



2016 Policy and Market Issues for Natural Gas Suppliers

10 Topics in 10 Minutes

Dena Wiggins, President and CEO, Natural Gas Supply Association
January 21, 2016

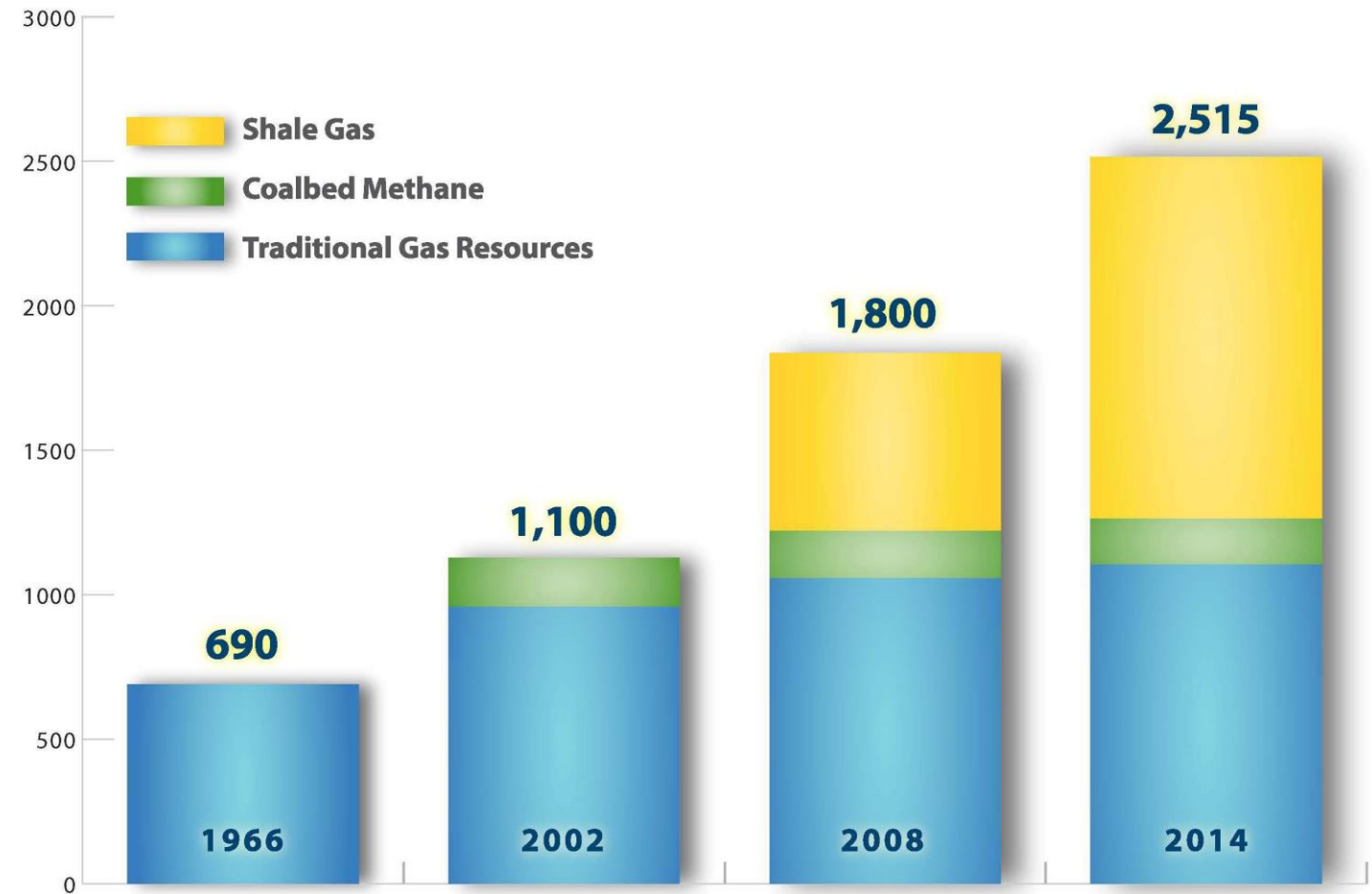
U.S. Energy Association "State of the Energy Industry 2016"

WWW.NGSA.ORG

Who is NGSA?

