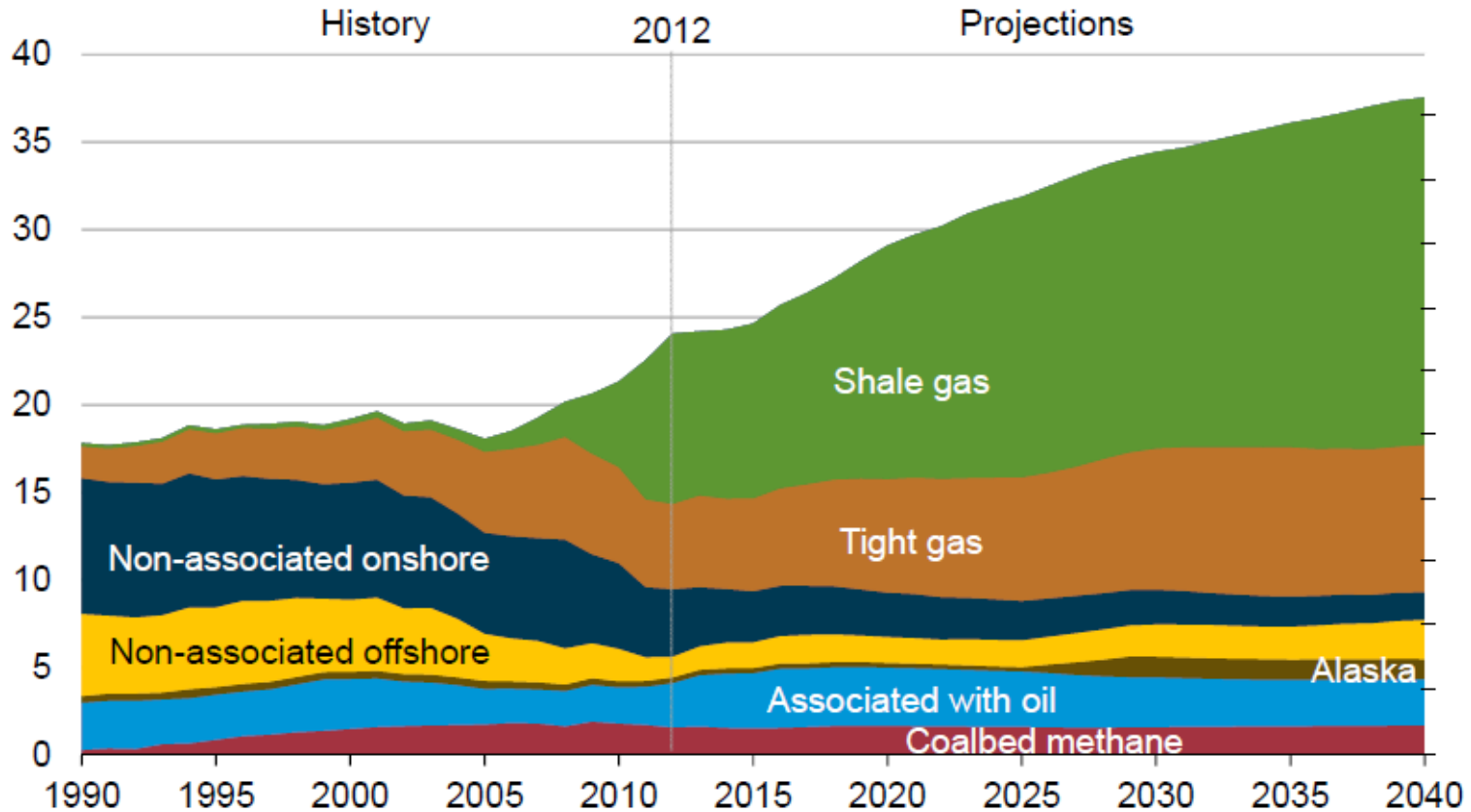


Unconventional Production and the Implications for Exports

Kyle Isakower
Vice President, Regulatory and Economic Policy
American Petroleum Institute
July 17, 2014

