

# Outlook for shale gas and tight oil development in the U.S.



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*For*

*Joint Forum on US Shale Gas & Pacific Gas Markets*

*May 14, 2013 | New York, NY*

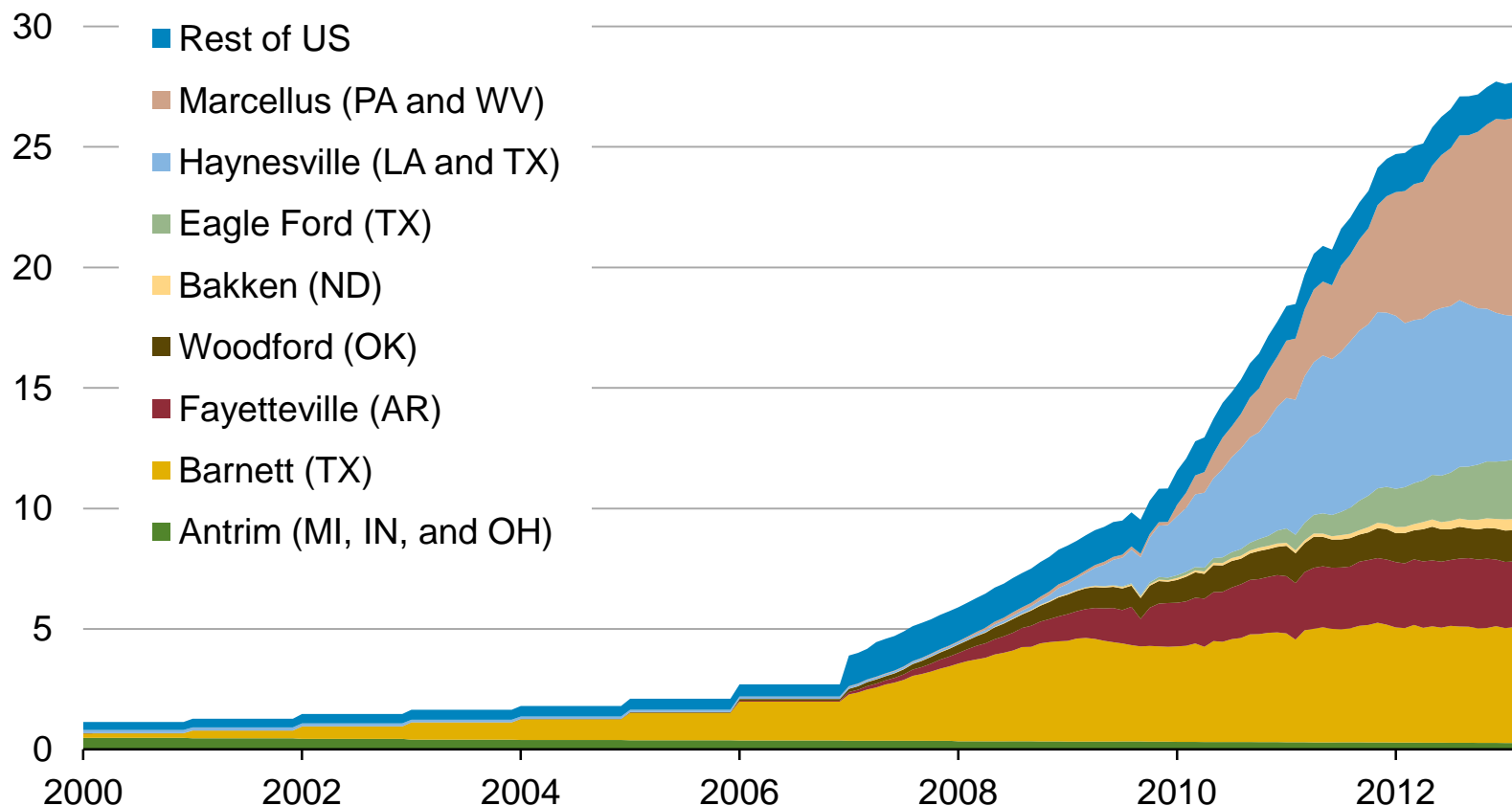
*By*

*Adam Sieminski, Administrator*

# U.S. Shale Gas

# Domestic production of shale gas has