

# *AEO2015 Preliminary Oil & Natural Gas Production & Price Results*

*DRAFT – DO NOT CITE*



---

*for*

*Second Working Group*

*September 16, 2014*

*by*

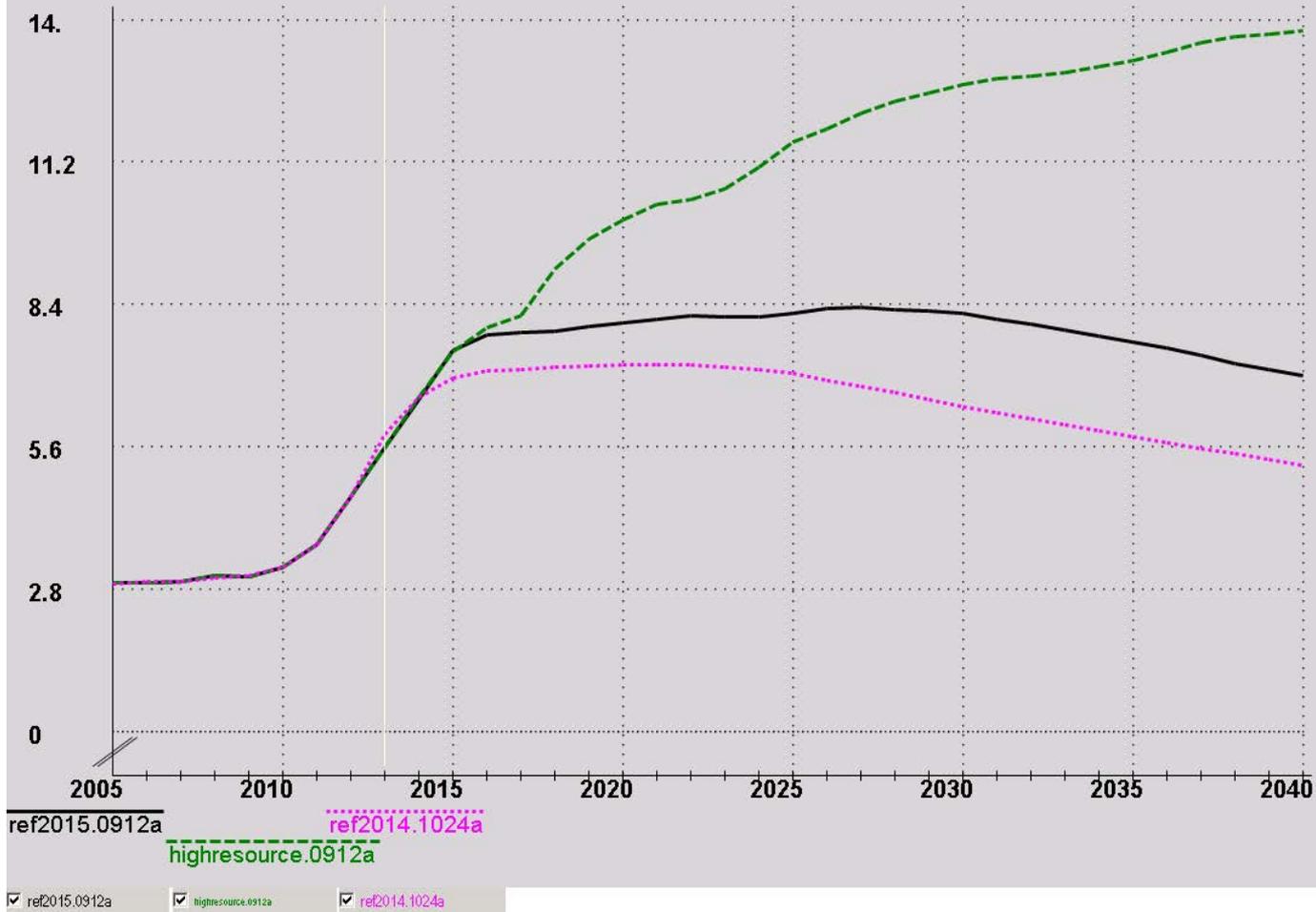
*Office of Petroleum, Natural Gas and Biofuels Analysis*

# Overview

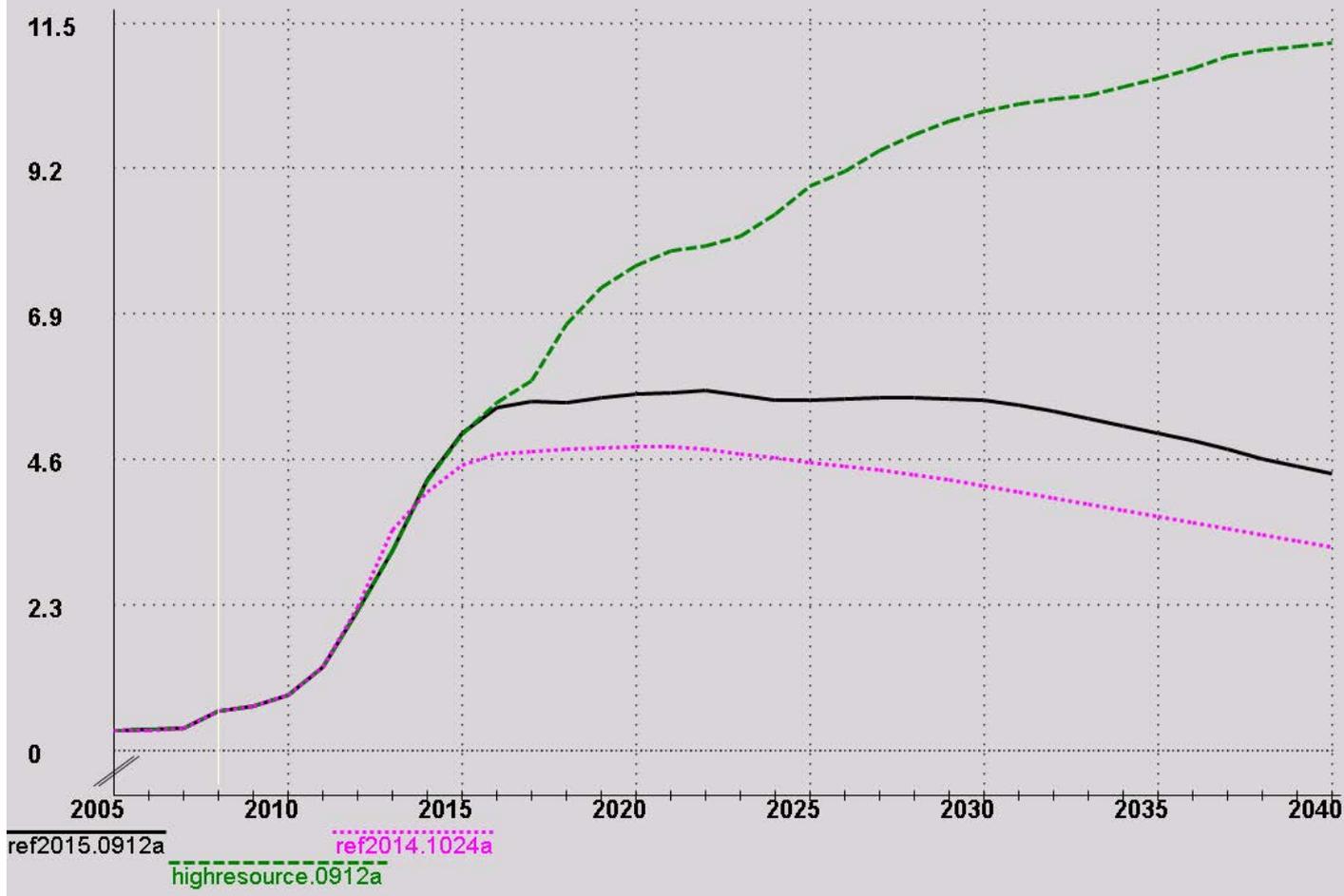
- Production
- Liquids imports
- Natural gas supply and delivered prices
- Natural gas consumption
- Pipeline imports/exports
- LNG exports

