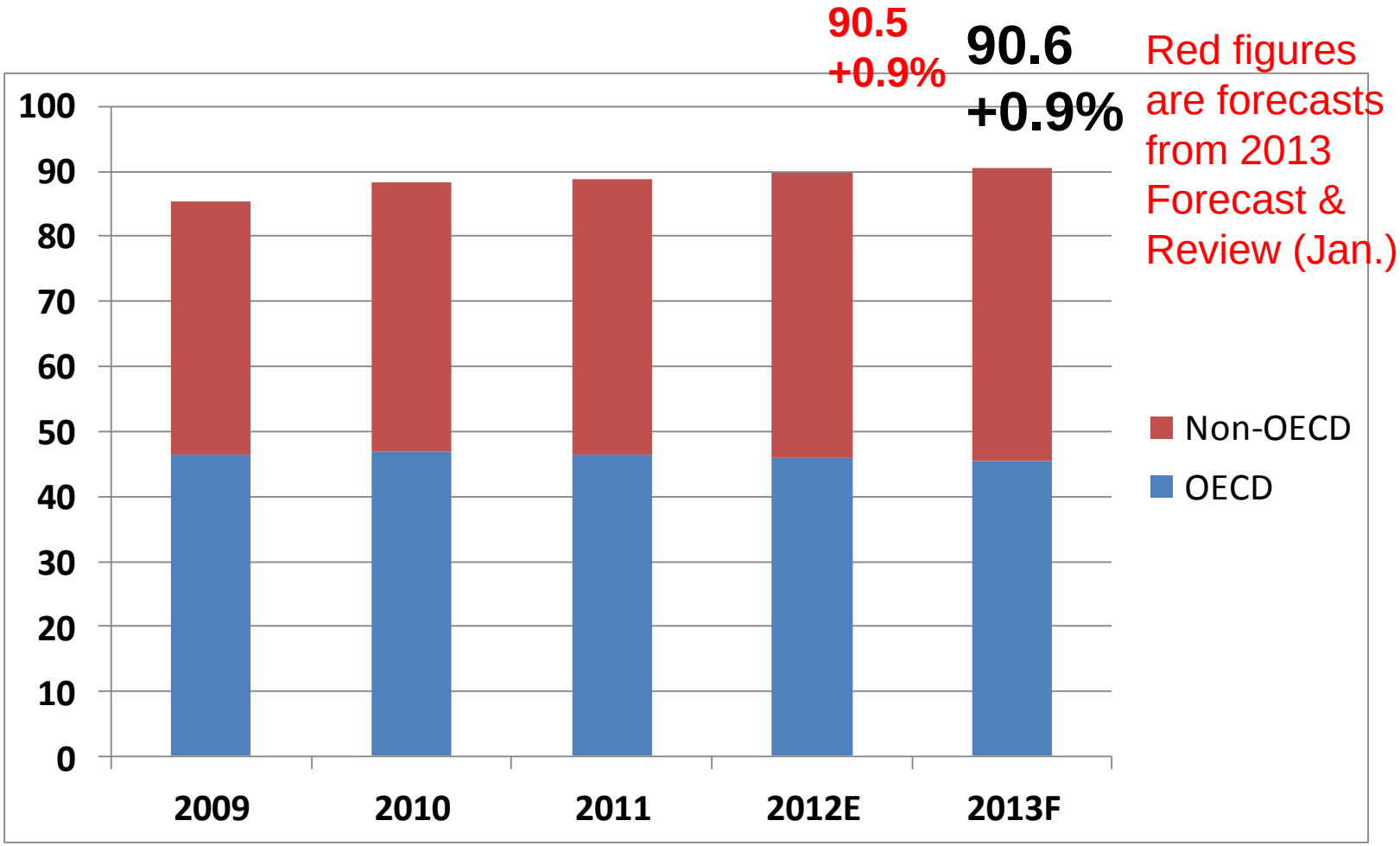
Rice Global E&C Forum
August 9, 2013

OGJ Midyear Forecast
Bob Tippee, Editor

OGJ's special reports used here

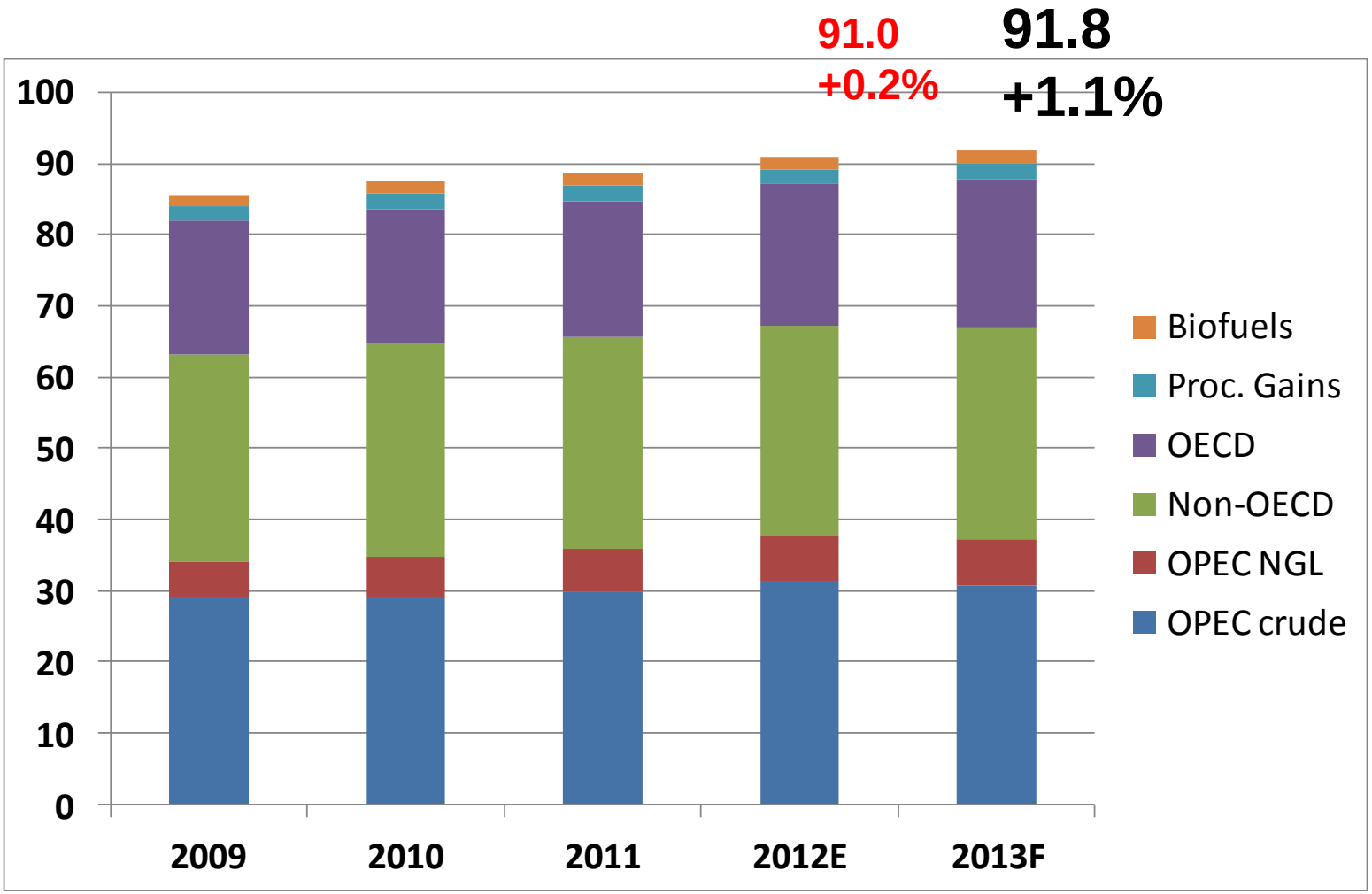
- Midyear Forecast: July 1, 2013
  - Conglin Xu, Senior Editor-Economics
  - Laura Bell, Statistics Editor
  - Alan Petzet, Chief Editor-Exploration
- Forecast & Review: Jan. 7, 2013
- Worldwide Gas Processing: June 3, 2013
  - Warren R. True, Chief Technology Editor
- Worldwide Pipeline Construction: Feb. 4, 2013
  - Christopher Smith, Senior Technology Editor

Global oil demand (MMbd)



Source: IEA

Global oil supply (MMbd)



Source: IEA; OGJ estimates for OPEC crude, 2013

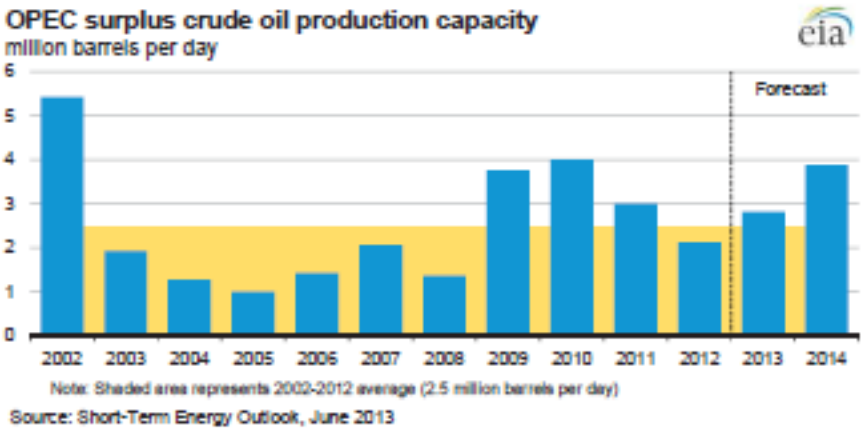
The call on OPEC crude (MMbd)