- Represents major producers and suppliers of domestic natural gas
- Promotes benefits of competitive natural gas markets, resulting in reliable and efficient transportation and delivery, increased supply and demand
- Celebrated 50th Anniversary in 2015

1. Good News Story: Size of U.S. Recoverable Natural Gas Resource Doubled in Last Decade



tcf

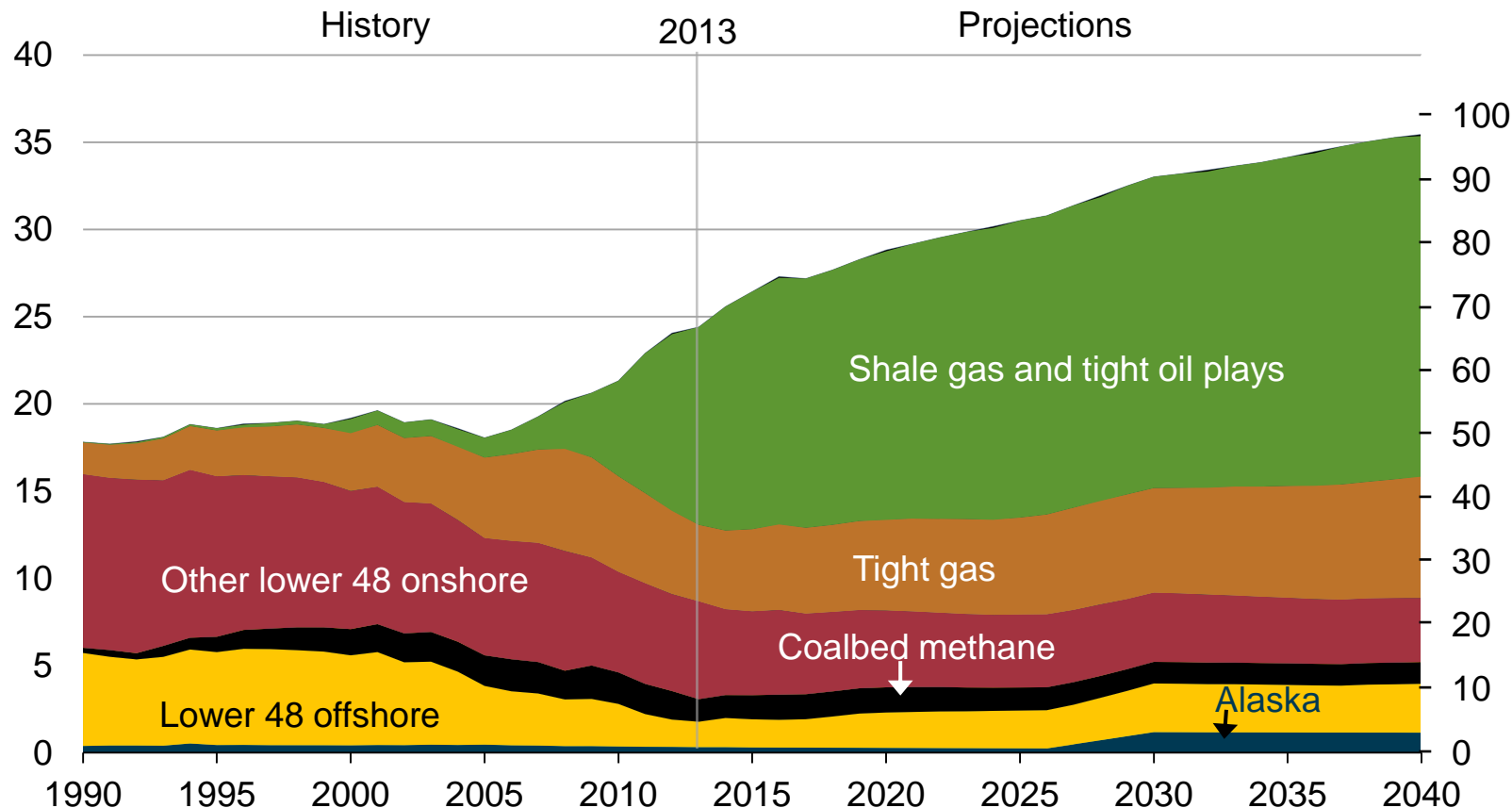
Source: *Potential Supply of Natural Gas in the U.S. 2014*, Potential Gas Committee, 2015