# OGSM

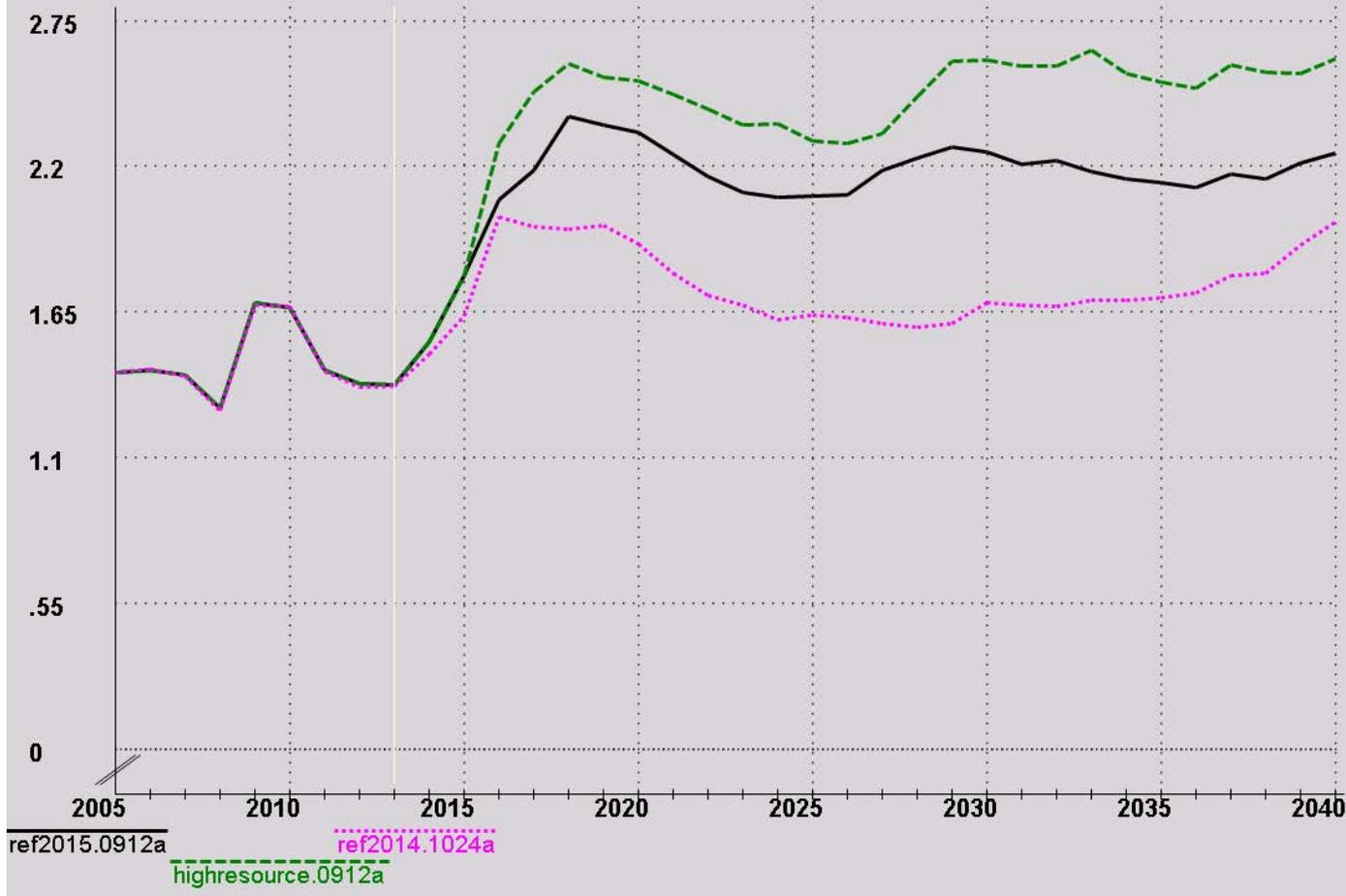
Oil and Gas : Crude Oil: Production : Lower 48 Onshore (mill bbl/day)



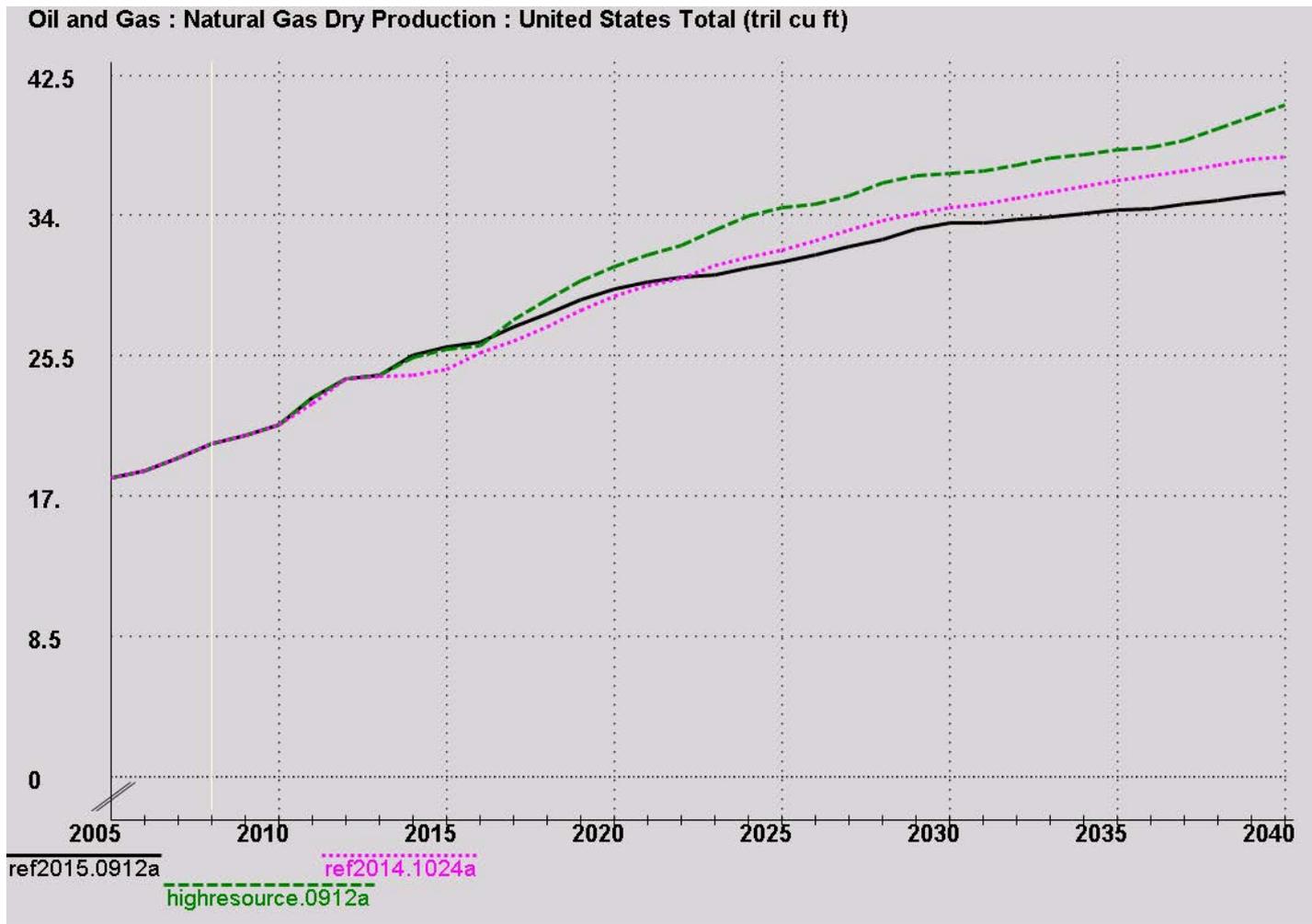
Oil and Gas : Crude Oil: Production : Lower 48 Onshore : Tight Oil (mill bbl/day)



Oil and Gas : Crude Oil: Production : Lower 48 Offshore (mill bbl/day)