grown dramatically over the past few years

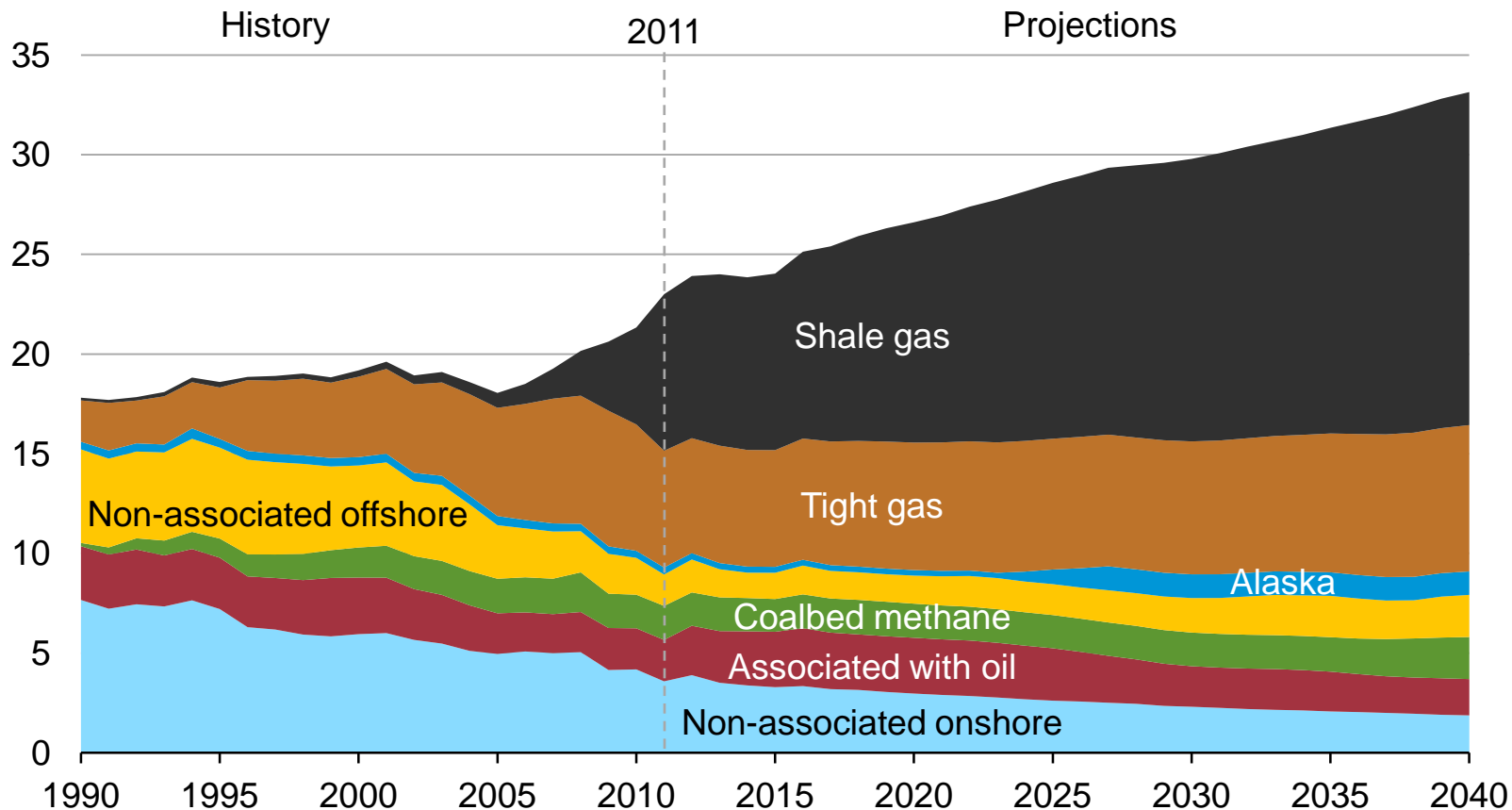
shale gas production (dry)  
billion cubic feet per day



Sources: LCI Energy Insight gross withdrawal estimates as of March 2013 and converted to dry production estimates with EIA-calculated average gross-to-dry shrinkage factors by state and/or shale play.