U.S. Energy Revolution - Gas

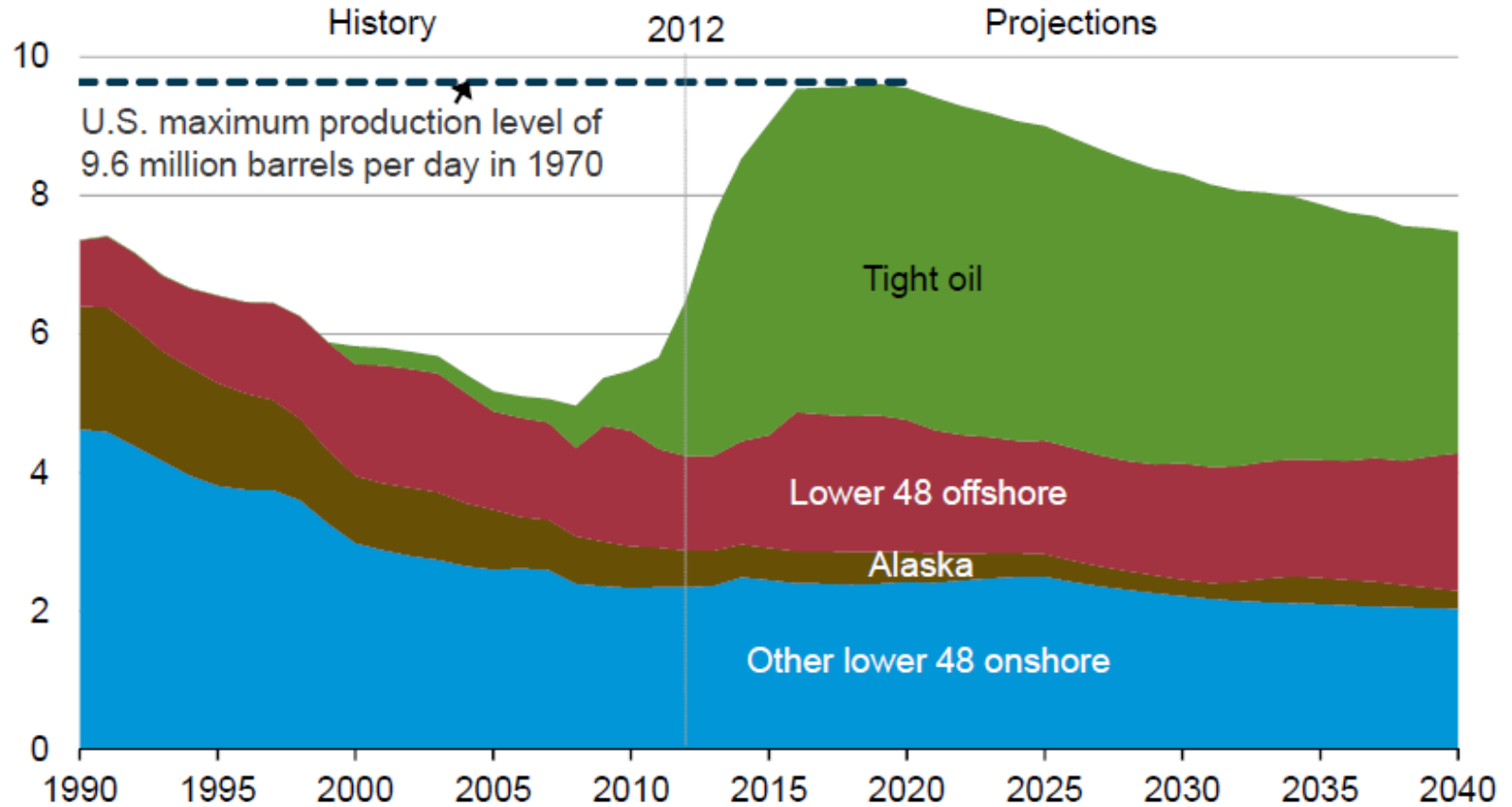
U.S. dry natural gas production
trillion cubic feet