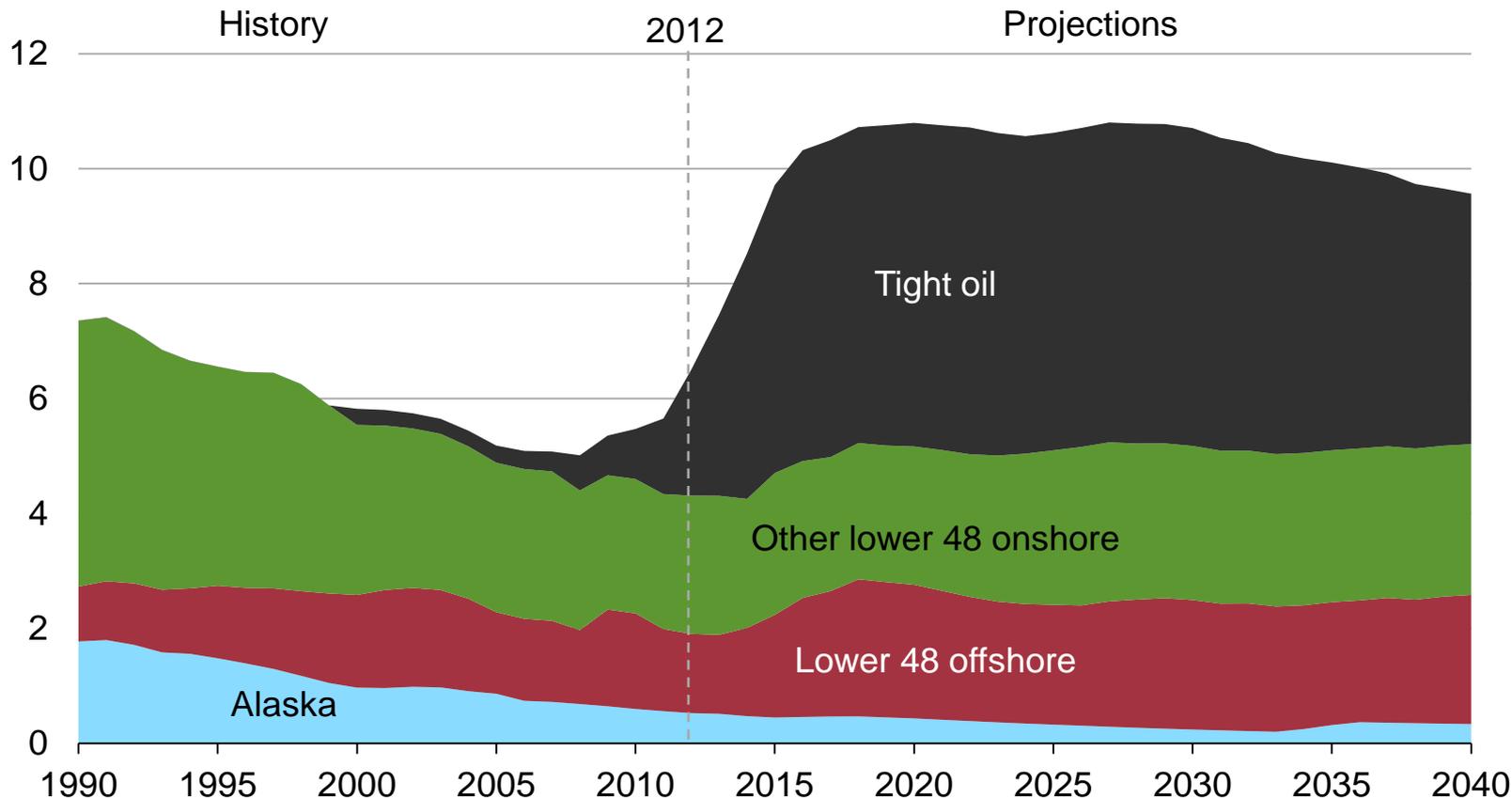


# Dry natural gas



# U.S. tight oil production leads a growth in domestic production to a plateau of over 11 mmbd through 2030

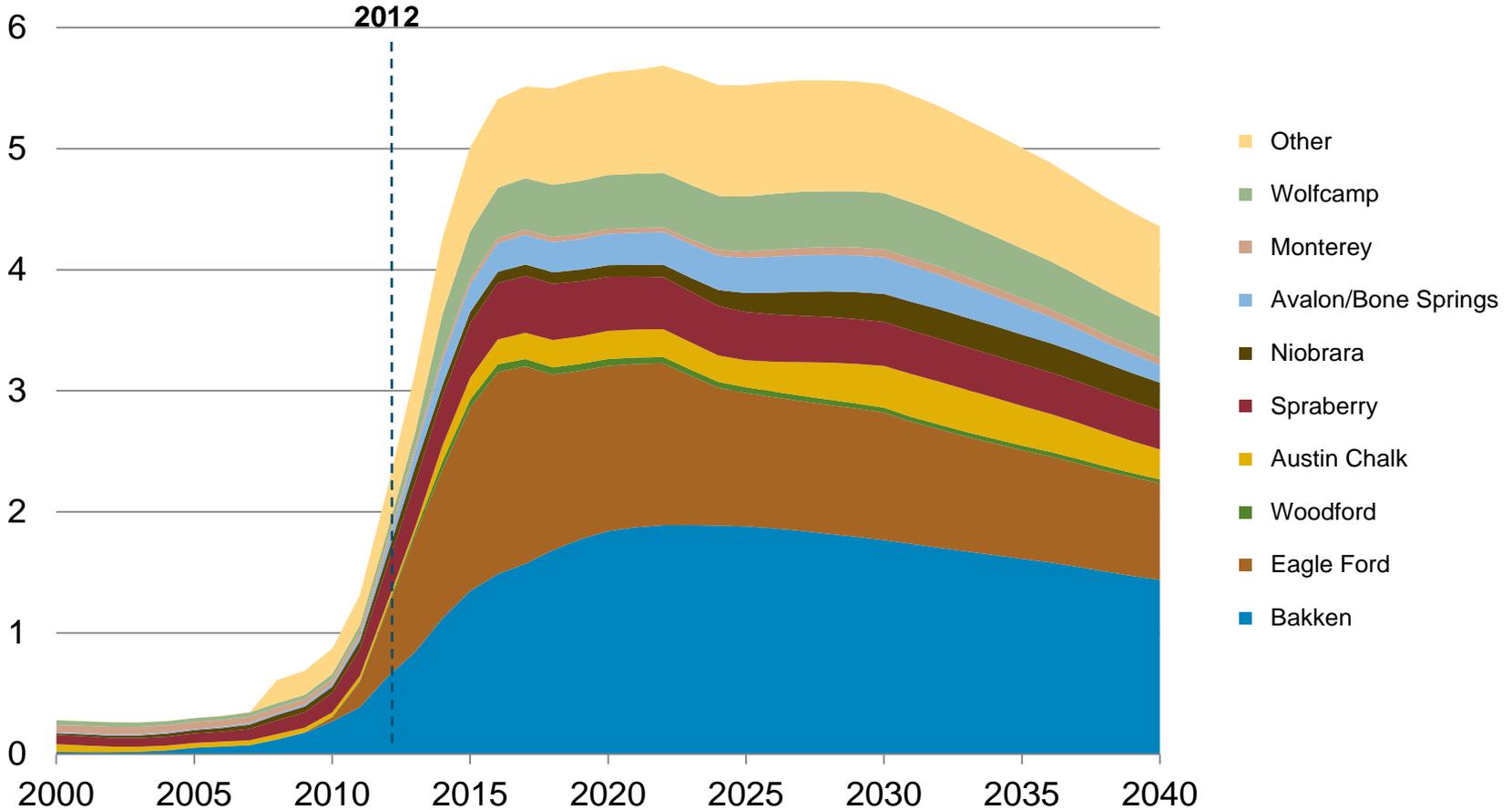
U.S. crude oil production  
million barrels per day



Source: Preliminary AEO2015 runs, dated as of 09/12/14

# Projected crude oil production from tight oil plays in AEO 2015

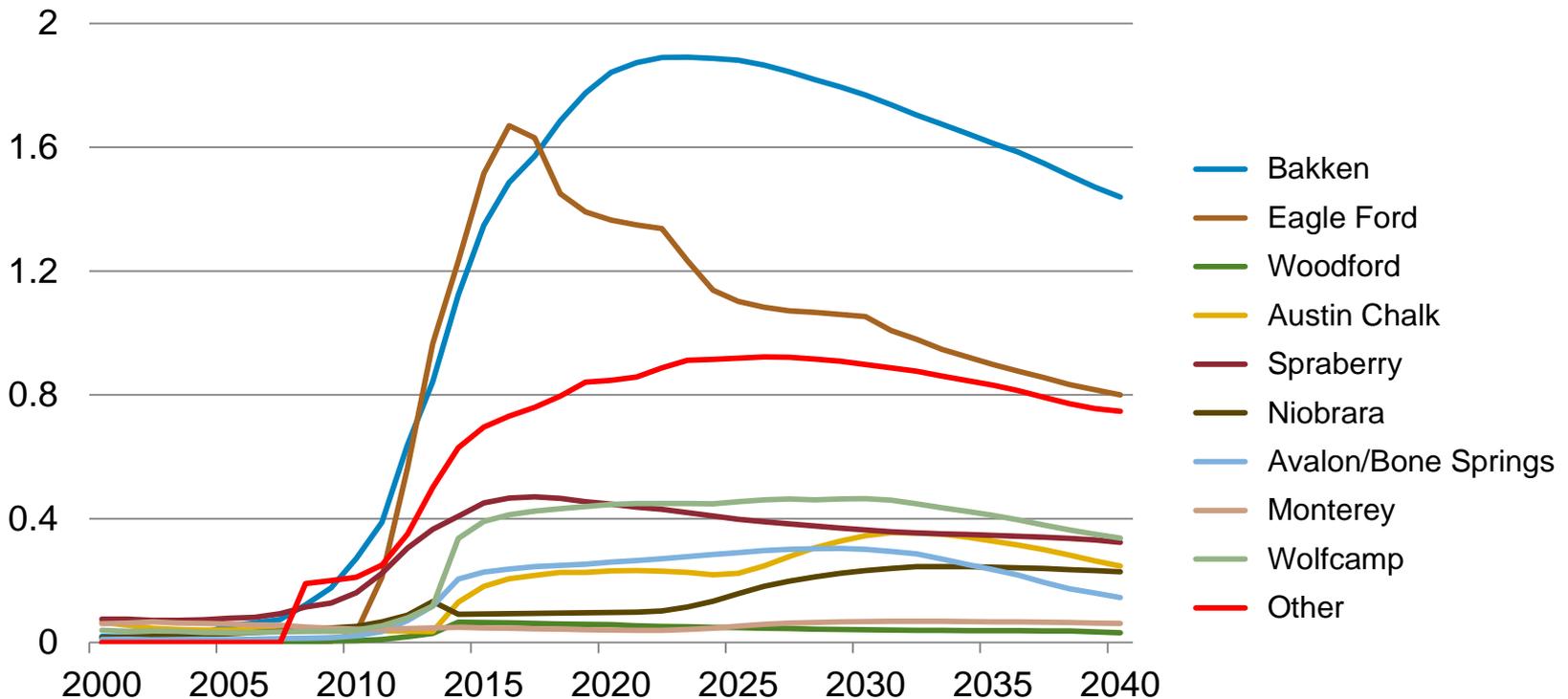
Crude oil production  
million barrels per day



