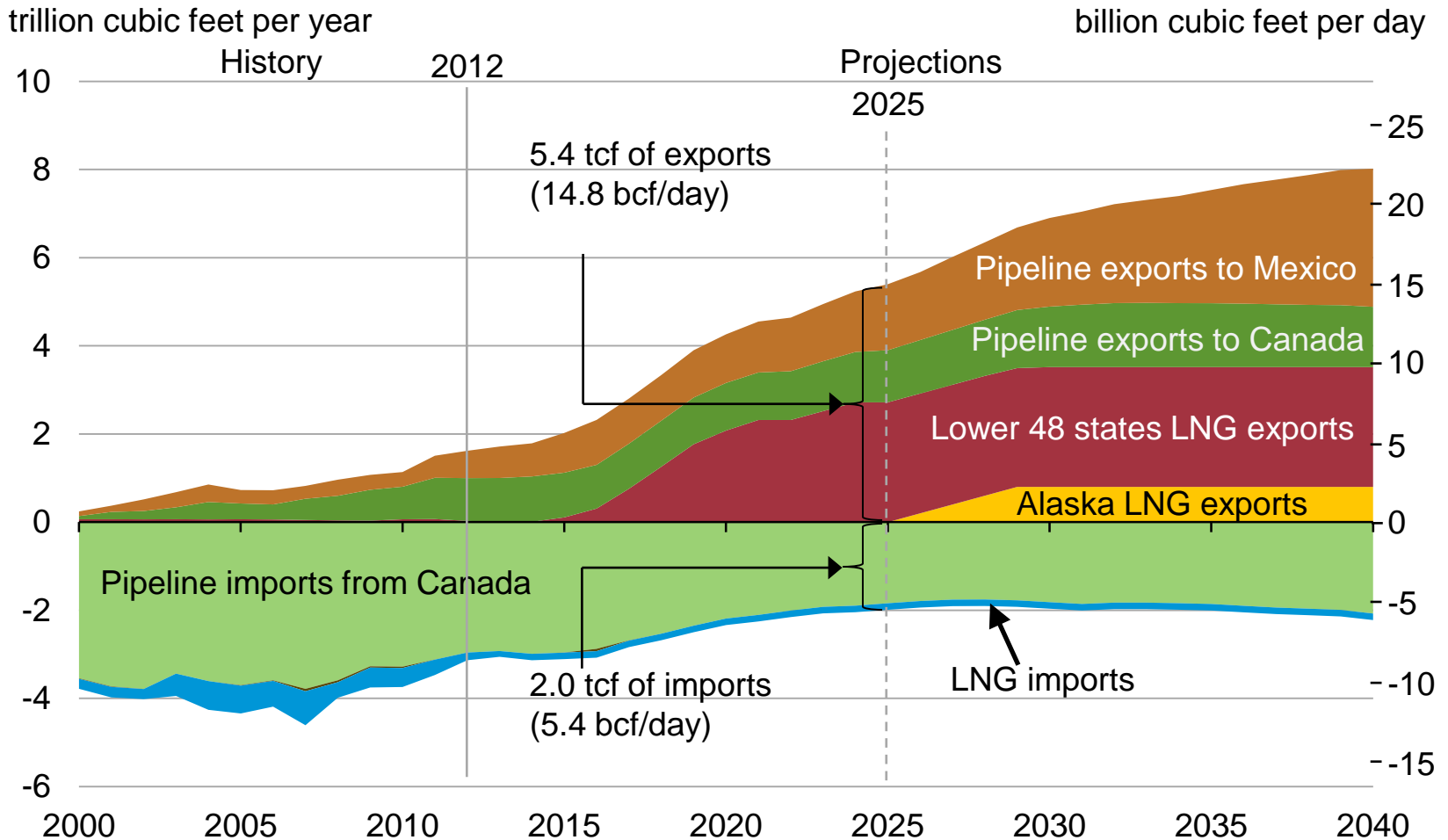
U.S. petroleum product imports and exports
million barrels per day



Source: EIA, Annual Energy Outlook 2014 Reference case

Likewise, U.S. natural gas trade is projected to increase

U.S. natural gas imports and exports



Source: EIA, Annual Energy Outlook 2014 Reference case

From the Americas Report: Liquefaction and regasification projects would enable global natural gas trade



Source: IHS EDIN

Note: Displays larger import/export facilities only

Liquefaction (bcf/d)