Shale resources remain the dominant source of U.S. natural gas production growth

U.S. dry natural gas production

trillion cubic feet

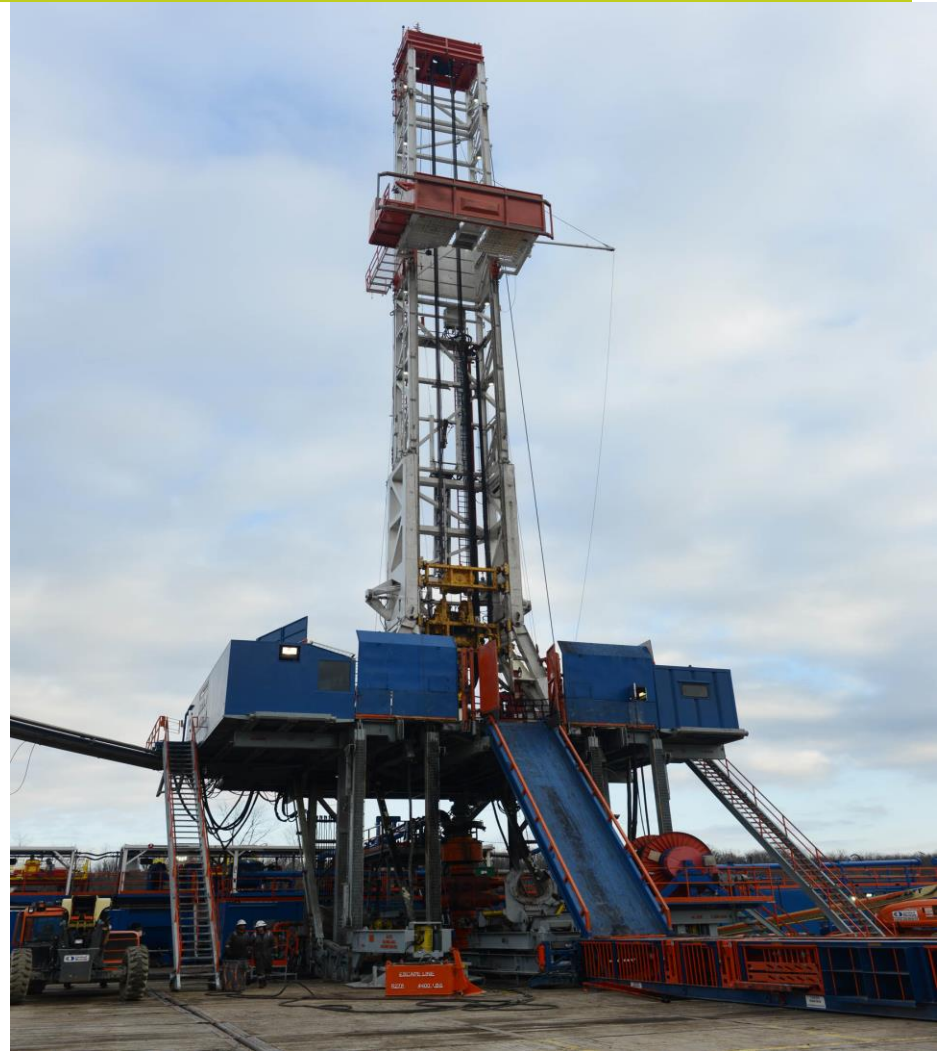
billion cubic feet per day



Source: EIA, Annual Energy Outlook 2015 Reference case

2. Challenging Market But Producers Keep Improving Ability to Produce at Lower Cost

Technological advances and efficiencies include the “walking rig”



3. LNG Exports: 2016 Marks Launch of New Era



4. Stealthy Growth in Other Markets

- Mexican exports growing due to new pipelines, growing Mexican economy
- Maritime: “Emission Control Areas” make LNG a potential fit for marine industry
- And more: Railroads, fleet vehicles