Source: Preliminary AEO2015 runs, dated as of 09/12/14

# Crude oil production by selected tight oil plays

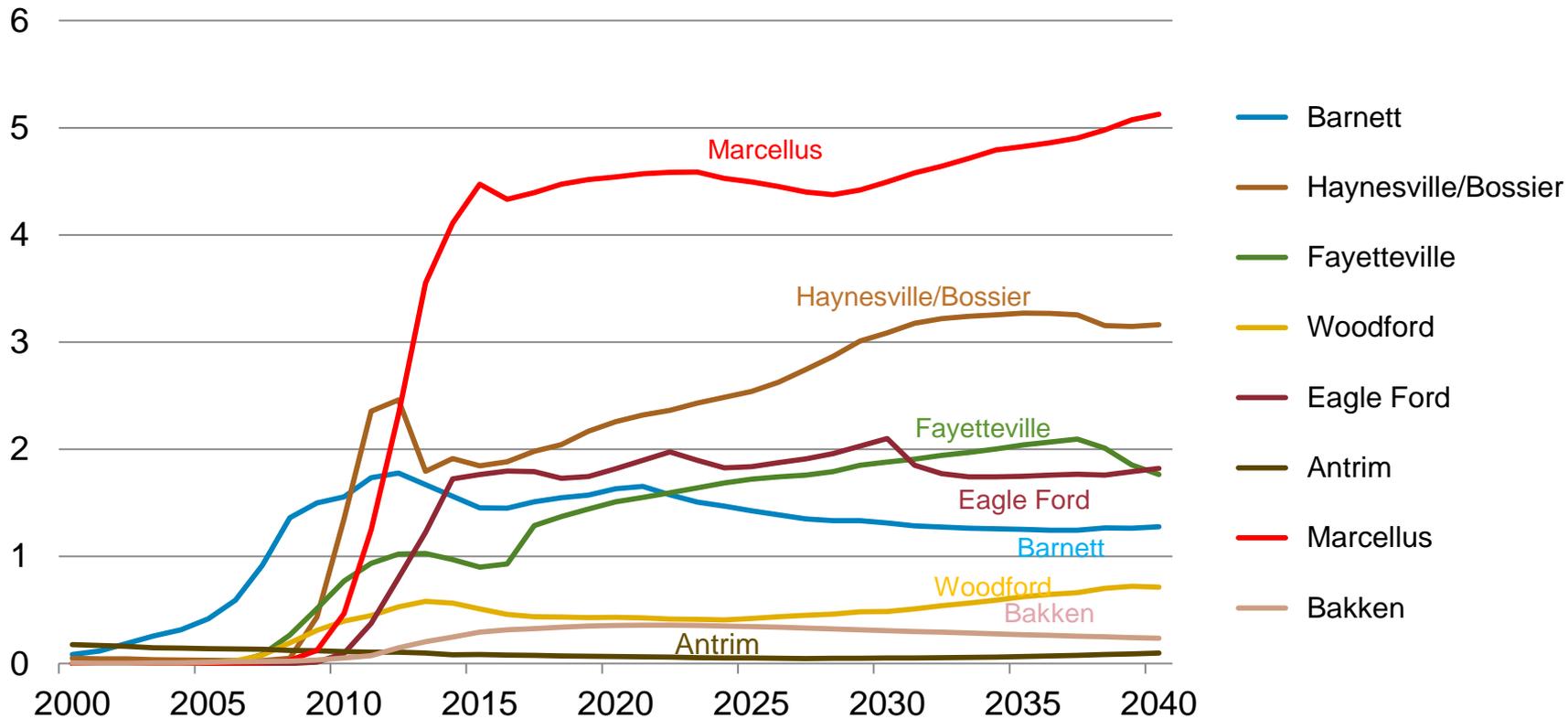
Crude oil production  
million barrels per day



Source: Preliminary AEO2015 runs, dated as of 09/12/14

# Natural gas production by selected shale play

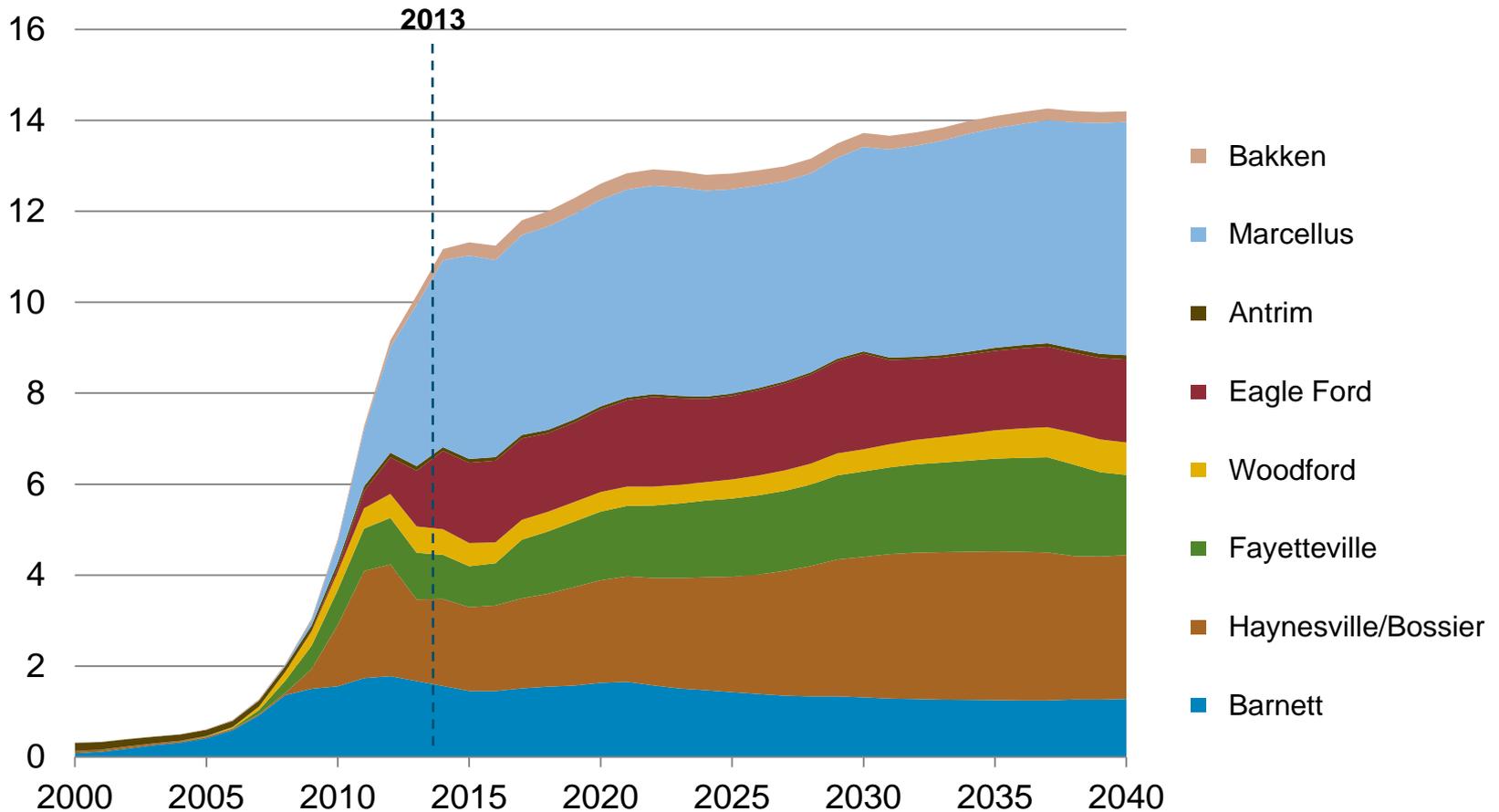
Natural gas production  
trillion cubic feet



Source: Preliminary AEO2015 runs, dated as of 09/12/14

# Shale gas production by play

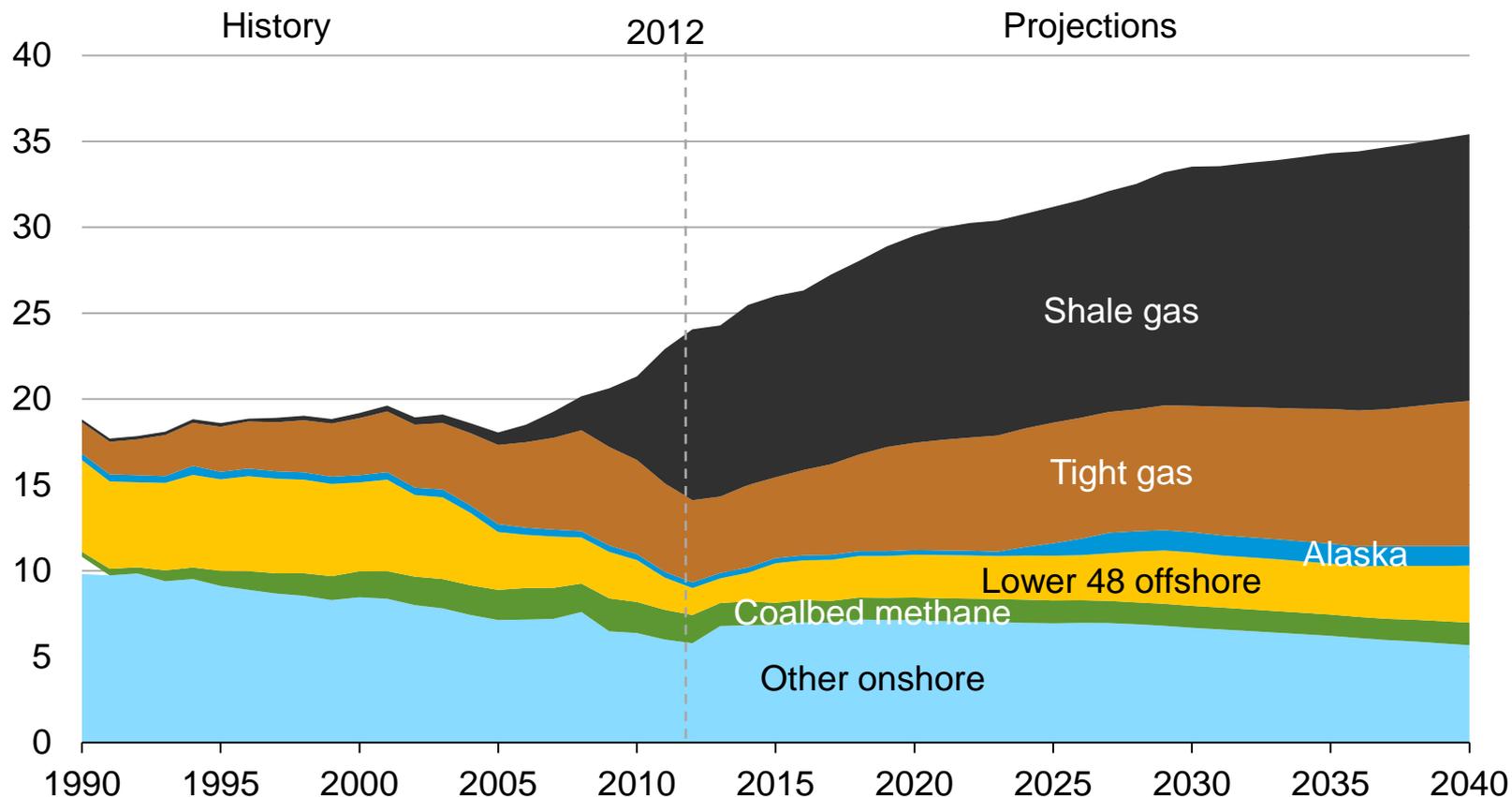
Natural gas production  
trillion cubic feet