	2013	2012	2013 F&R:
Demand	90.6	89.8	90.5
Less non-OPEC supply	54.5	53.4	54.2
Less OPEC NGL	6.6	6.3	6.5
Equals zero stock-change call on OPEC	29.5	30.1	29.8
Plus/minus stock change (OGJ)	+1.2	+1.3	+0.5
Equals call on OPEC crude (OGJ)	30.7	31.4	30.3

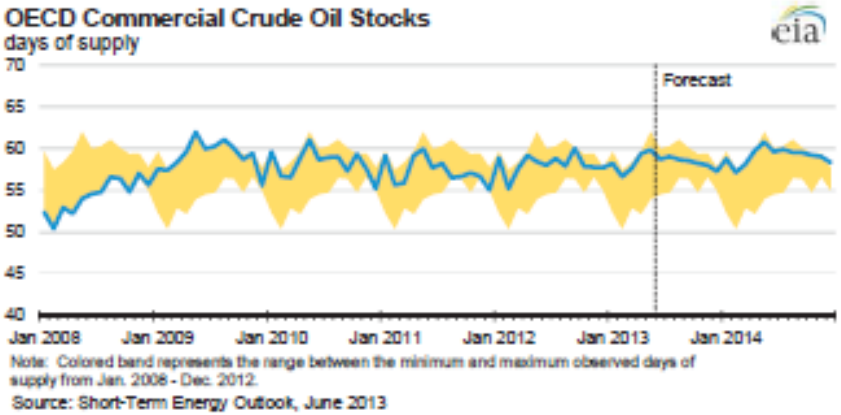
OPEC crude: 1Q13: 30.4 MMbd; 4Q12: 30.7 MMbd.

The market's 'cushions' (EIA)

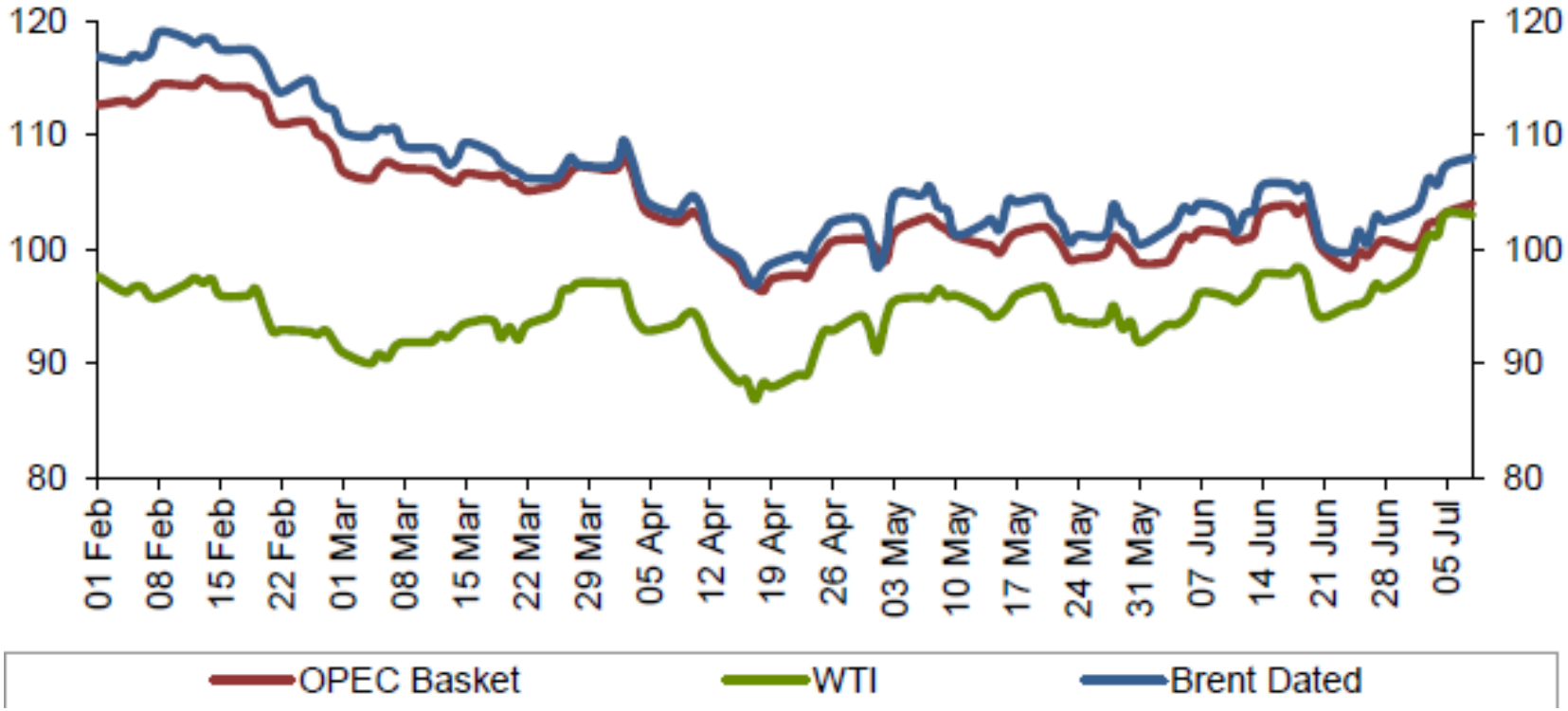
OPEC spare production capacity (MMbd)



OECD commercial crude oil stocks (days' supply)

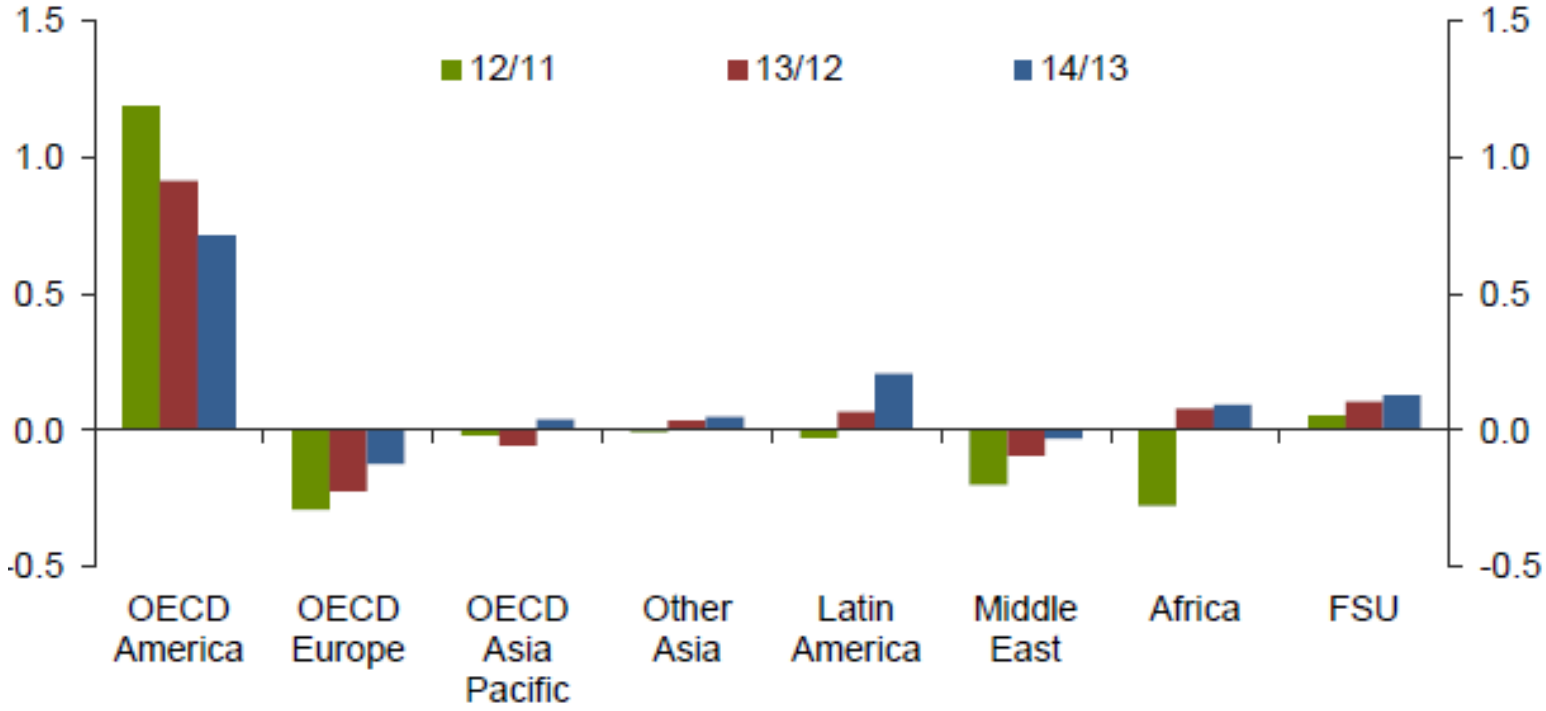


Crude oil prices in 2013 ($/bbl)