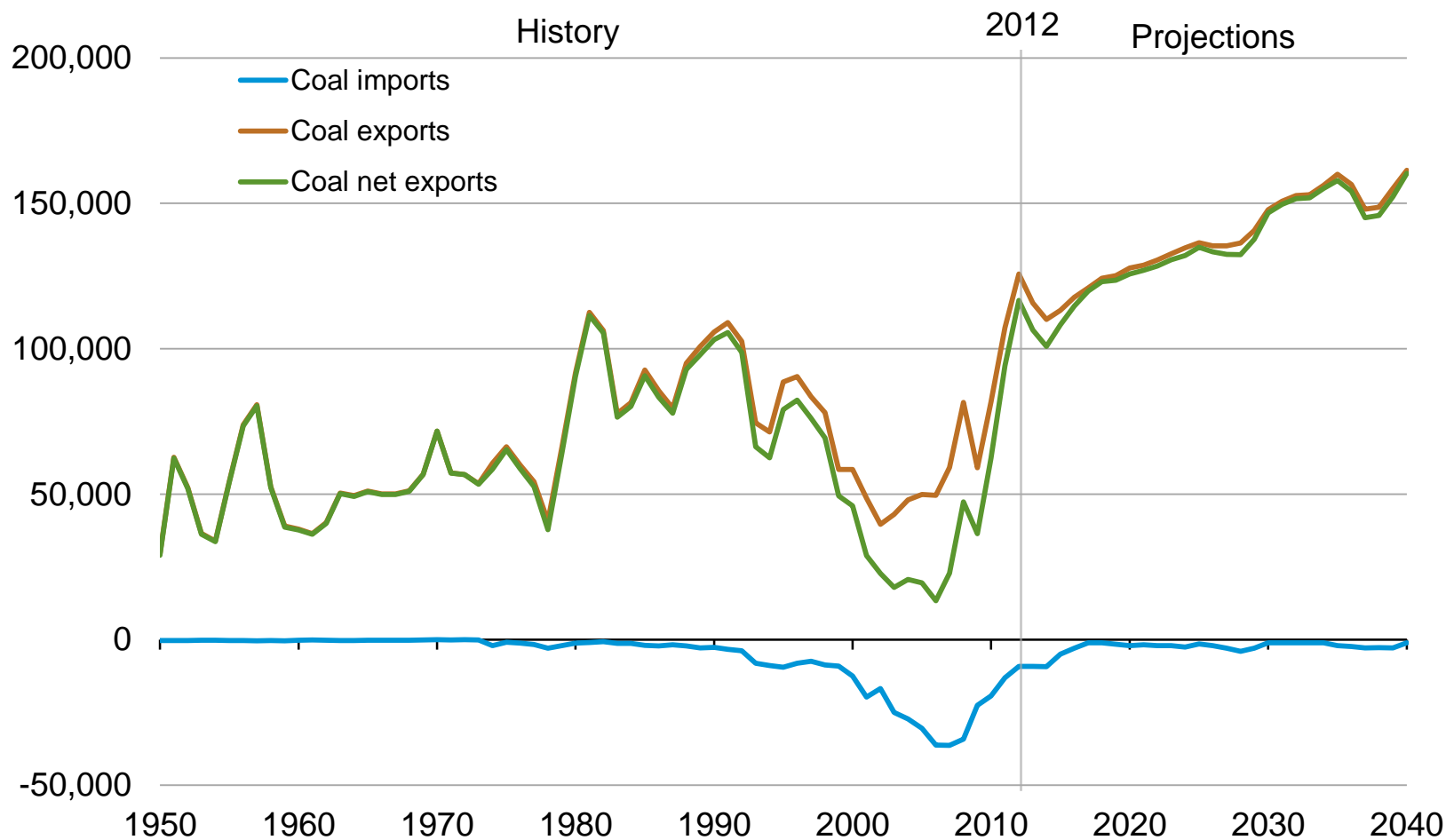
Country	Operating	Construction	Engineering
Peru	0.6		
Trinidad and Tobago	2.0		
Colombia		0.1	
United States		1.2	13.1
Brazil			0.4
Canada			3.3
Total	2.6	1.3	16.8

Regasification (bcf/d)

Country	Operating	Construction	Engineering
Argentina	0.9		
Brazil	1.2	0.8	
Canada	1.0		
Chile	0.6		
Dominican Republic	0.2		
Mexico	2.3		
Puerto Rico	0.4		
United States	10.2		
Total	16.8	0.8	0