5. Power Sector Used Natural Gas More Than All Other Fuels for 5 Months in 2015



6. Focus on Industrial Demand: Natural Gas Spurring 66 Major Industrial Projects 2015–2020

\$117 Billion Investment to Build

Increase of 3.9 Bcf/d

51

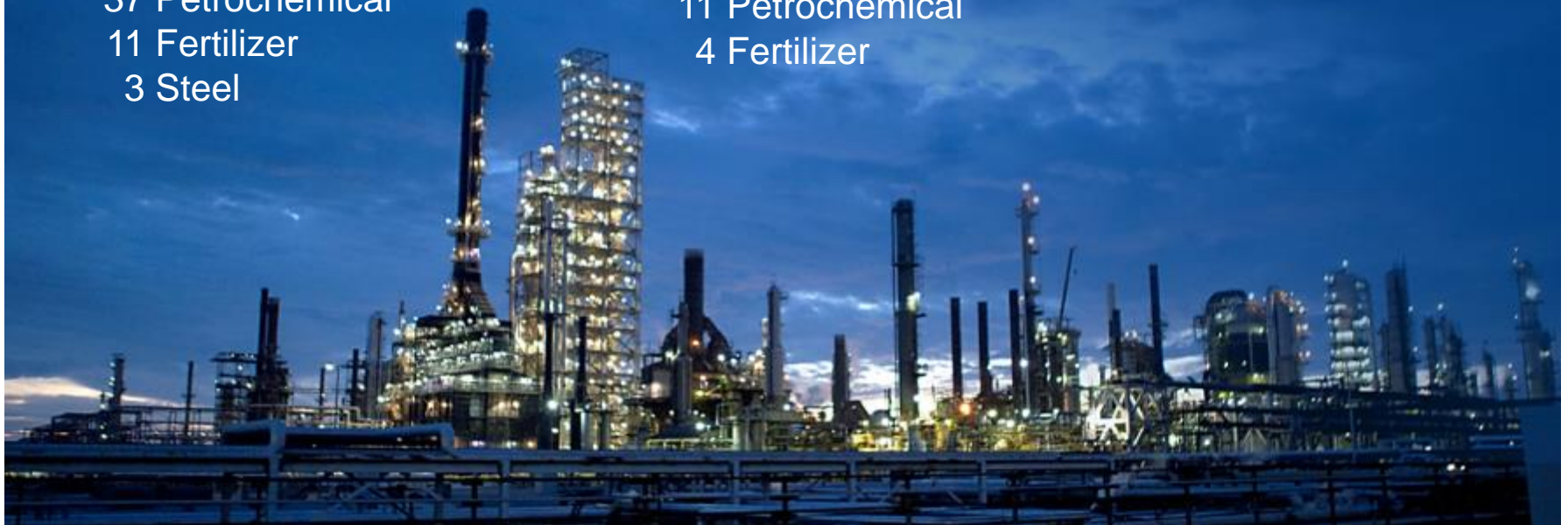
New Projects

37 Petrochemical
11 Fertilizer
3 Steel

15

Expansions

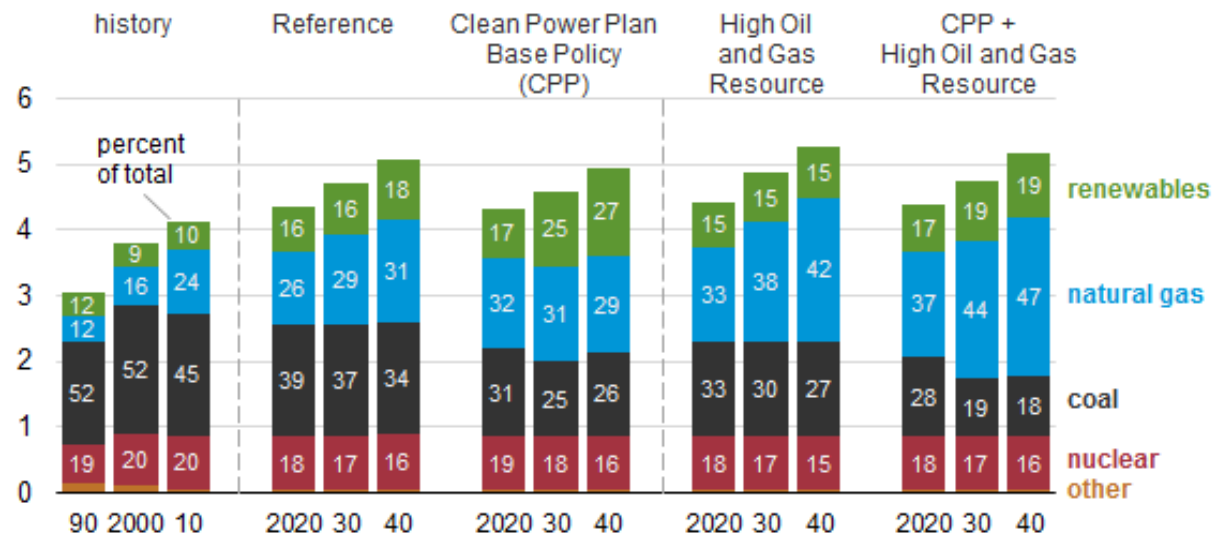
11 Petrochemical
4 Fertilizer



7. Clean Power Plan: Impact on Natural Gas Use in Power Sector

1. Many different scenarios; gas use hinges on varying factors
2. In most scenarios, natural gas can flourish

U.S. total electricity generation in four cases, 1990-2040
trillion kilowatthours