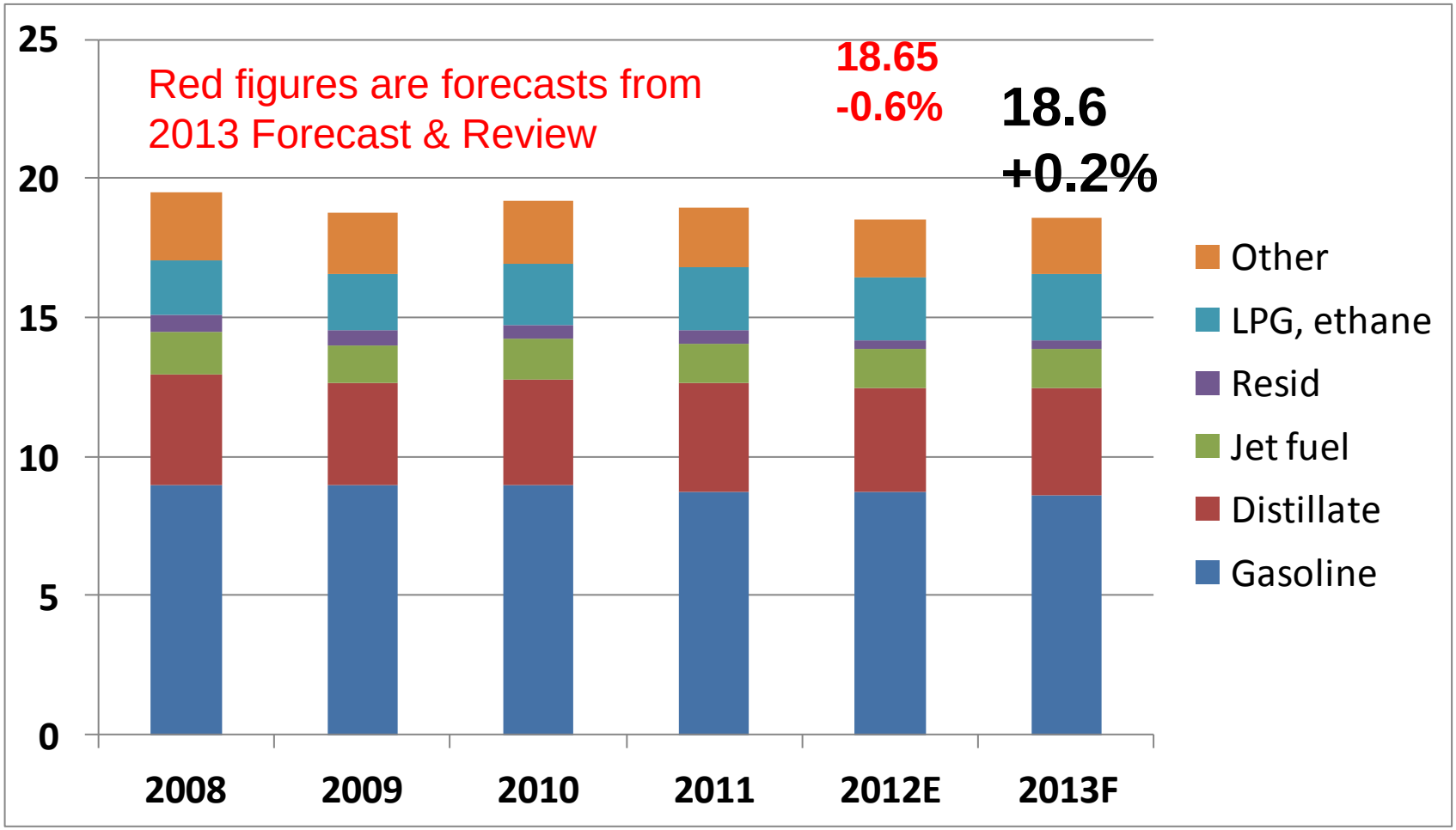
Source: OPEC Monthly Oil Market Report, July 2013

Non-OPEC supply growth (MMbd)



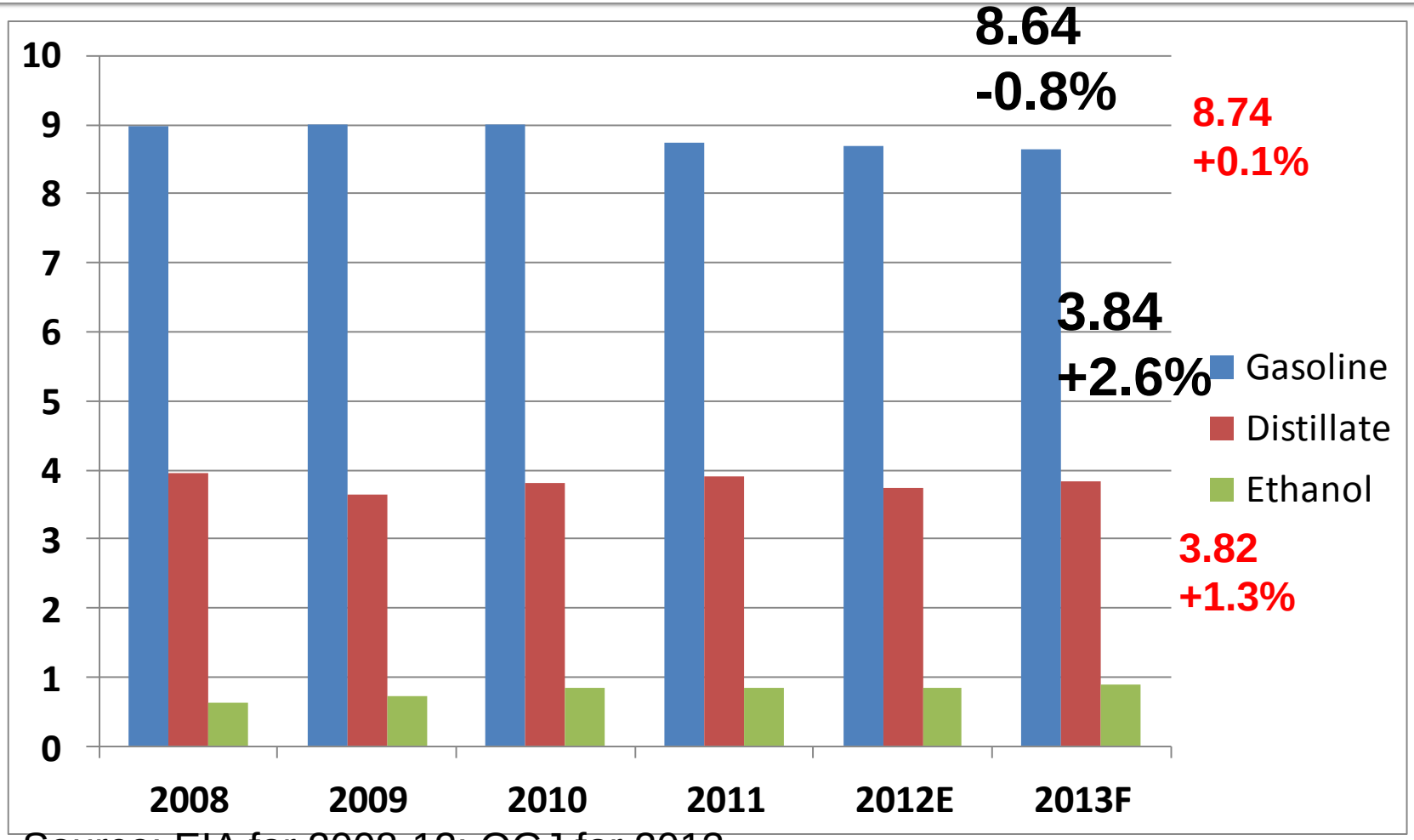
Source: OPEC Monthly Oil Market Report, July 2013

US oil product demand (MMbd)



Source: EIA for 2008-13; OGJ estimates for 2013.