# Shale gas leads growth in total gas production through 2040 to reach half of U.S. output

U.S. dry natural gas production  
trillion cubic feet

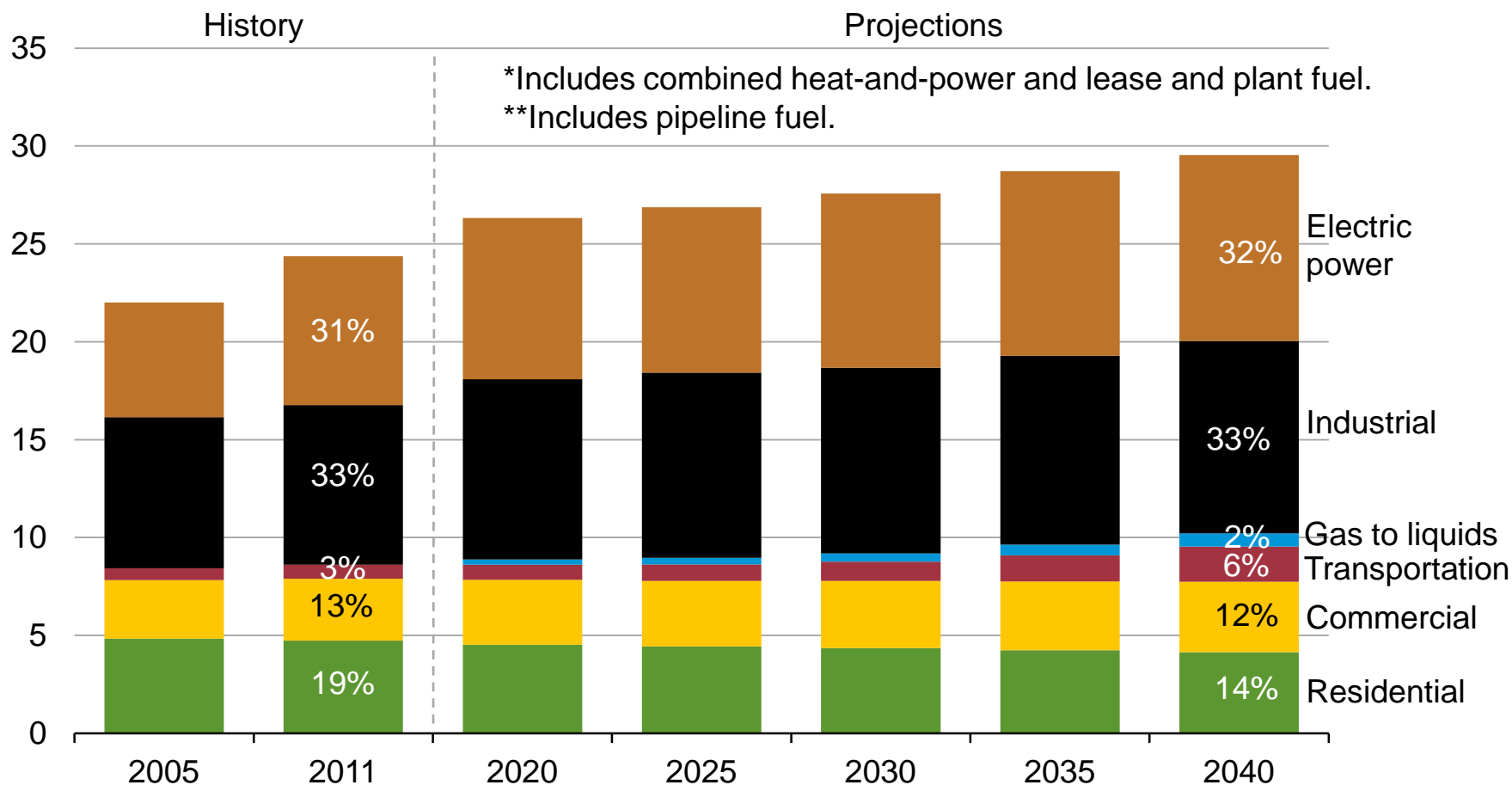


Source: EIA, Annual Energy Outlook 2013

# Natural gas consumption is quite dispersed with electric power, industrial, and transportation use driving future demand growth