Source: EIA, Annual Energy Outlook 2014 Early Release

U.S. Energy Revolution - Oil

U.S. crude oil production
million barrels per day



Source: EIA, Annual Energy Outlook 2014 Early Release

The U.S. Energy Renaissance

Unconventional development economic benefits:

- Jobs: 2.1 million in 2012; 3.9 million by 2025
- GDP: \$284 billion added in 2012; \$533 billion in 2025
- Government revenue: \$1.6 trillion from 2012-2025
- Trade deficit: reduced \$180 billion annually
- Household income: \$1200 higher in 2012; \$3500 higher in 2025

From IHS, September 2013



LNG Exports

Create and support thousands of jobs

Generate billions of dollars in government revenues

Reduce our trade deficit

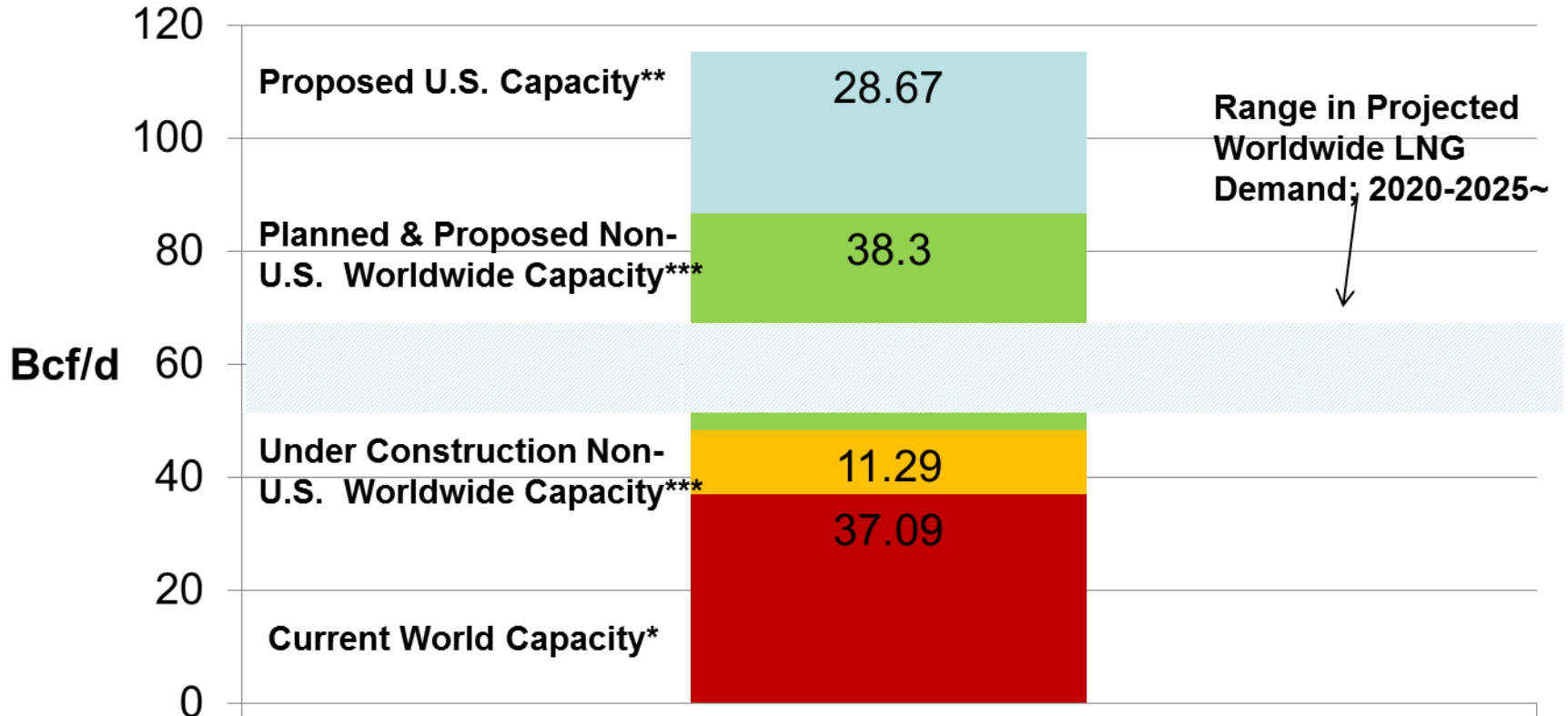
Benefit consumers through additional income