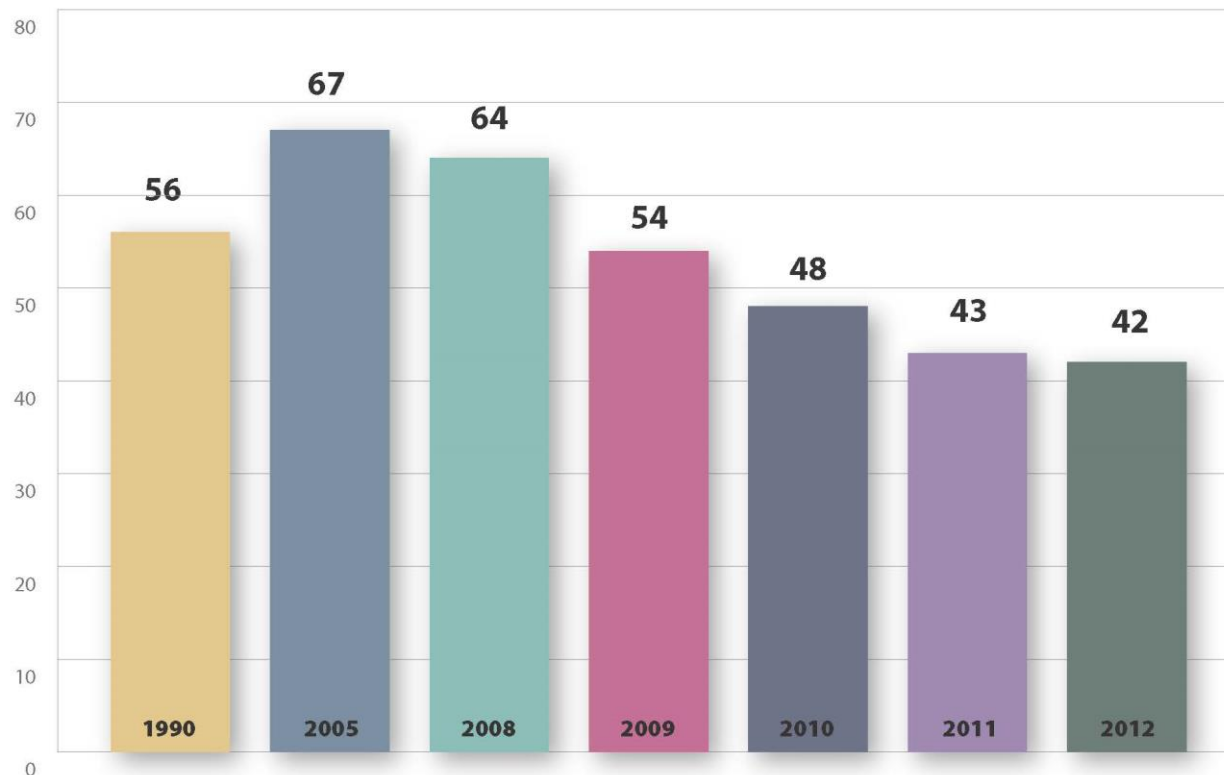
Sample scenarios from EIA *Analysis of the Impacts of the Clean Power Plan*, May 2015

8. Methane Rule: Producers Reduced Methane Emissions 38% While Increasing Production 33%

DECLINING METHANE EMISSIONS FROM NATURAL GAS PRODUCTION 1990–2012

(in million metric tons of CO₂ equivalent)

Producers have proven record of reducing methane emissions without prescriptive measures



9. Infrastructure Hurdles: FERC Faces Unprecedented Environmental Activism

FERC “promotes safe, reliable, secure, efficient infrastructure”



10. Inclusion of “Upstream Impacts” for Pipeline Certificate Applications



United States Environmental Protection Agency



Council on Environmental Quality