U.S. dry gas consumption

trillion cubic feet

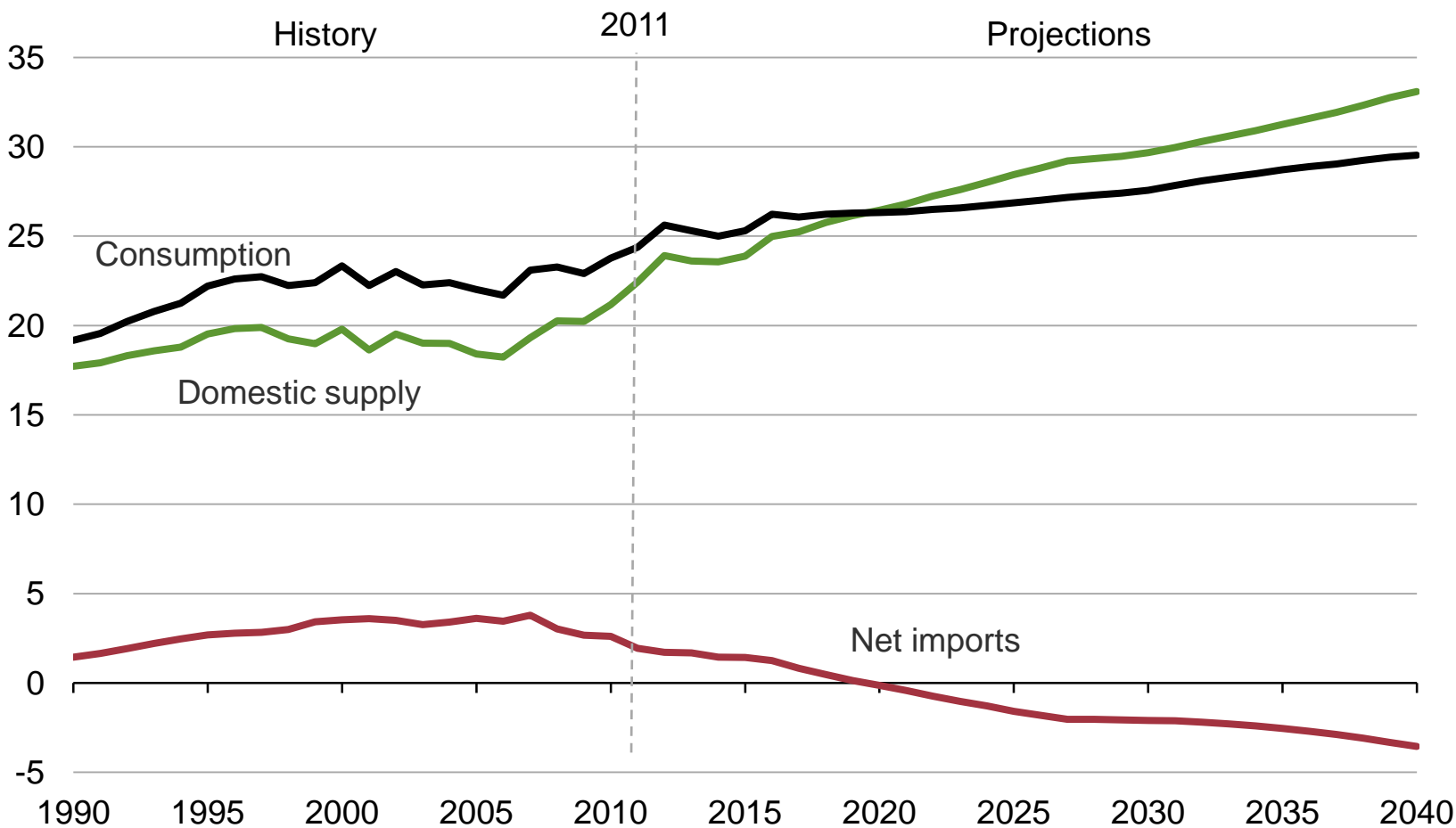


Source: EIA, Annual Energy Outlook 2013

# Domestic natural gas production grows faster than consumption and the U.S. becomes a net exporter of natural gas around 2020