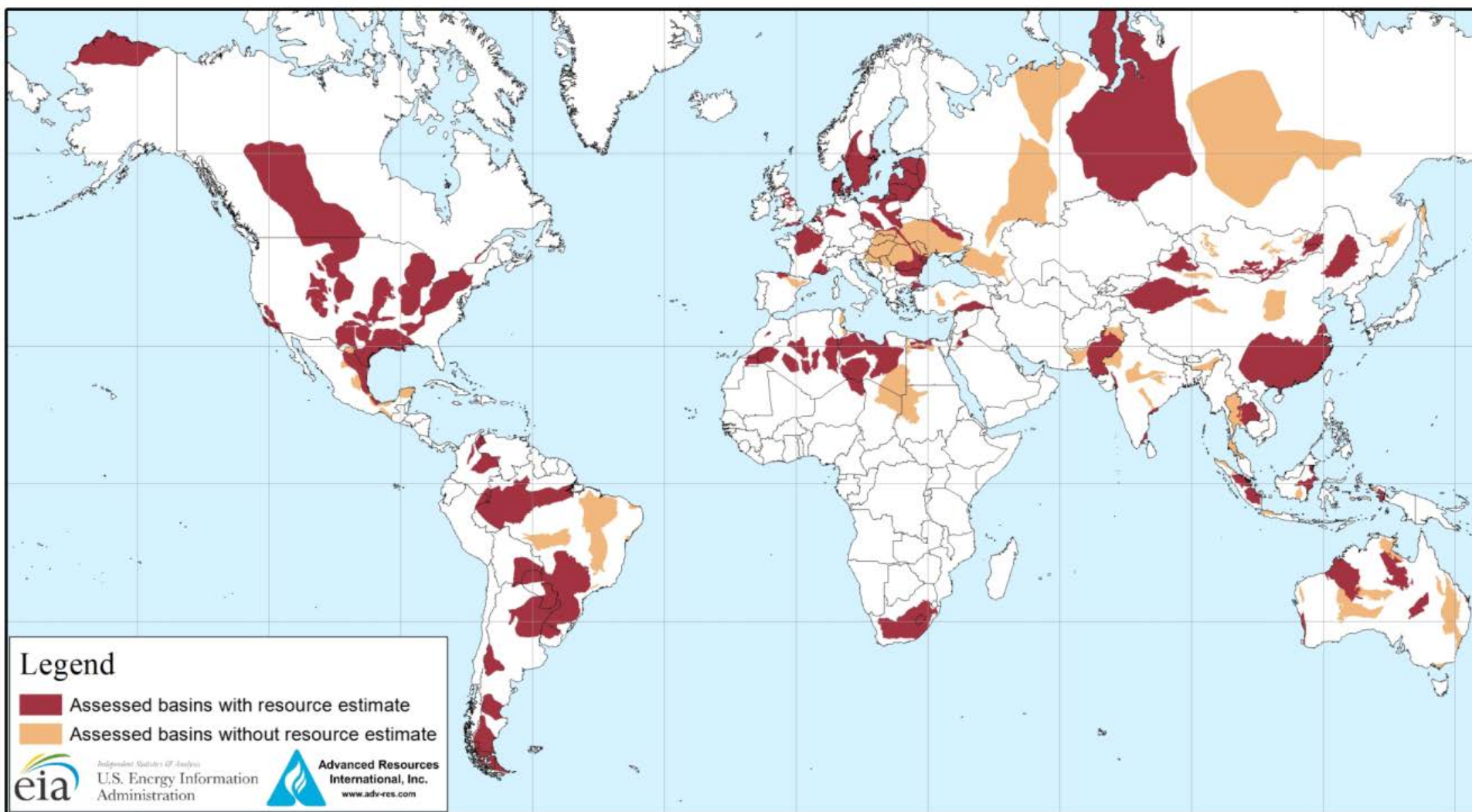
Coal trade has exhibited an interdependency with natural gas

U.S. coal imports and exports
thousand short tons



Source: EIA, Annual Energy Outlook 2014 Reference case

EIA / ARI assessed shale oil and shale gas resources 2013



Source: United States basins from EIA and United States Geological Survey, other basins from ARI based on data from various published studies

Top ten countries with technically recoverable shale resources ... not necessarily economically recoverable