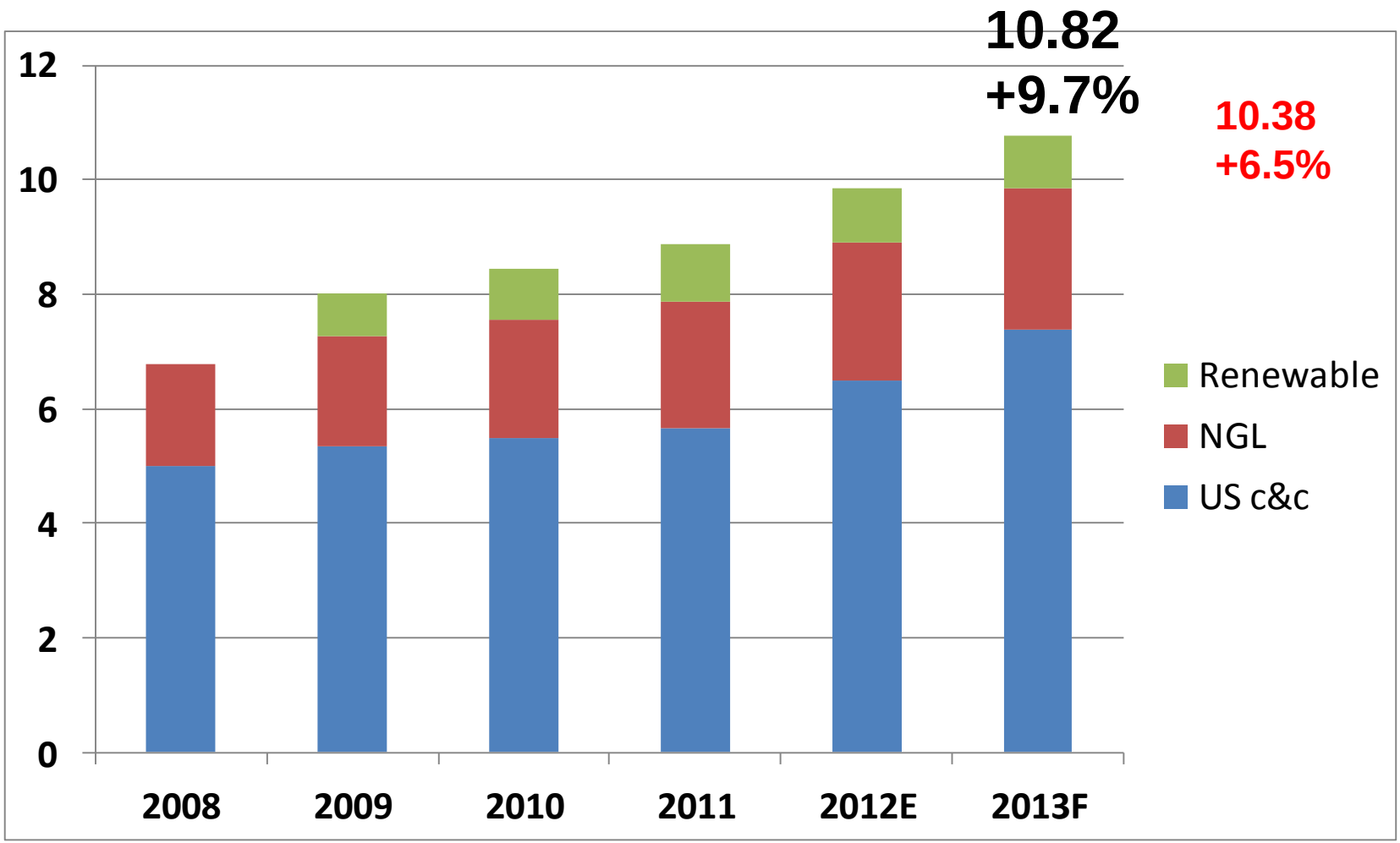
US transport fuels (MMbd)



Source: EIA for 2008-12; OGJ for 2013

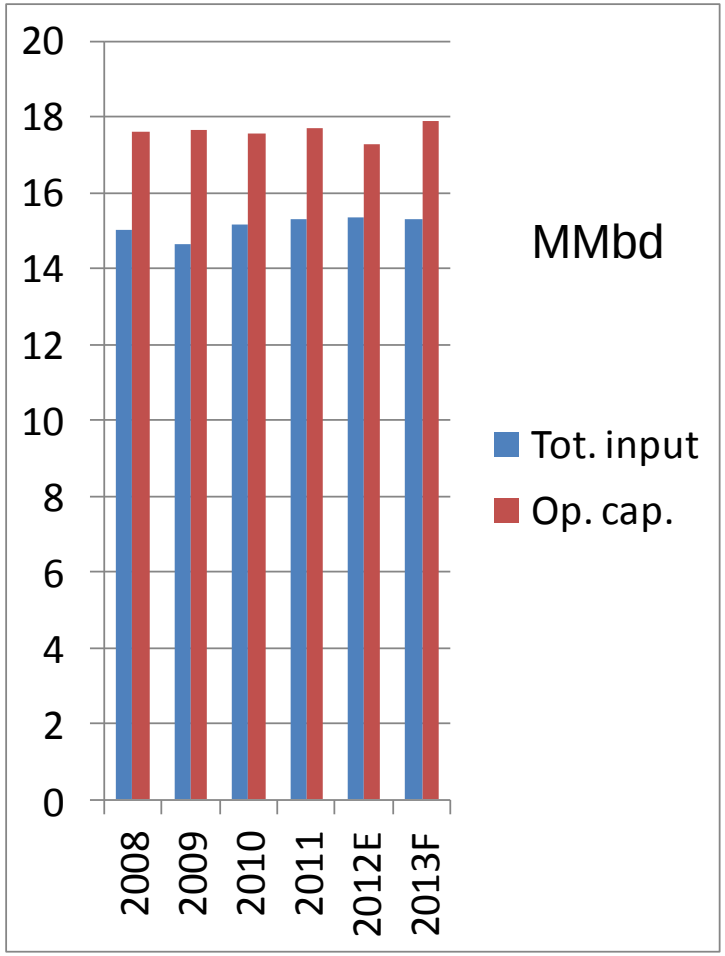
Note: Gasoline includes ethanol. About 90% of distillate is 15 ppm S or below.

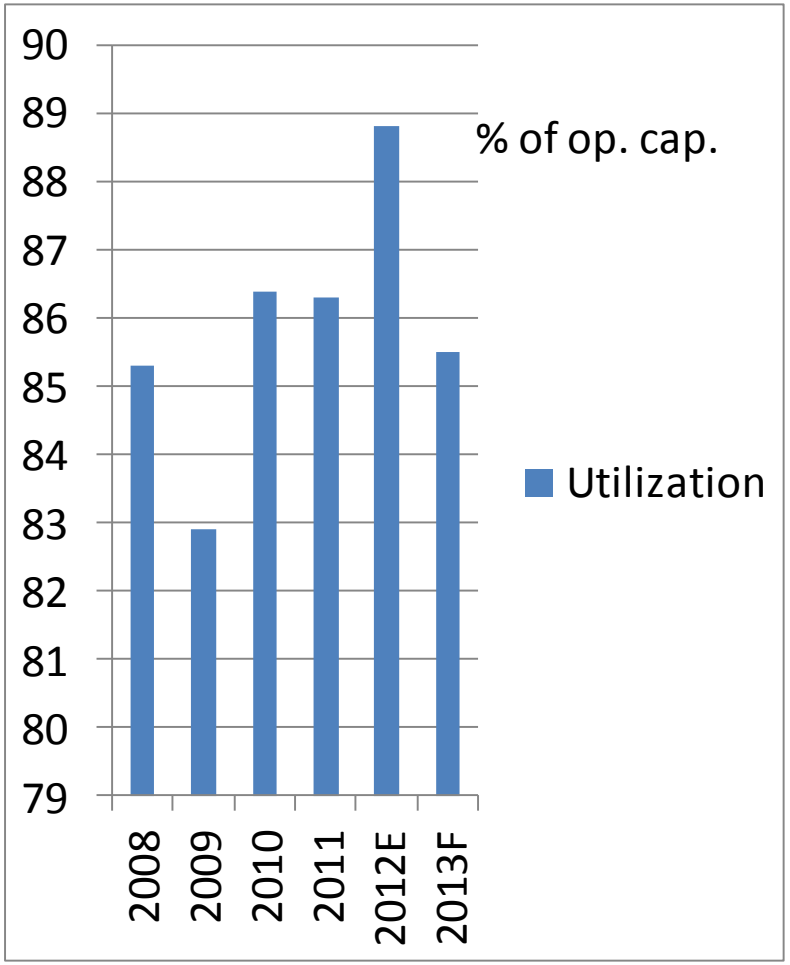
US liquids supply (MMbd)



Source: EIA for 2008-12.