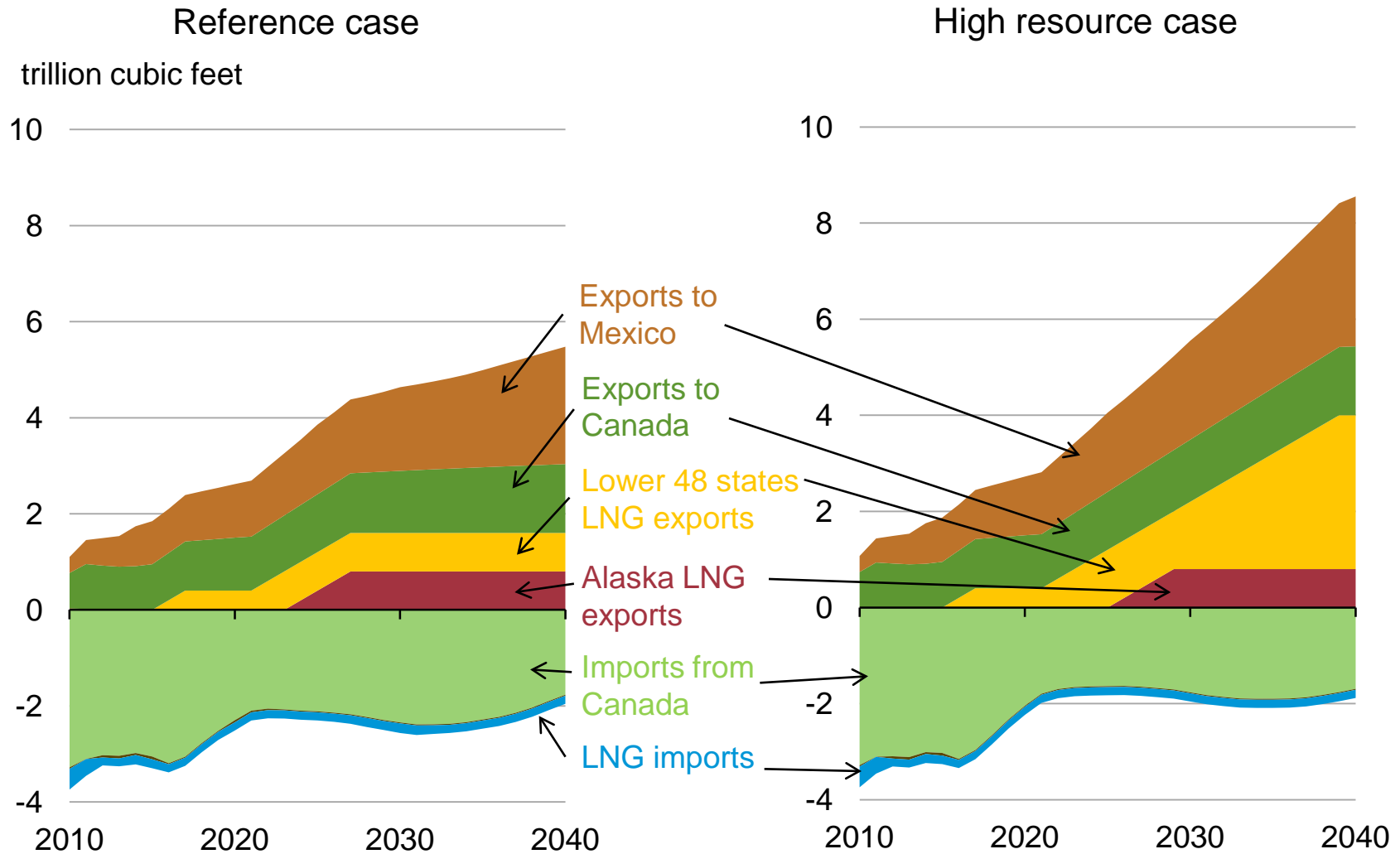
U.S. dry gas

trillion cubic feet



Source: EIA, Annual Energy Outlook 2013

# U.S. natural gas imports and exports



Source: EIA, Annual Energy Outlook 2013

# Uncertainties that could slow global growth of shale gas and tight oil

- Resource quantities and distribution
- Surface vs. mineral rights
- Risk appetite of industry participants
- Infrastructure and technology
- Environmental constraints