- Added income exceeds modest impact on price

Increase domestic production of associated natural gas liquids (NGLs), putting downward pressure on prices of chemical manufacturing feedstocks

Potential geopolitical benefits to the US

Competition for Worldwide LNG Demand Will Be Steep



* ICF estimate for year end 2011.

**FTA Applications to DOE as of Nov. 29, 2012.

***Dec 2012 ICF estimate based on current worldwide project list.

~Poten, BG Group, Credit Suisse, Facts Global

LNG Export Facility Approvals

DOE: Determines whether application for export is “in the nation’s interest”

FERC: NEPA review: environmental, safety concerns

7 LNG Export applications conditionally approved by DOE (1 final)

- 26 pending

Process:

- DOE conditional approval (24+ months)
- FERC approval (18-30 months)
- DOE final approval (90 days)

DOE LNG Proposal

Eliminate conditional approval from process

- Eliminates the queue, but creates uncertainty in international markets

Released 2 literature reviews for comment

- Upstream environmental impacts can be effectively managed
- LNG exports are a net GHG benefit globally

Comments due Monday; final rule likely end of year

Other LNG Developments

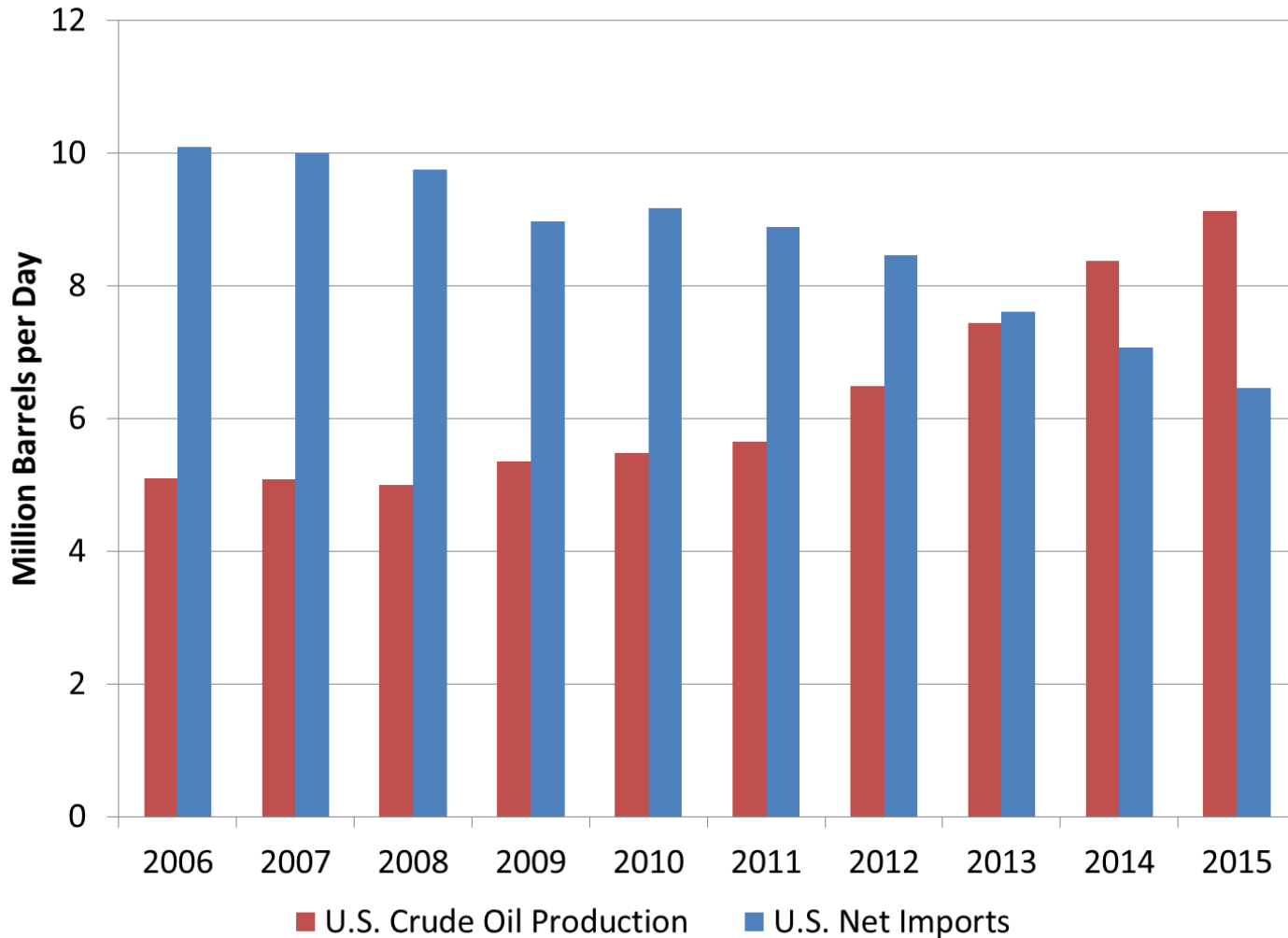
H.R. 6 – bipartisan legislation

Would limit DOE review time to 30 days following
FERC approval

Legal challenges to approved facilities likely

- Cameron? Cove Point?

US Crude Oil Domestic Production vs. Net Imports



Source: EIA 2014

A Mismatch of New Domestic Crudes and U.S. Refineries

Crude from shale is predominantly light, sweet

Much of the US refining sector optimized for heavy, sour crudes

We are approaching a glut of light sweet crude on the US market



Optimize the Match of Crudes to Refinery Configurations

Export glut of light, sweet



Import heavy crude



Note that crude exports would not have an impact on the amount of NET imports!

Crude Export Benefits to the US

According to ICF (March 31, 2014):

Consumers benefit at the pump!