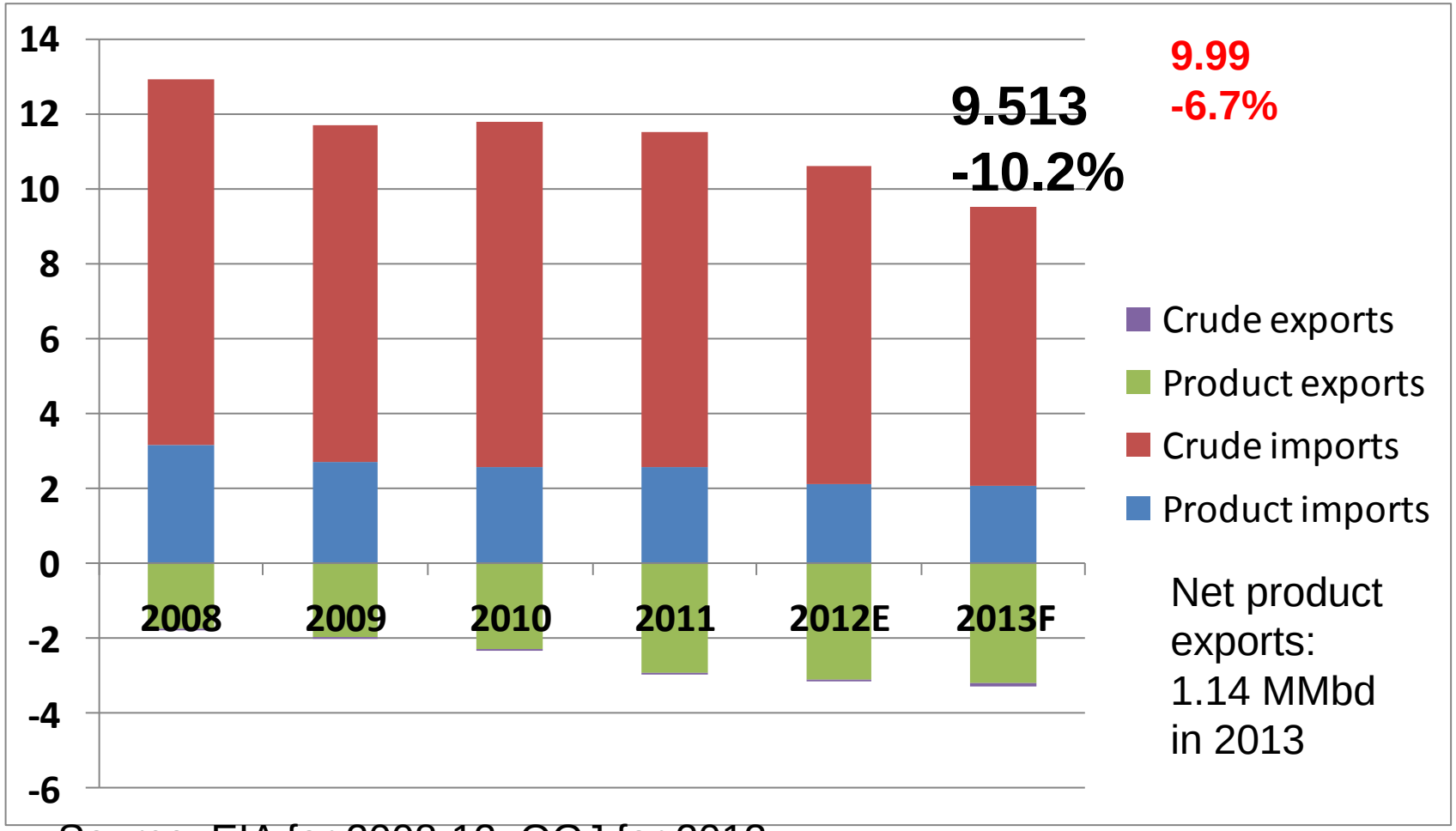
US refining operations





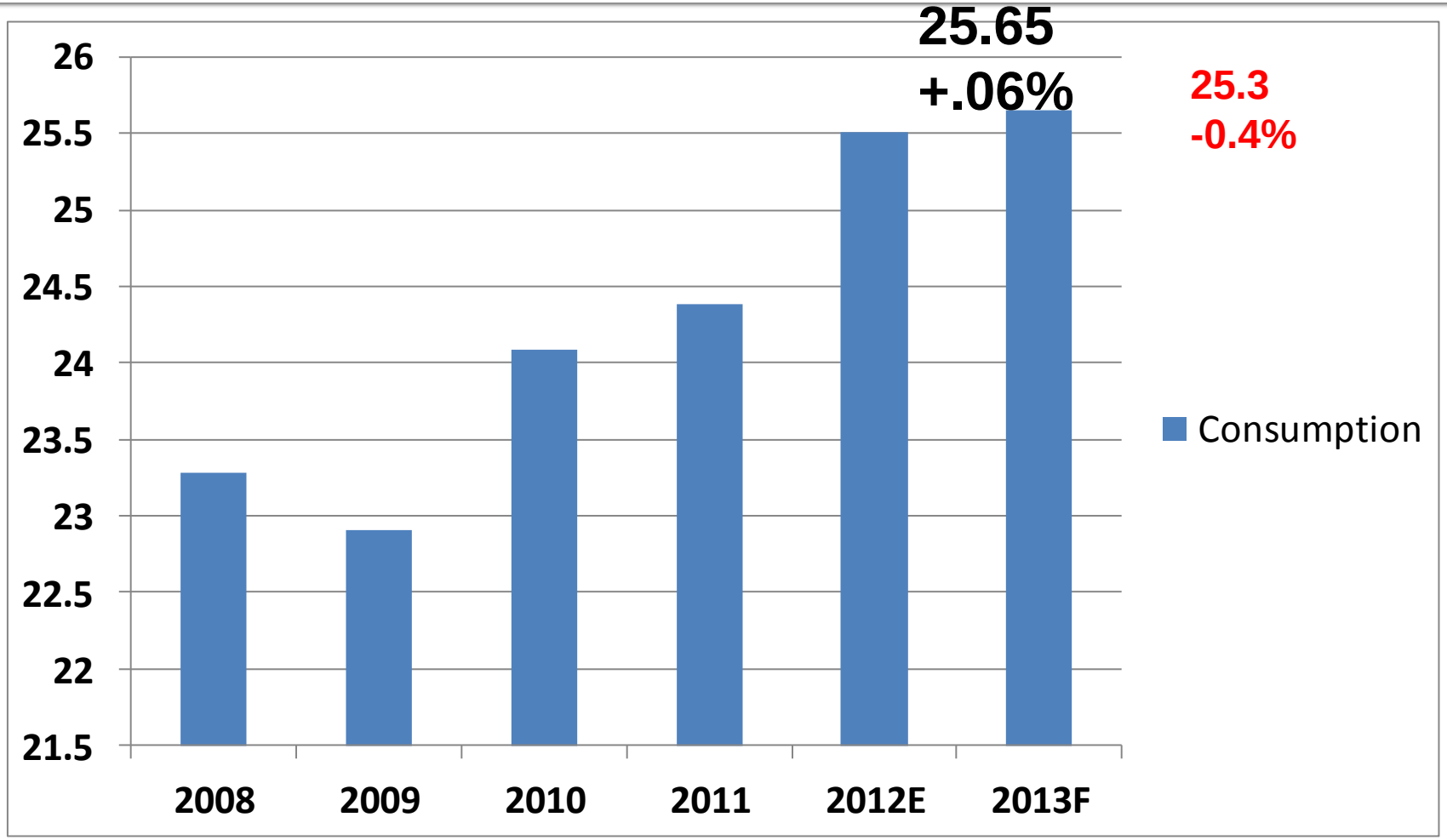
Source: EIA for 2008-2012; OGJ for 2013.

US oil imports, (exports) (MMbd)



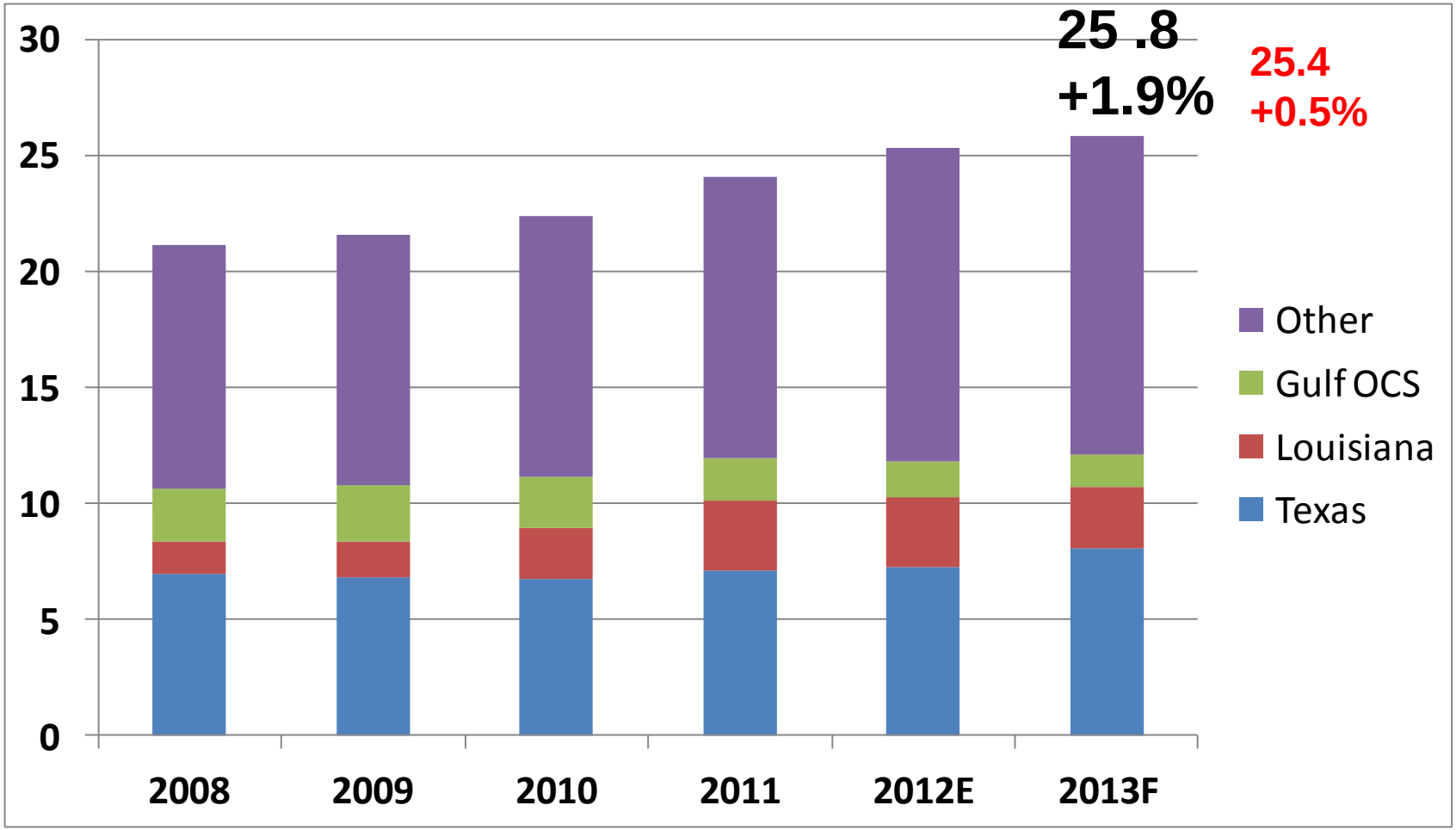
Source: EIA for 2008-12; OGJ for 2013.