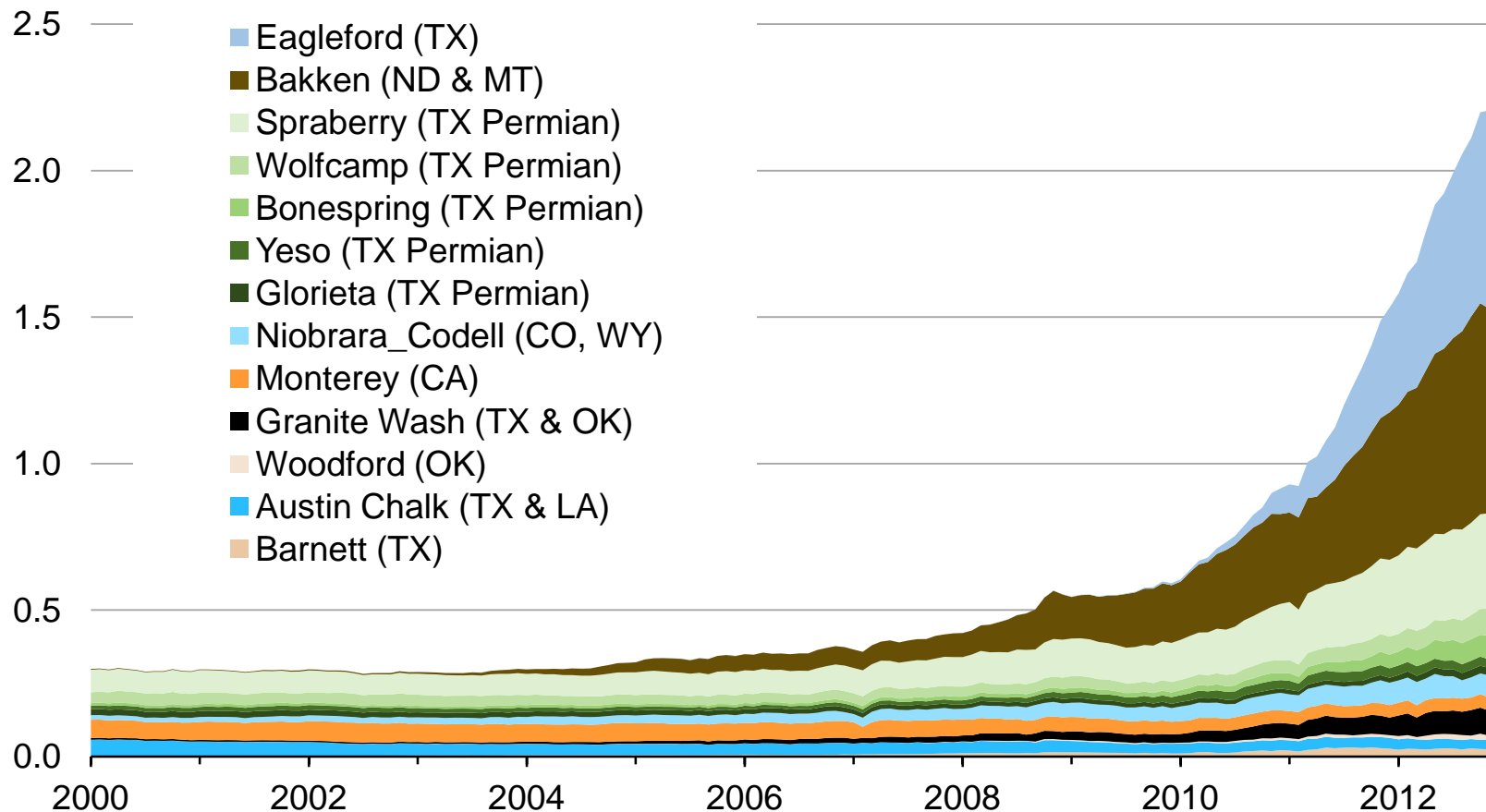


# U.S. Tight Oil

# Domestic production of tight oil has grown dramatically over the past few years

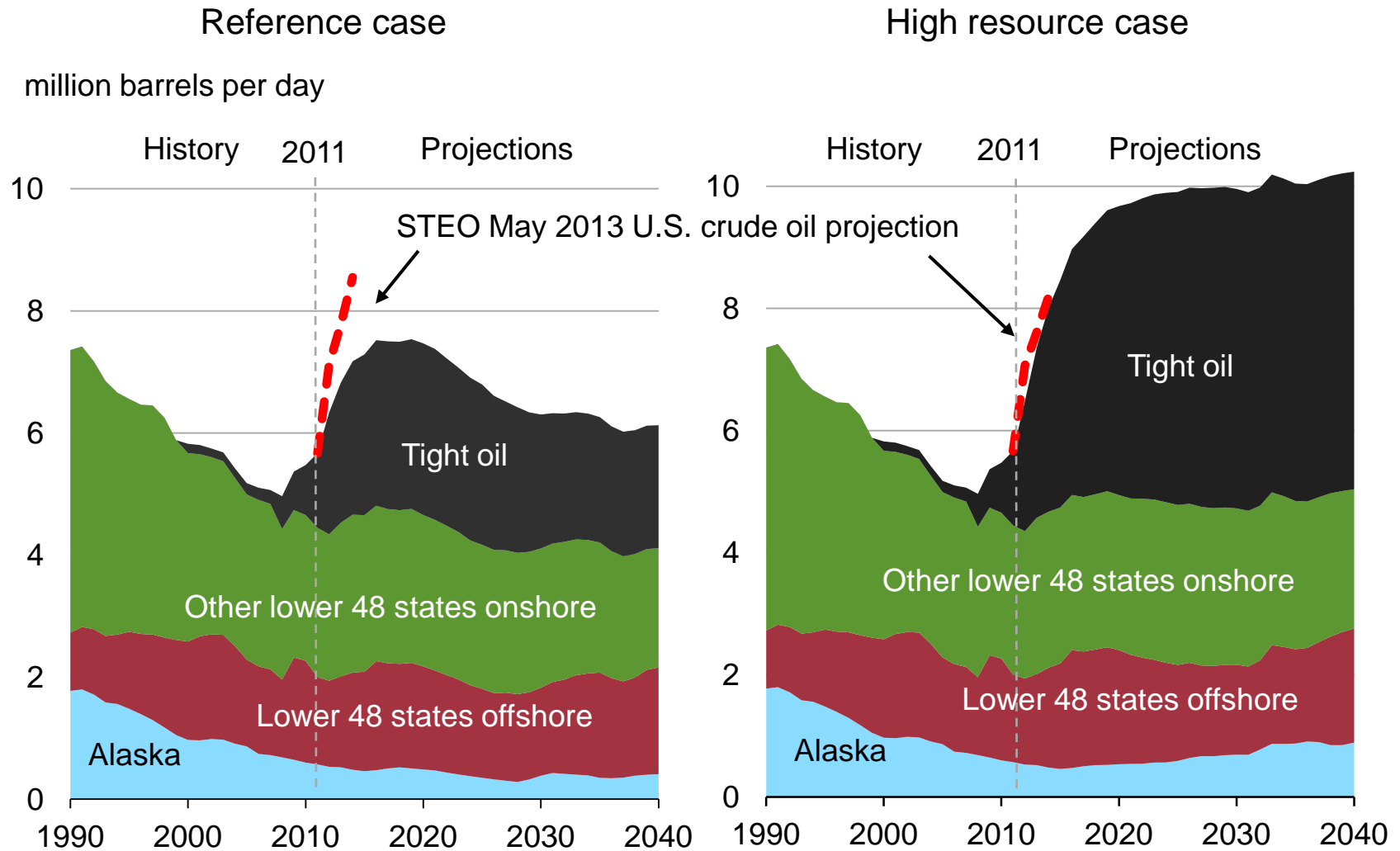
tight oil production for select plays

million barrels per day



Source: Drilling Info (formerly HPDI), Texas RRC, North Dakota department of mineral resources, and EIA, through December 2012