Source: Preliminary AEO2015 runs, dated as of 09/12/14

# Shale gas production leads growth in production through 2040

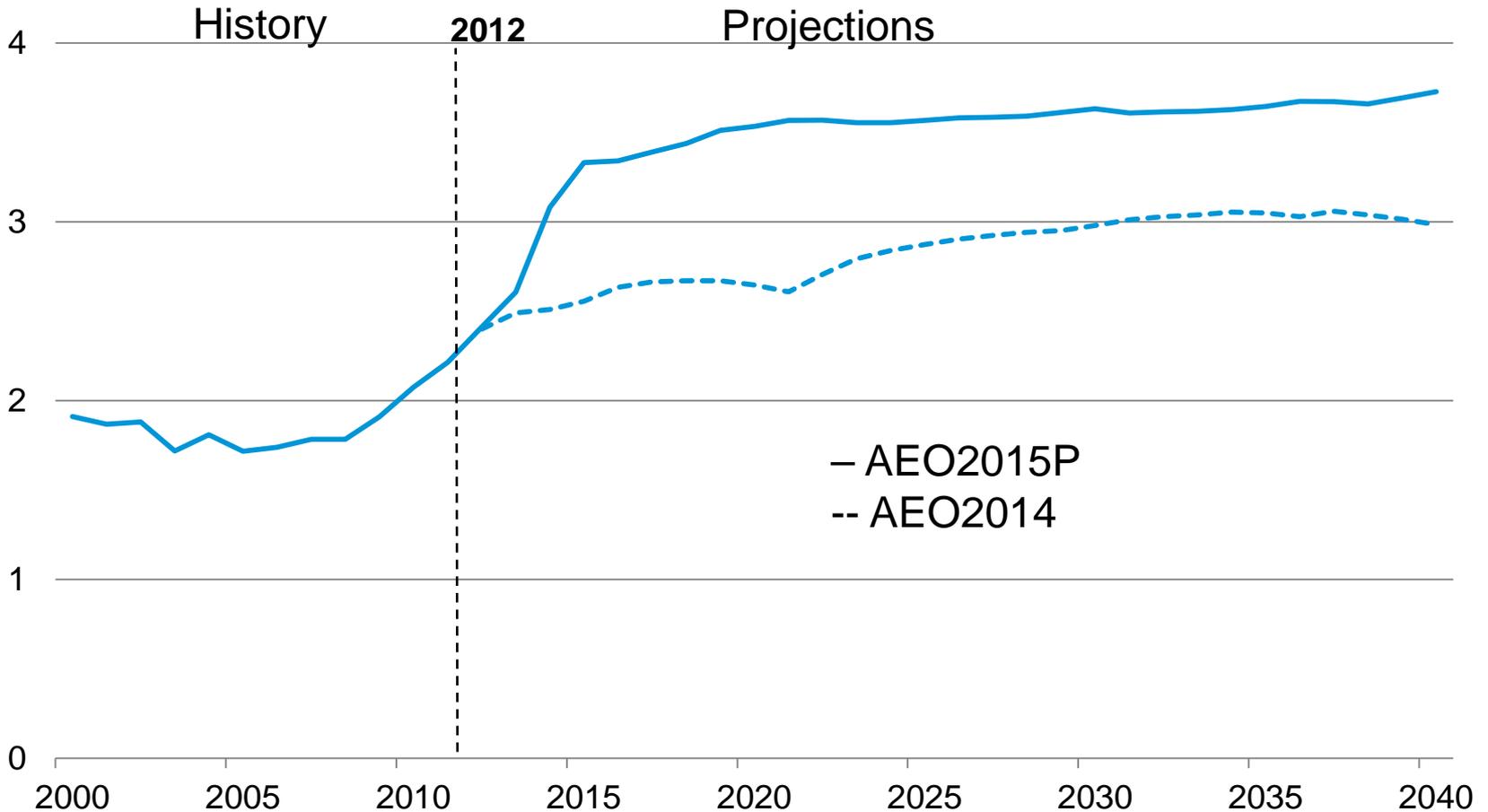
U.S. dry natural gas production  
trillion cubic feet



Source: Preliminary AEO2015 runs, dated as of 09/12/14

# NGPL production is significantly higher than last year's AEO

Natural gas plant liquids production  
million barrels per day

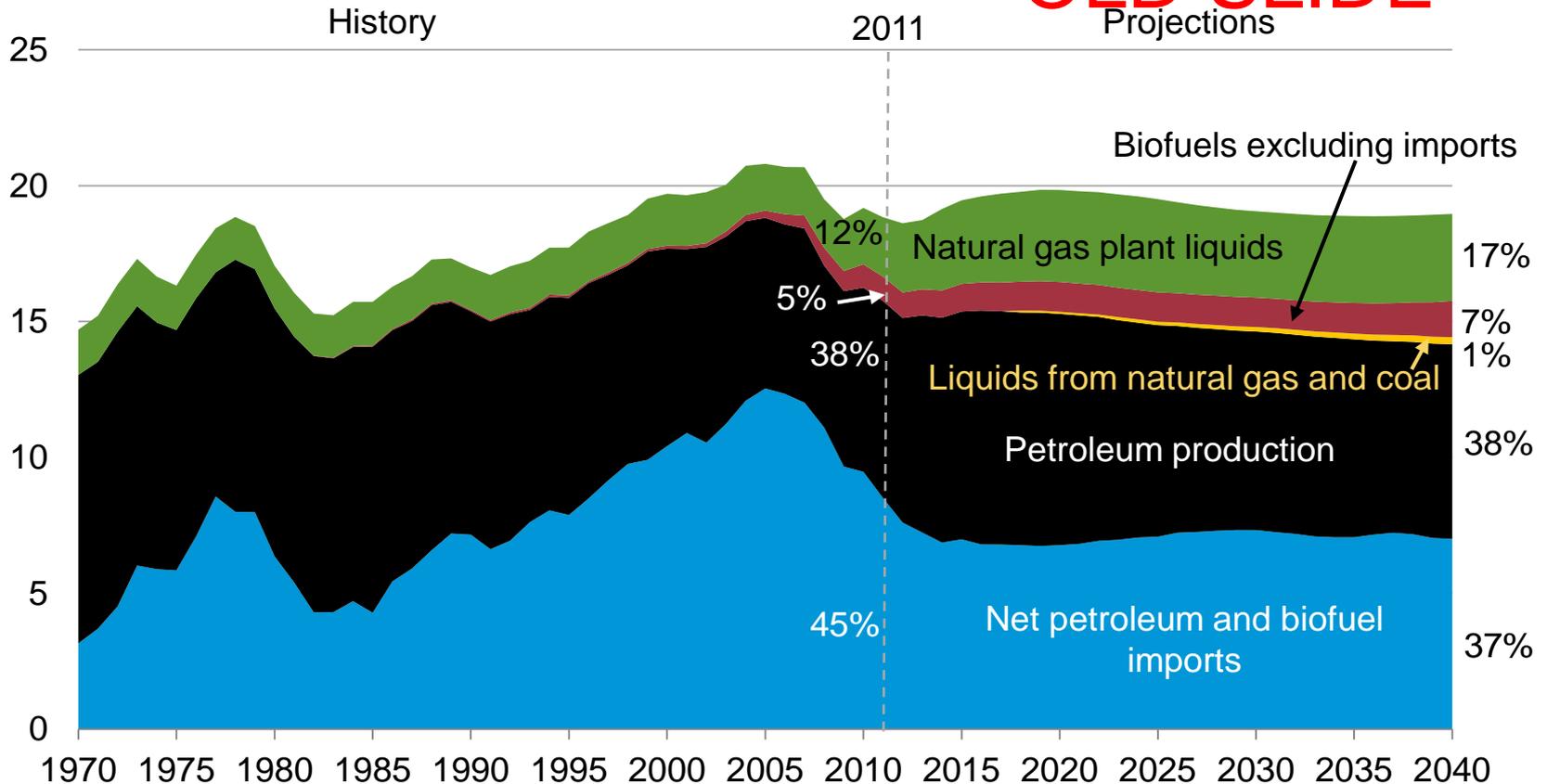


Source: Preliminary AEO2015 runs, dated as of 09/12/14

# U.S. import share of liquid fuels declines due to increased production of tight oil and gas liquids, and greater fuel efficiency