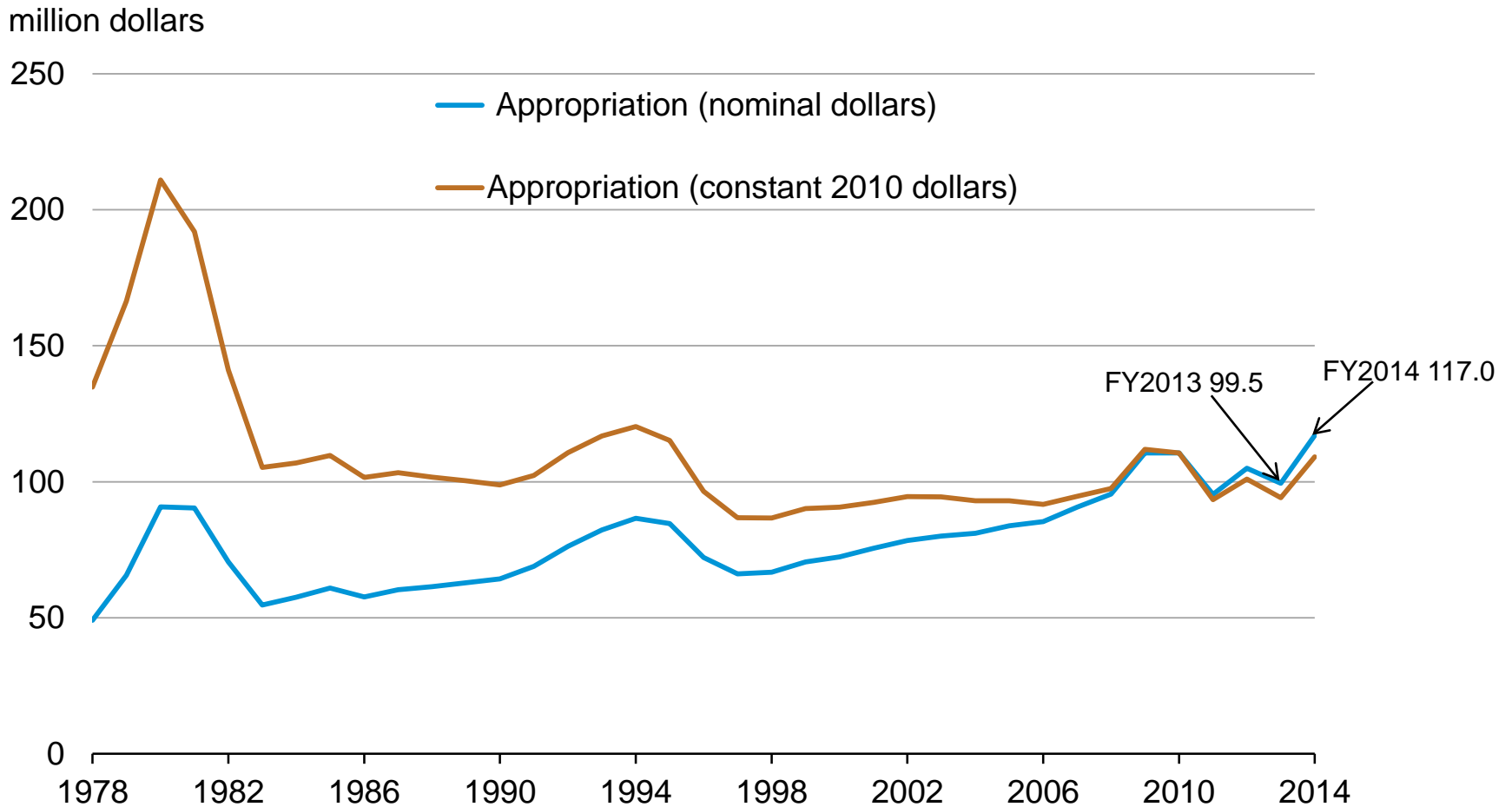
Shale gas		
Rank	Country	Trillion cubic feet
1	China	1,115
2	Argentina	802
3	Algeria	707
4	United States	665
5	Canada	573
6	Mexico	545
7	Australia	437
8	South Africa	390
9	Russia	285
10	Brazil	245
	World total	7,299

Shale oil		
Rank	Country	Billion barrels
1	Russia	75
2	United States	58
3	China	32
4	Argentina	27
5	Libya	26
6	Australia	18
7	Venezuela	13
8	Mexico	13
9	Pakistan	9
10	Canada	9
	World total	345

Source: United States: EIA and USGS; Other basins: ARI.

Note: ARI estimates U.S. shale gas resources at 1,161 trillion cubic feet and U.S. shale oil resources at 48 billion barrels .

Good news! EIA FY2014 appropriation increased to \$117 million



Source: Gross Domestic Product Deflators from EIA's AEO 2013 (Apr 2013)

Several cross-cutting themes that will be addressed with the increased FY2014 funding:

- Oil and gas production
- Petroleum markets and refining
- Energy end-use data and analysis
- International
- Electricity
- States/mapping
- Strengthening the core

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 Portal | www.eia.gov/state

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