Up to 500,000 bpd increase in domestic crude production

- Increase in supply would put downward pressure on global oil price
- Downward pressure on global refined product prices
- With robust trading market for refined products, downward pressure will be felt in US markets

\$5.8 billion per year in consumer fuel savings

Crude Export Benefits to the US

According to ICF (March 31, 2014):

300,000 potential job gains in 2020

\$70.2 billion in added E&P investment (2015-2020)

\$38.1 billion projected GDP gain in 2020

\$13.5 billion in added government revenues in 2020

\$22.3 billion reduction in US trade deficit in 2020

100,000 BPD increase in average refinery throughput (through 2035)

Other Experts Weigh in on Lifting the Export Ban

IHS – 8 cents/gal reduction of fuel costs, nearly 1 million jobs in 2018, 1.2 MBD added production

Resources for the Future – 1.7 to 4.5 cents/gal reduction in gasoline costs

“By allowing oil exports, Congress would let oil producers take advantage of the higher worldwide prices. And there is no reason to expect this would raise consumer prices in the long term. In fact, it might even lower them – by removing a barrier to the global oil trade.”

~ Bloomberg Editorial Board Member **Mary Duerwald** ([Bloomberg](#), 2/3/14)

“If lower gasoline prices for the US consumer are a desired aim, the US should be exporting crude, and lowering Brent and hence global gasoline prices in the process.”

~ Citigroup Analyst **Seth Kleinman** ([Financial Times](#), 12/11/13)

Commerce Department Rulings

- Pioneer and Enterprise (more requests may be coming)

Rulings are limited in scope

- Limited to product resulting from distillation
- Must be identified as a commercial product
- Cannot be mixed with other crudes

Sen. Murkowski

- Condensate
- Swaps

Administration

- Commerce Department
- EIA
 - Highlighted issue at this week's conference
 - Expanding EIA Form-914 to enhance crude data

Difficult to change policy in an election year!

Questions?

Learn more at:

- www.api.org
- www.energytomorrow.org