U.S. liquid fuels supply  
million barrels per day

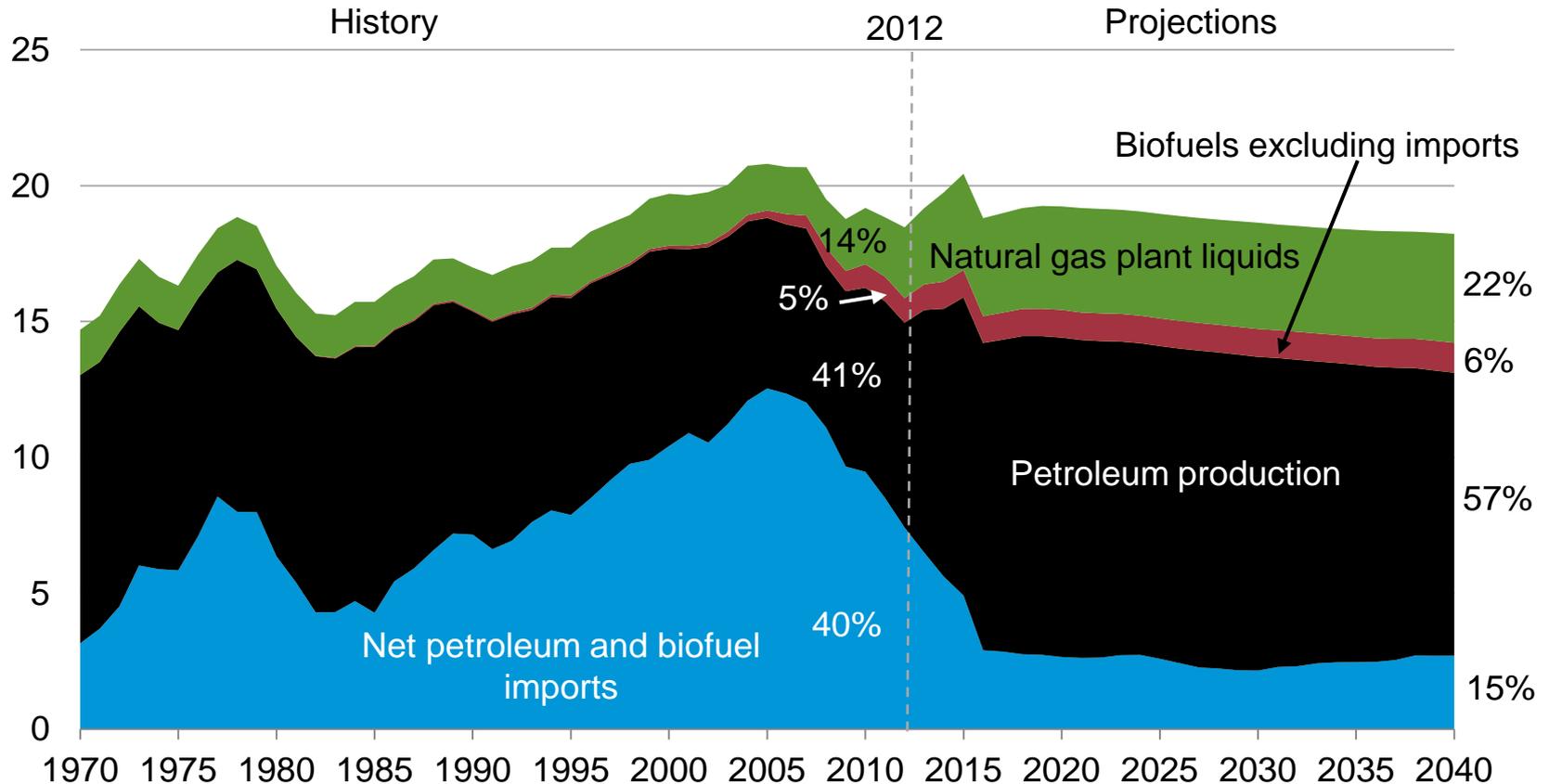
**OLD SLIDE**  
Projections



Source: EIA, Annual Energy Outlook 2013 Early Release

# U.S. import share of liquid fuels declines due to increased production of tight oil and gas liquids, and greater fuel efficiency

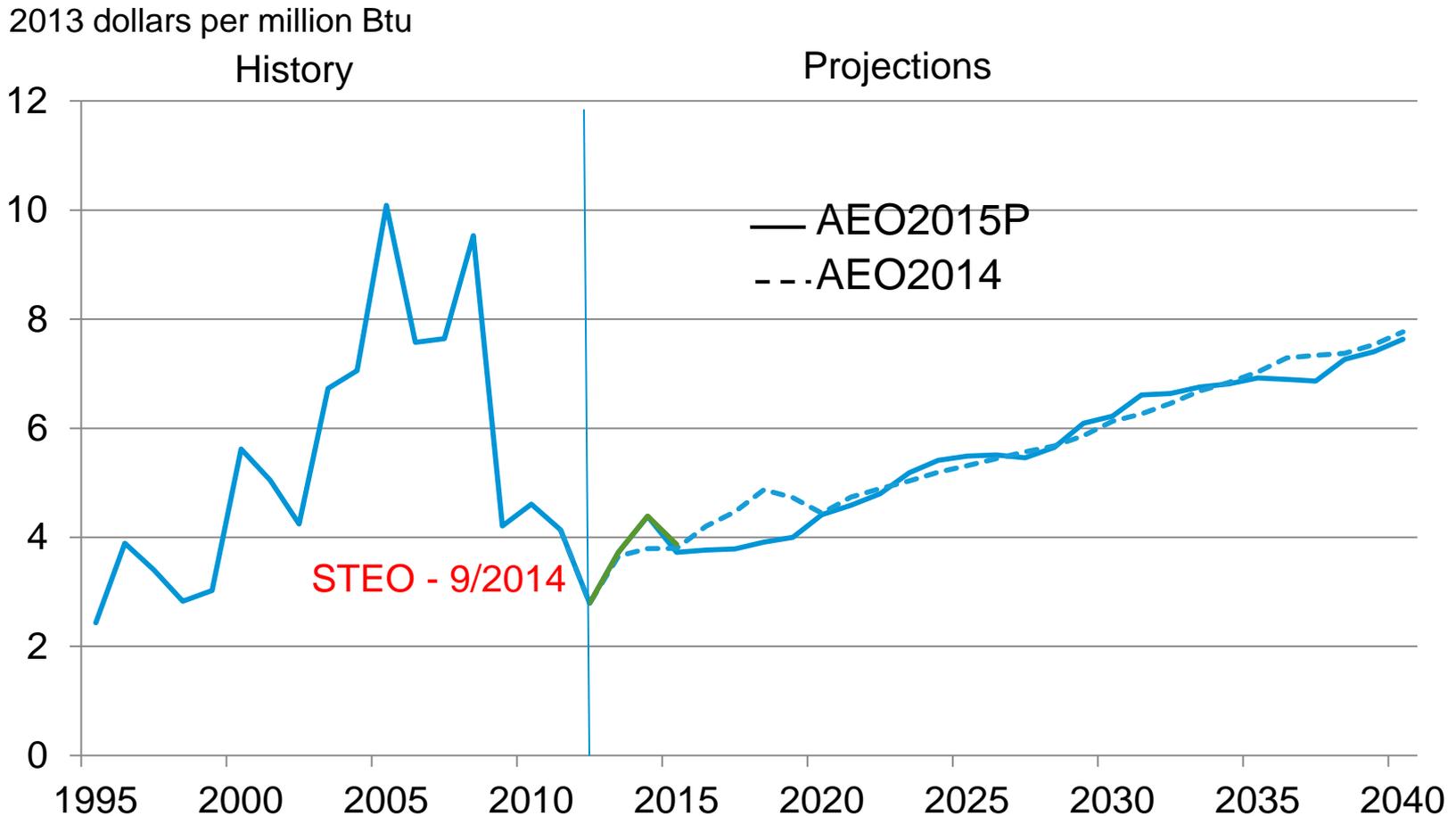
U.S. liquid fuels supply  
million barrels per day



Source: Preliminary AEO2015 runs, dated as of 09/12/14

# Natural Gas Markets

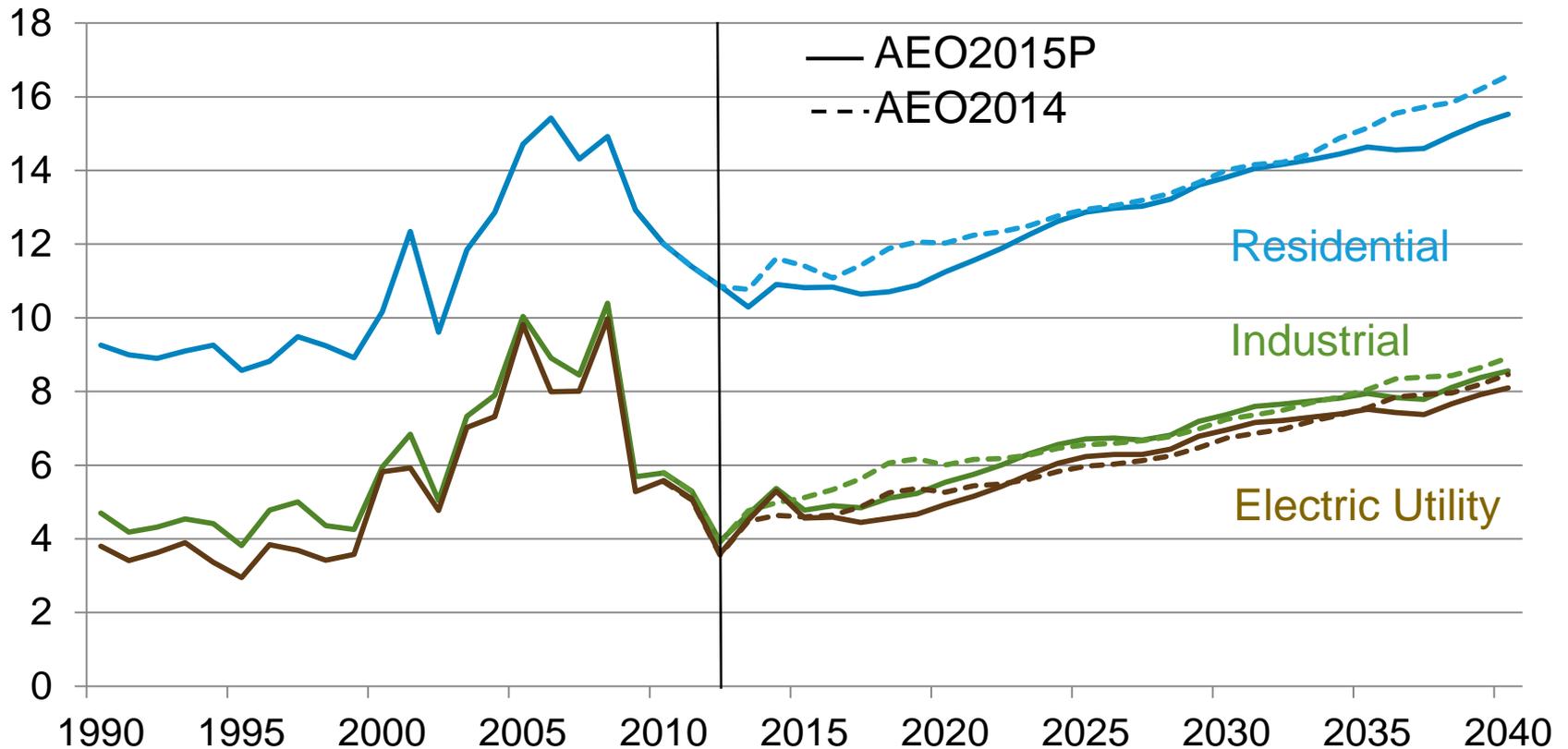
# Henry Hub Natural Gas Spot Prices, 1995-2040