US total gas consumption (tcf)



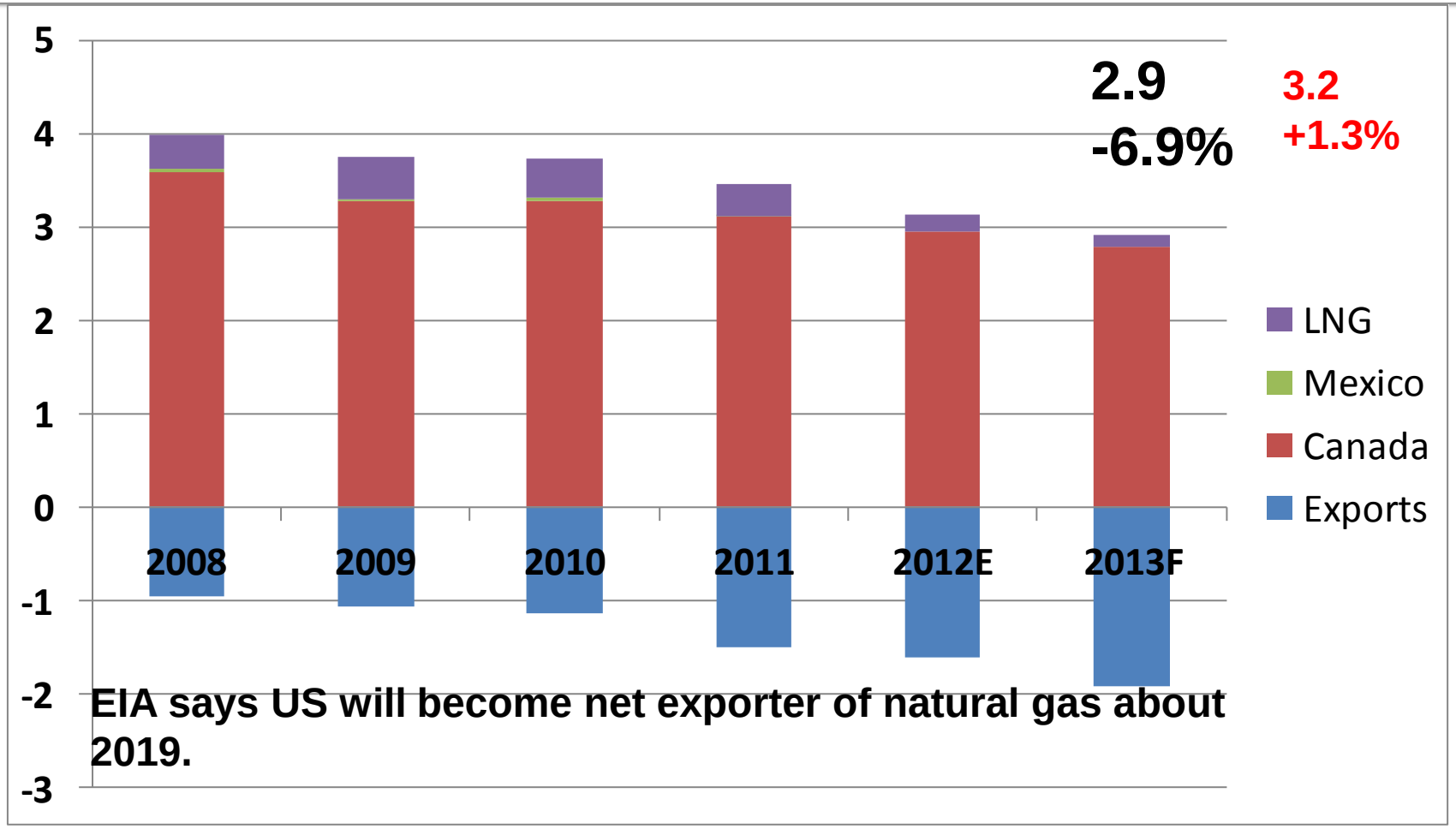
Source: EIA for 2008-12; OGJ for 2013.

US marketed gas production (tcf)



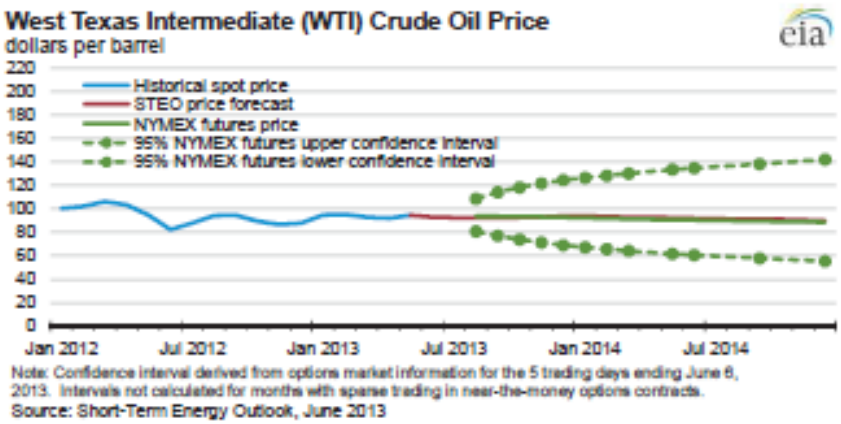
Source: EIA for 2008-12; OGJ for 2013.

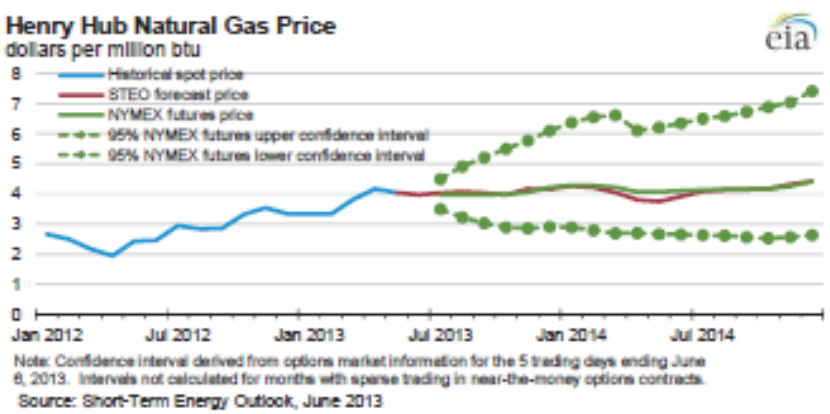
US gas imports, (exports) (tcf)



Source: EIA for 2008-12; OGJ for 2013.

WTI crude vs. Henry Hub gas





EIA June projection for 2013 average: $93/bbl

EIA June projection for 2013 average: $3.92/MMbtu

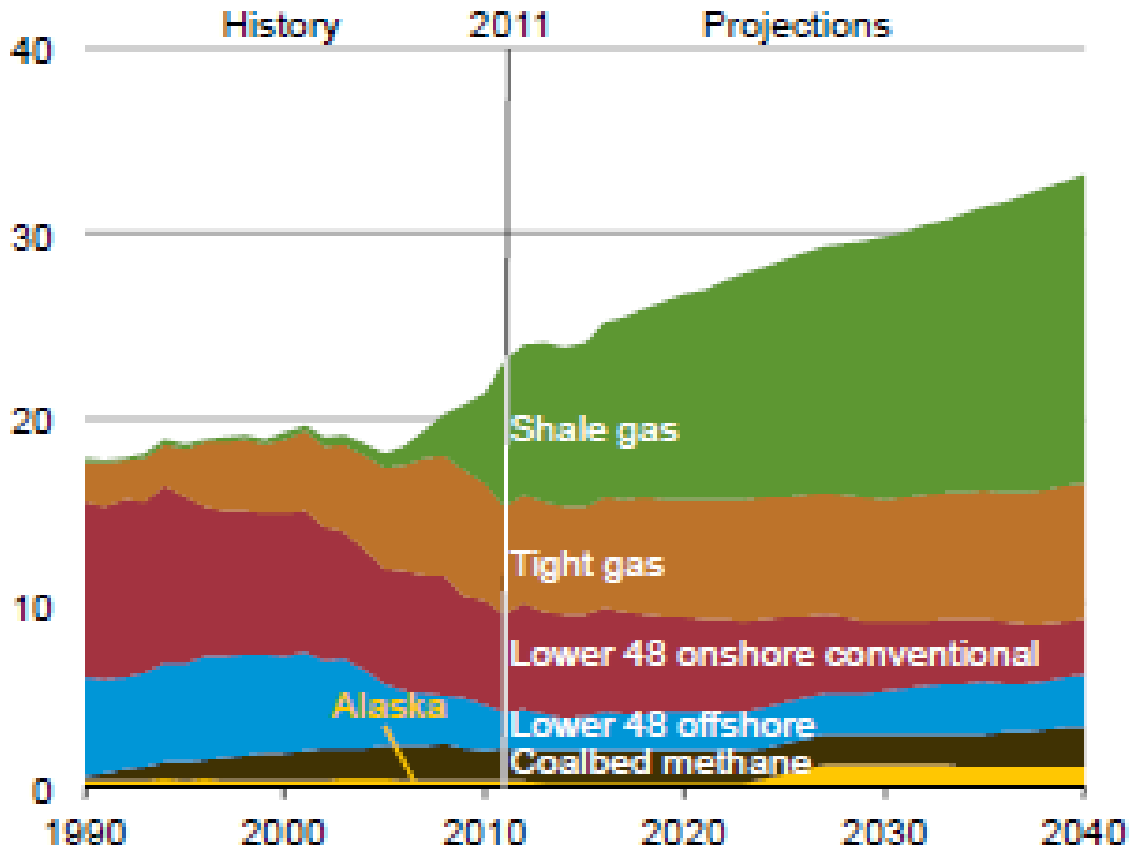
Oil ($/bbl) to gas ($/MMbtu) ratio: 24:1

Summary of US wells drilled

	2012E	2013F
Exploratory wells	2,118	1,809 2,018
Field wells	41,551	36,349 40,138
Total wells	**43,669**	38,158 42,156

- Gas-drilling retreat continues.
- Big 1H declines: N. La., Arkansas, parts of E. Tex., Penn., Mont., Calif.
- 1H increases: Ohio, Alaska, Offshore La.