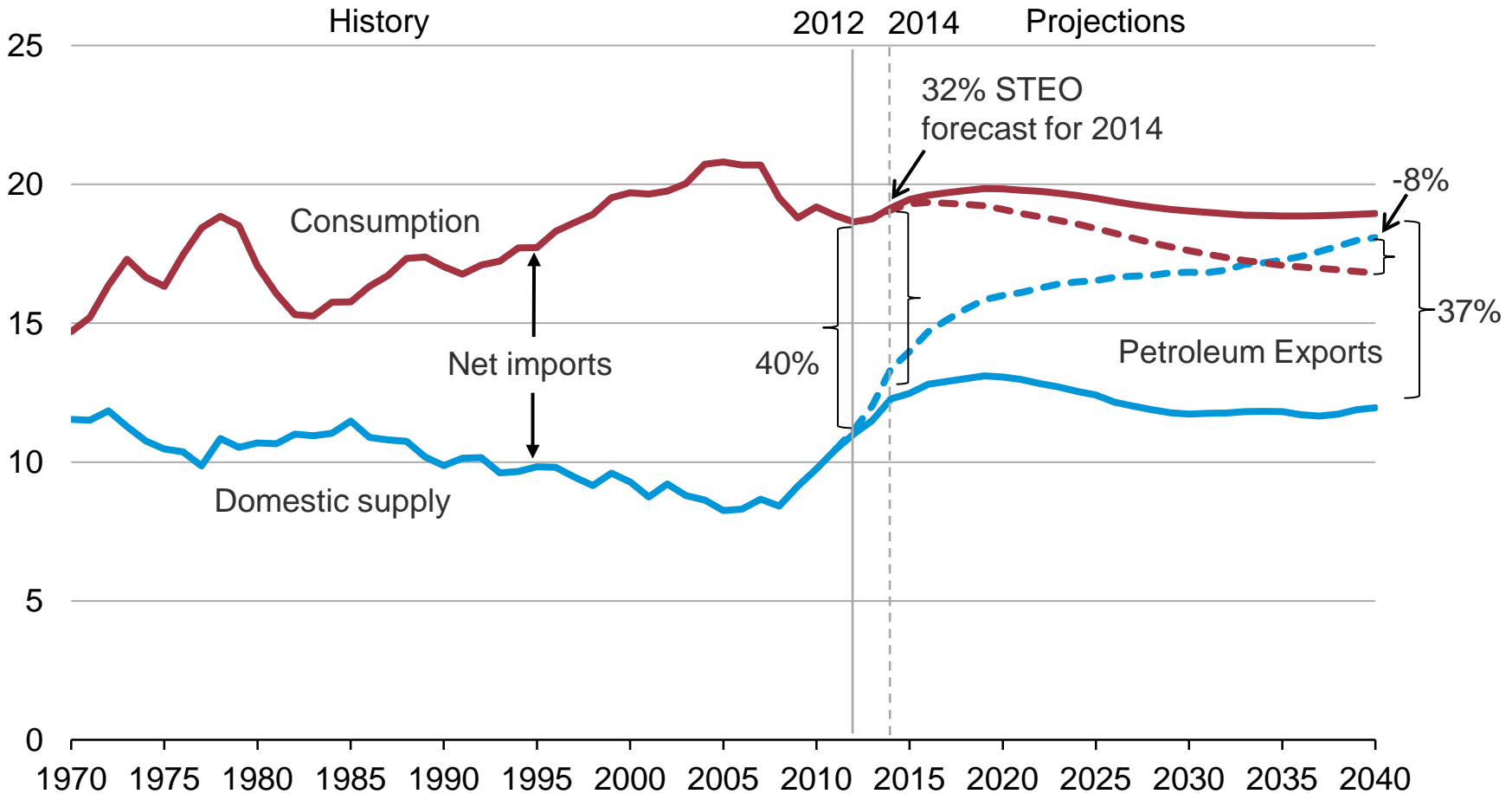
# U.S. tight oil production leads growth in domestic production



Source: EIA, Annual Energy Outlook 2013 and Short-Term Energy Outlook, May 2013

# U.S. dependence on imported liquids depends on both supply and demand

U.S. liquid fuel supply  
million barrels per day



Source: EIA, Annual Energy Outlook 2013 and Short-Term Energy Outlook, April 2013



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Southern Company

### **Aldo Flores-Quiroga**

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