Source: Preliminary AEO2015 runs, dated as of 09/12/14

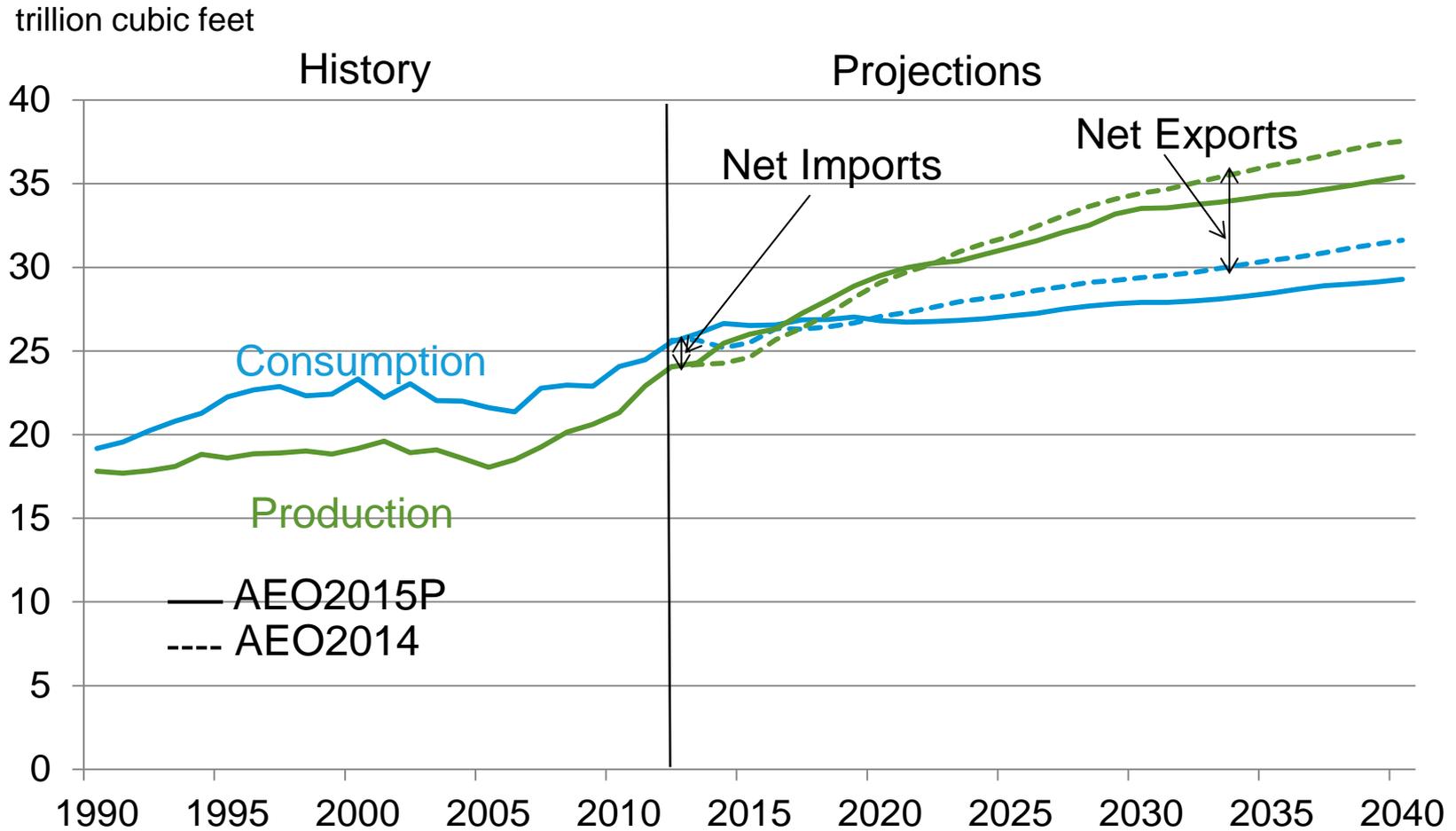
# Natural Gas End-User Prices, 1990-2040

2013 dollars per thousand cubic feet



Source: Preliminary AEO2015 runs, dated as of 09/12/14

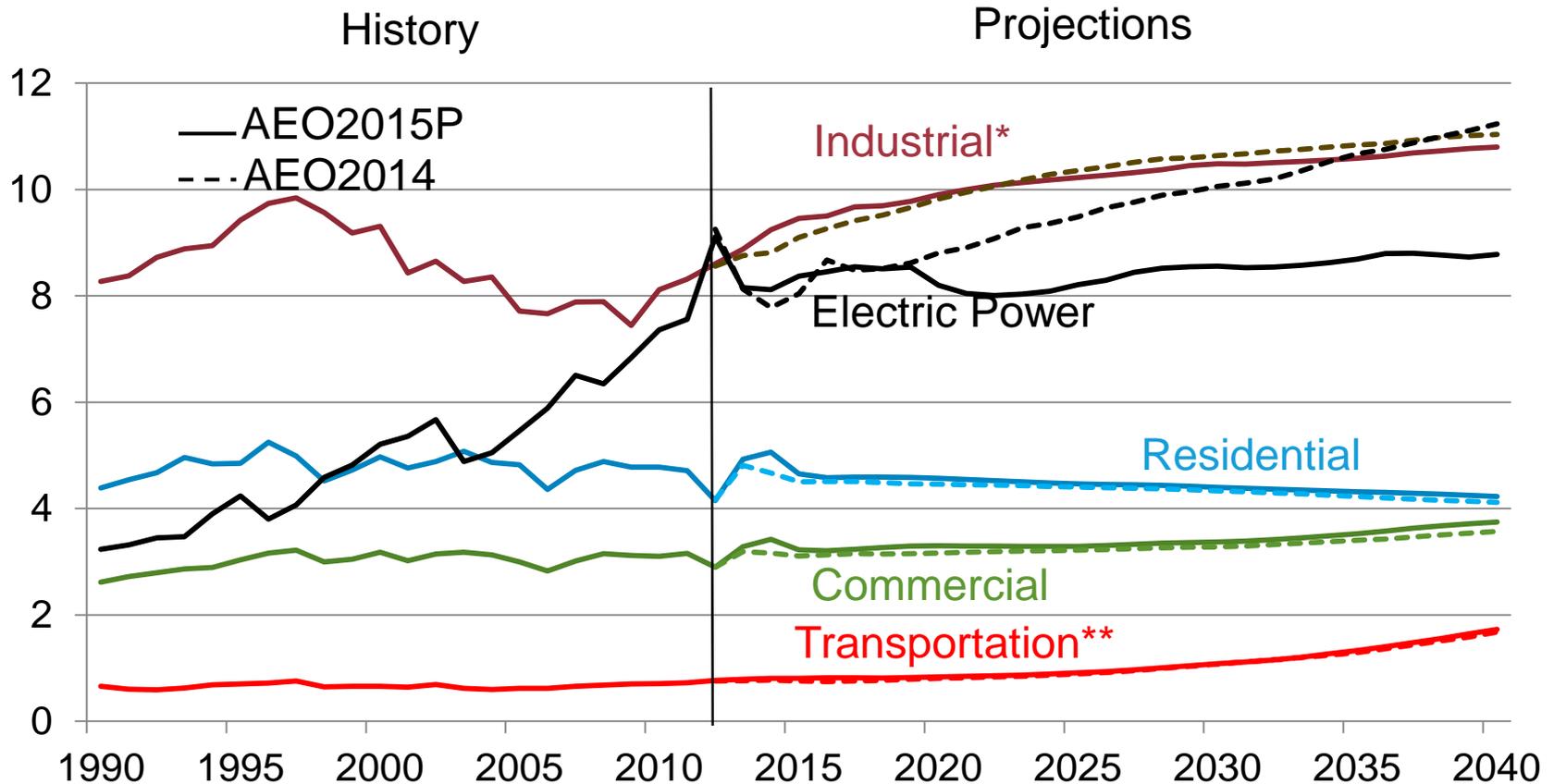
# Natural gas consumption, production, and trade, 1990-2040