Long-term: Shale dominates gas



Source: EIA Annual Energy Outlook

Shale-related US gas plants*

REGION	NUMBER OF PLANTS	CAPACITY (MMcfd)
North, East Texas	3	355
West Texas, Perm. basin	9	955
South Texas	15	3,770
Okla.-Texas Panhandle	13	1,355
Ohio-Penn.-W.Virginia	26	4,613
North Dakota	10	885
Total	**76**	**11,933**

*Built, under construction, and planned as of Apr. 1, 2013. Based on company data and published information.

Source: Stephen Gilbert, MapSearch, published in OGJ's Worldwide Gas Processing, June 3, 2013.

Shale-related US fractionators*

REGIONS	NUMBER OF PLANTS	CAPACITY (Mb/d)
Texas	20	1,208.5
Louisiana	3	55+ (one TBA)
Kansas	1	60
Ohio-Penn.-W.Virginia	13	525.5
Total	**37**	1,849+

*Built, under construction, and planned as of Apr. 1, 2013. Based on company data and published information.

Source: Stephen Gilbert, MapSearch, published in OGJ's Worldwide Gas Processing, June 3, 2013.

New Y-grade transport capacity (Mbd)

- 60-135 - Bakken shale to Midcontinent
- 543-660 - Midcontinent to Gulf Coast
- 289-415 - Rockies to W.Tex., Conway, Kan.
- 580-640 - W.Tex. to Gulf Coast
- 200-400 - Marcellus, Utica to Gulf Coast

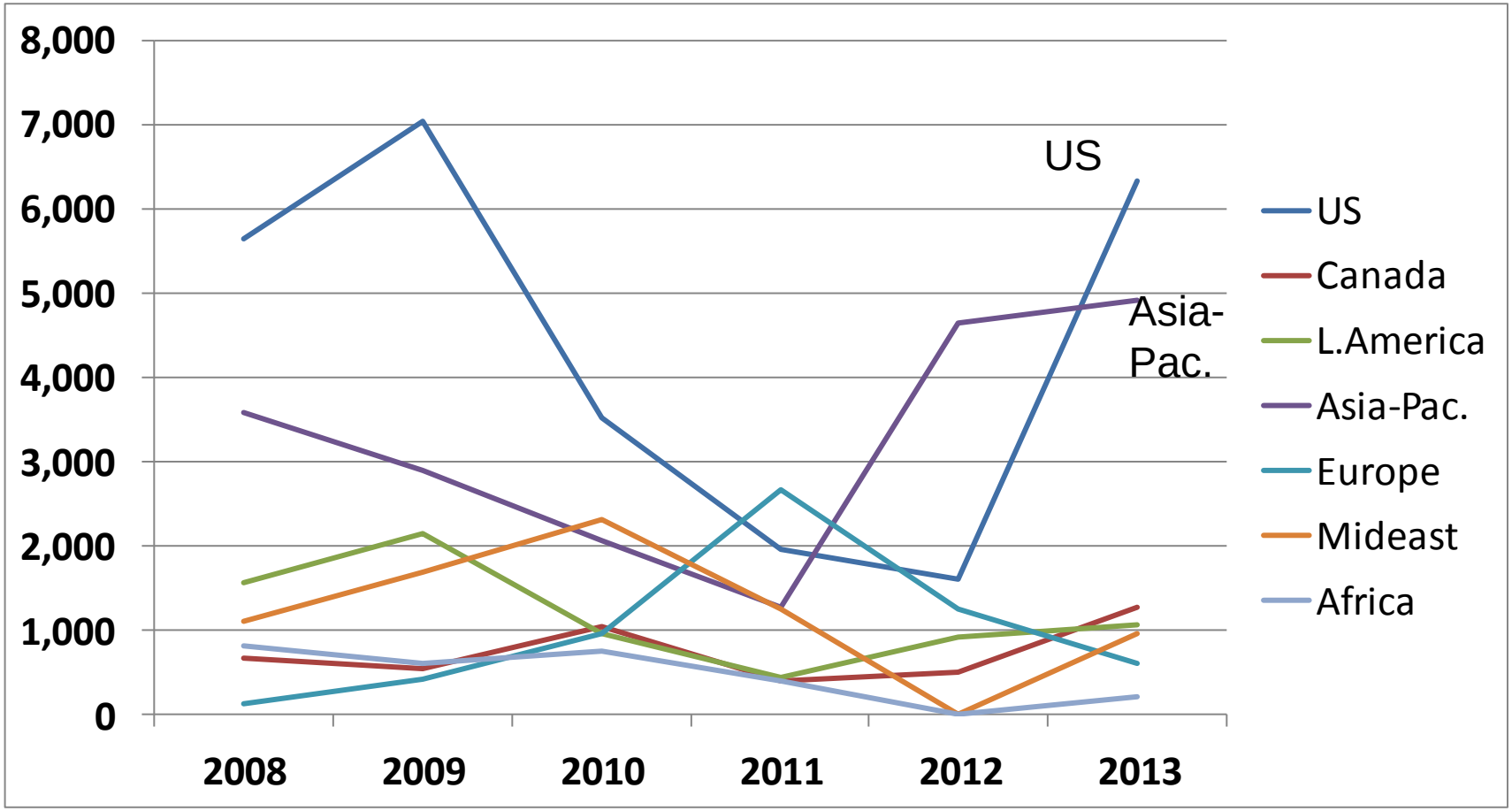
Source: Fasullo, P., from 2013 GPA convention, in OGJ, June 3, 2013.

US ethylene expansion

- 15 projects (grassroots, expansions, debottlenecking, restarts)
- Total identified capacity addition: 7.817 million tonnes/year
- Implied increase in total US ethylene capacity: 28%

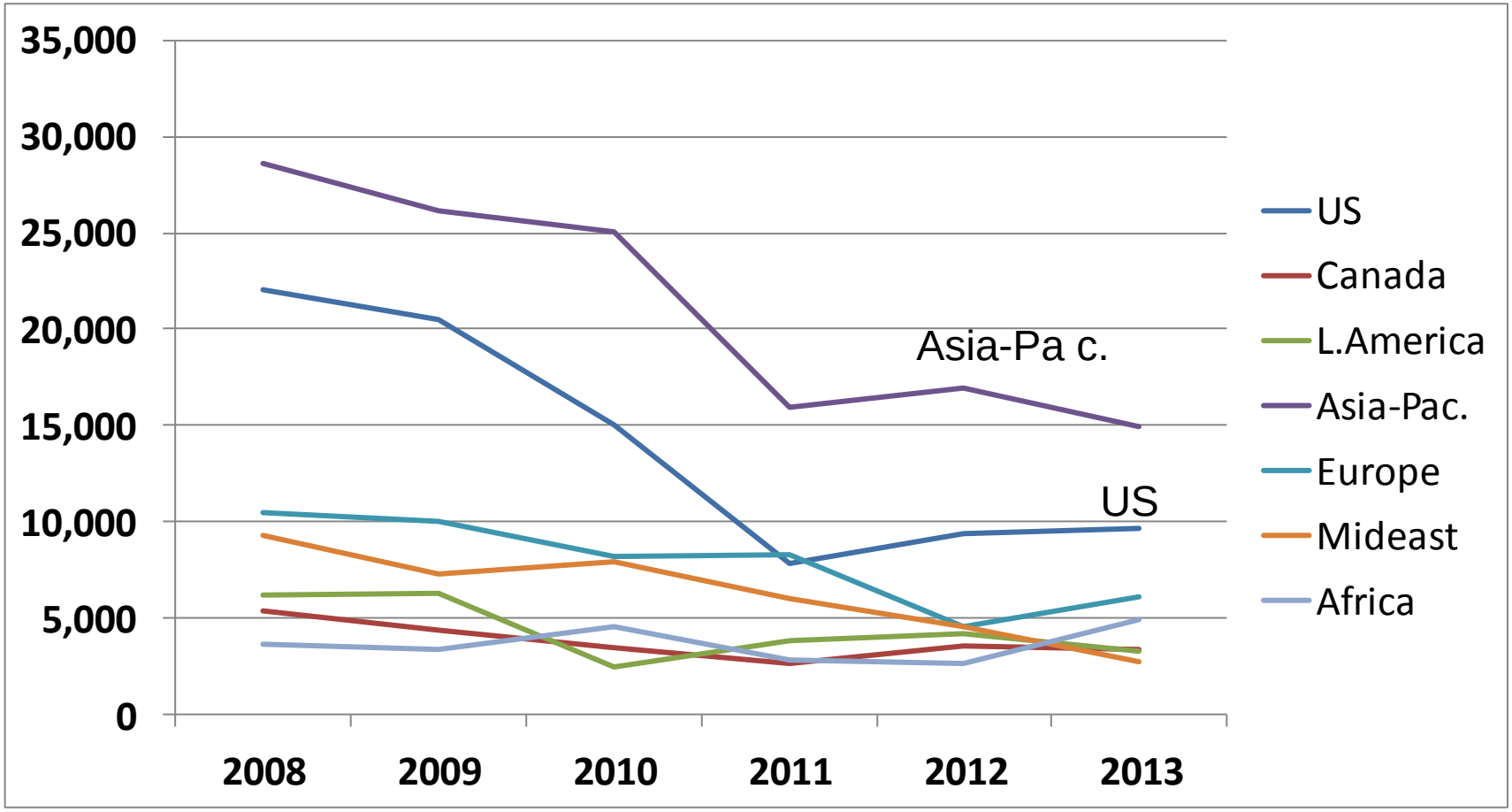
Source: OGJ Worldwide Construction Survey, Nov. 12, 2012; OGJ Ethylene Report, July 2, 2012; subsequent OGJ news articles.