Source: Preliminary AEO2015 runs, dated as of 09/12/14

# Natural gas consumption by sector, 1990-2040

trillion cubic feet

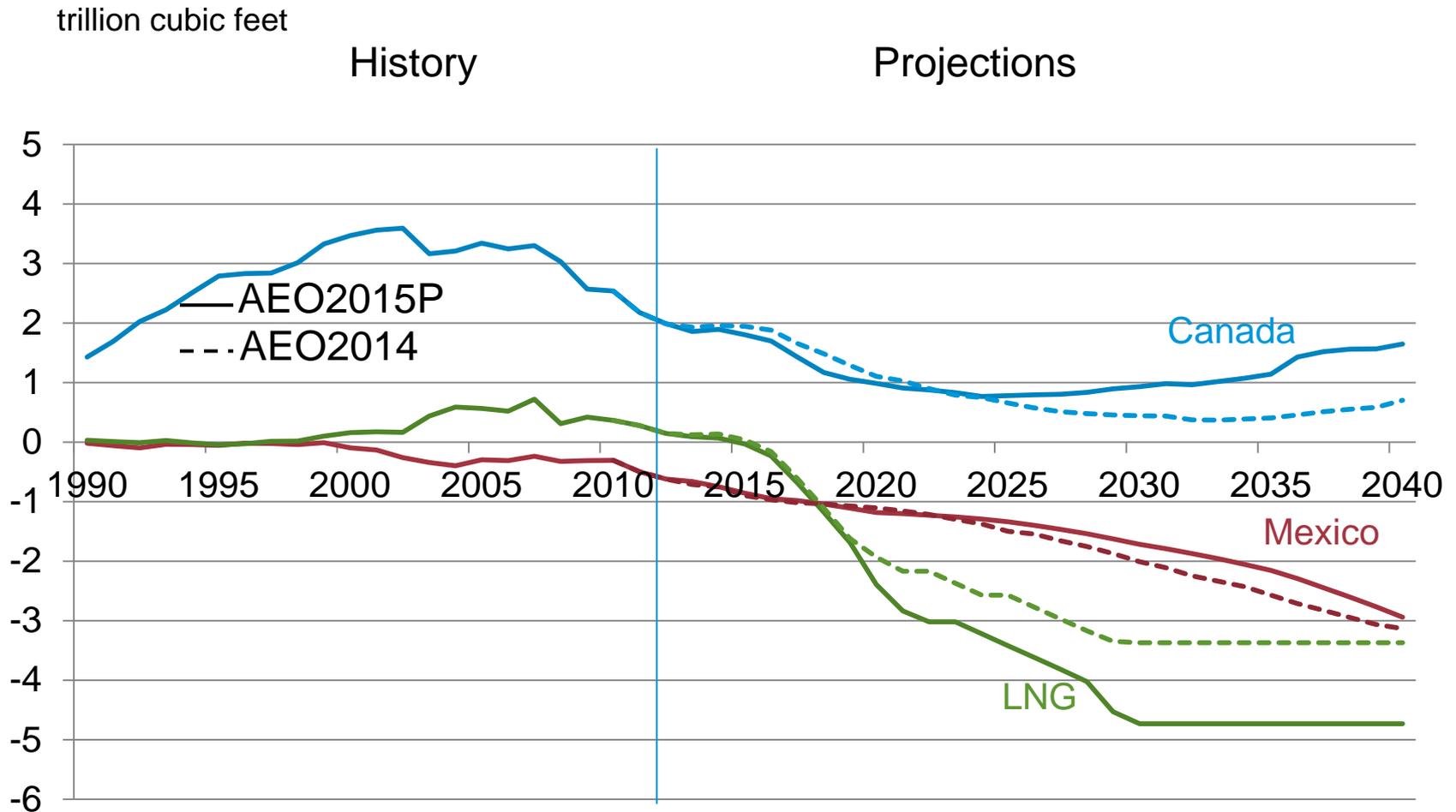


\* Includes lease and plant fuel, and natural gas-to-liquids heat, power, and production

\*\* Includes pipeline fuel

Source: Preliminary AEO2015 runs, dated as of 09/12/14

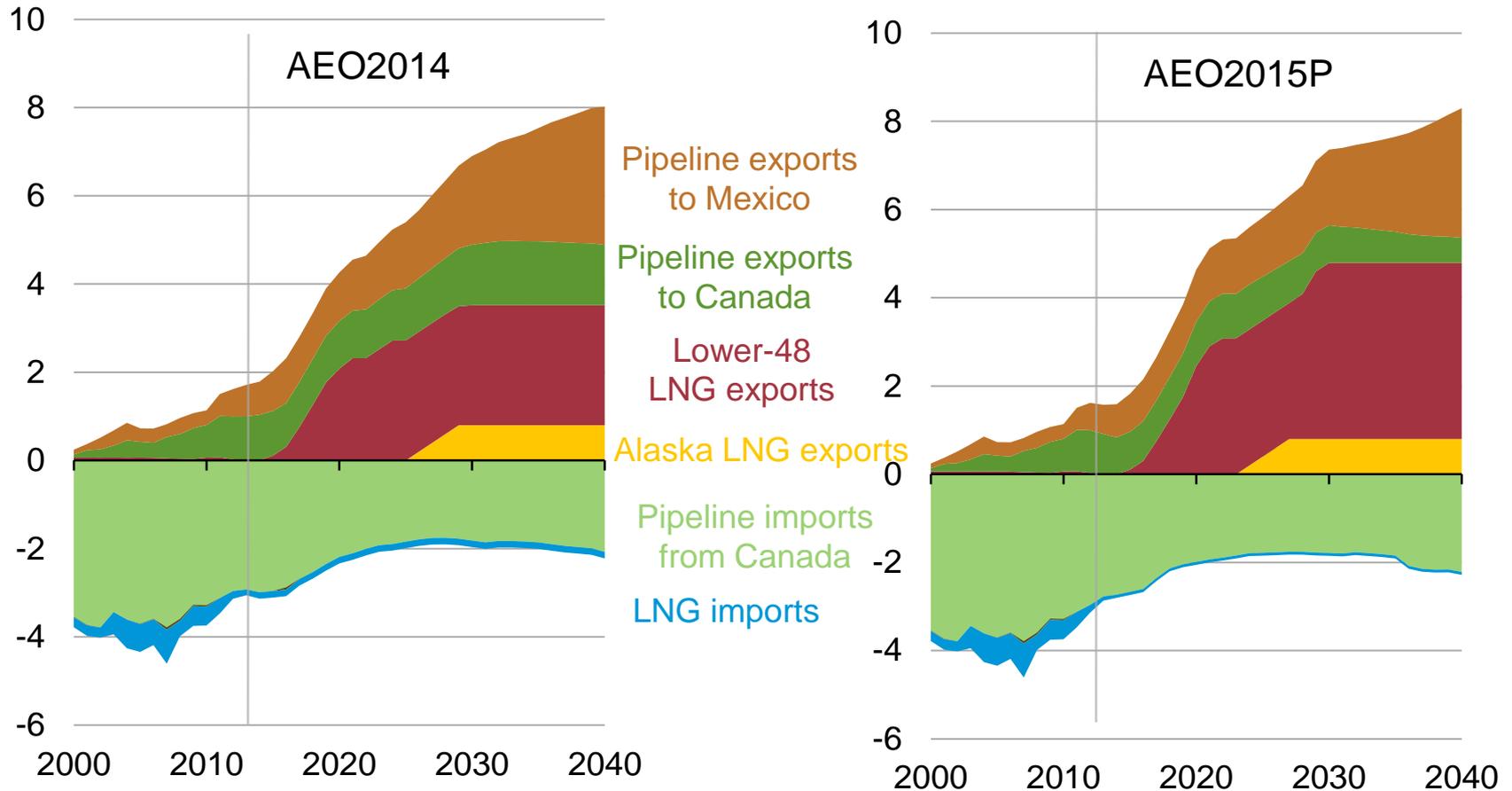
# Net U.S. imports by source, 1990-2040



Source: Preliminary AEO2015 runs, dated as of 09/12/14

# U.S. natural gas gross exports exceed 6 tcf in 2025

U.S. natural gas imports and exports  
trillion cubic feet per year



Source: AEO2014 compared with the preliminary AEO2015 runs, dated as of 09/12/14

# Additional Slides

# As of July 9, FE has received applications to export LNG to non-FTA countries that total 36.02 Bcfd

## DOE/FERC approved (under construction)

Facility	State	Size (Bcfd)	Start year
<i>Sabine Pass</i>	<i>LA</i>	<i>2.2</i>	<i>2015</i>
<b>Total</b>		<b>2.2</b>	

## DOE/FERC approved

Facility	State	Size (Bcfd)	Start year
<i>Cameron</i>	<i>LA</i>	<i>1.7</i>	<i>2018</i>
<i>Freeport</i>	<i>TX</i>	<i>1.8</i>	<i>2018</i>
<b>Total</b>		<b>3.5</b>	

## Non-FTA export FE approval

Facility	State	Size (Bcfd)	Start year
<i>Sabine Pass</i>	<i>LA</i>	<i>2.2</i>	<i>2015</i>
<i>Freeport</i>	<i>TX</i>	<i>1.8</i>	<i>2018</i>
<i>Lake Charles</i>	<i>LA</i>	<i>2.0</i>	<i>2019</i>
<i>Cove Point</i>	<i>MD</i>	<i>0.77</i>	<i>2017</i>
<i>Cameron</i>	<i>LA</i>	<i>1.7</i>	<i>2018</i>
Jordon Cove	OR	0.8	2018/19
Oregon LNG	OR	1.25	2019
<b>Total</b>		<b>10.52</b>	

## FERC Certificate App. filed

Facility	State	Size (Bcfd)	Start year
Corpus Christi	TX	2.1	2018
Jordon Cove	OR	0.9	2018/19
<i>Lake Charles</i>	<i>LA</i>	<i>2.2</i>	<i>2019</i>
<i>Cove Point</i>	<i>MD</i>	<i>0.82</i>	<i>2017</i>
Oregon LNG	OR	1.25	2019
Lavaca Bay	TX	1.38	2019
<i>Elba Island</i>	<i>GA</i>	<i>0.35</i>	<i>2016/17</i>
<i>Sabine Pass expansion</i>	<i>LA</i>	<i>1.40</i>	<i>2018</i>
Magnolia	LA	1.07	2018
CE FLNG	LA	1.07	2018
Golden Pass	TX	2.1	~2019
Gulf LNG	MS	1.5	
Louisiana LNG	LA	0.3	
<b>Total</b>		<b>18.24</b>	

*Red font denotes SPAs in place*