Regional pipeline construction: 2013 only*



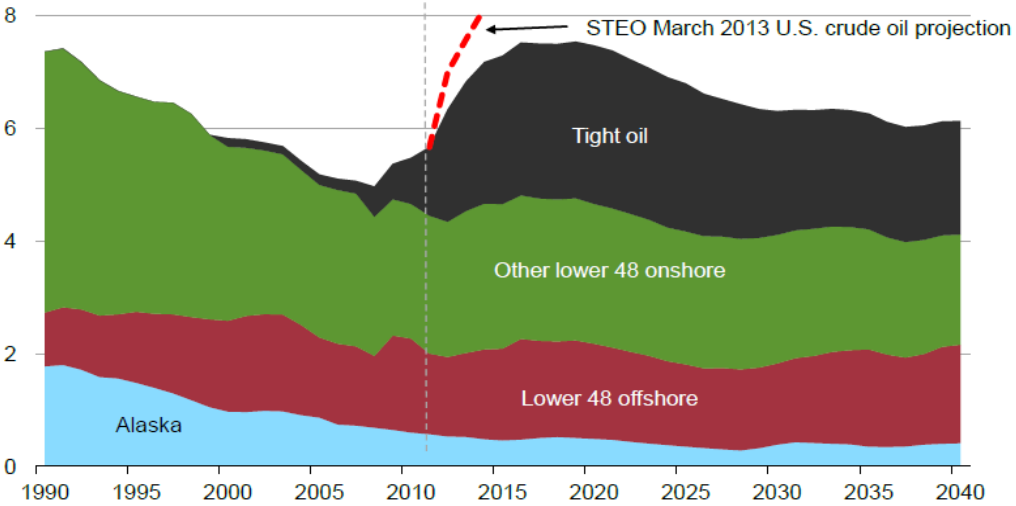
*Projects planned to be completed in 2013. Values are forecasts for given years.

Regional pipeline construction: 2012 and beyond*



*Projects under way at start of or set to begin in 2013 and be completed after 2013. Values are forecasts in given year.

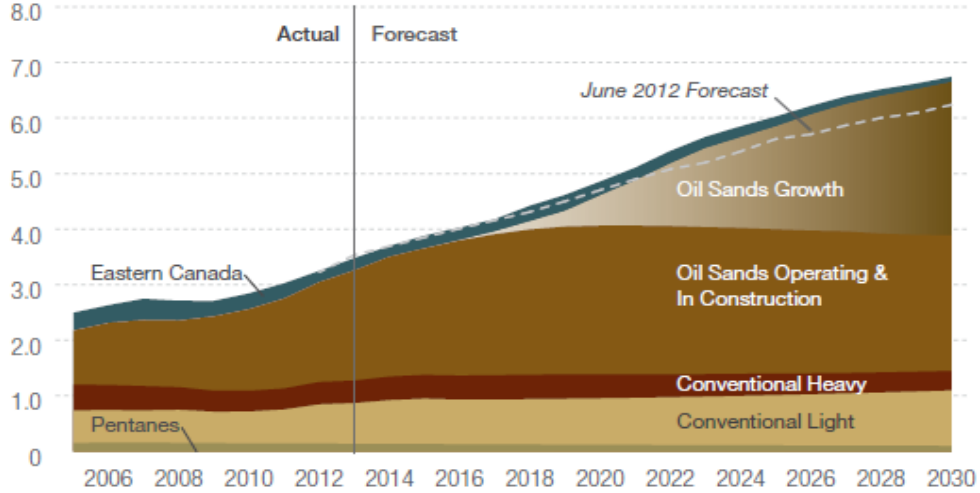
North American oil surges (MMbd)



Source: EIA, Annual Energy Outlook 2013 Early Release and Short-Term Energy Outlook, March 2013

United States

Source: Energy Information Administration



Canada

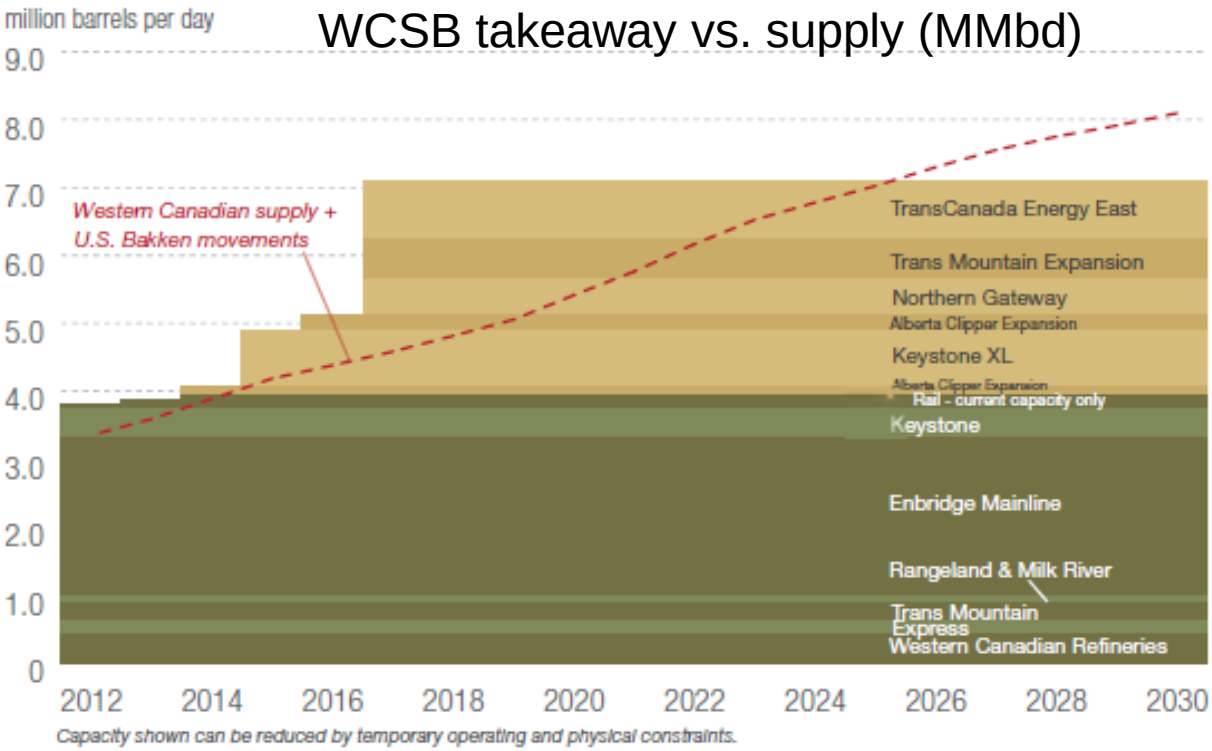
Source: Canadian Association of Petroleum Producers

Oil flows shifting in N. America

Source: Canadian Association of Petroleum Producers

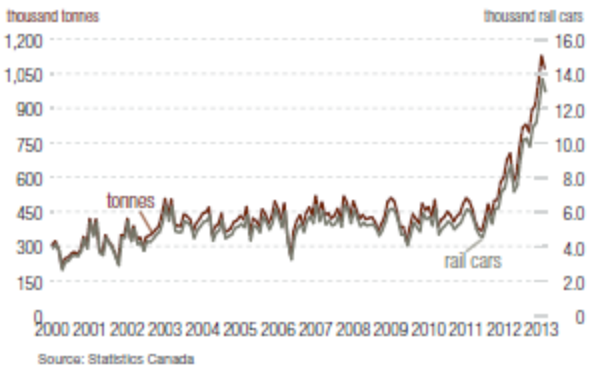
Canadian bottleneck looms

WCSB takeaway vs. supply (MMbd)



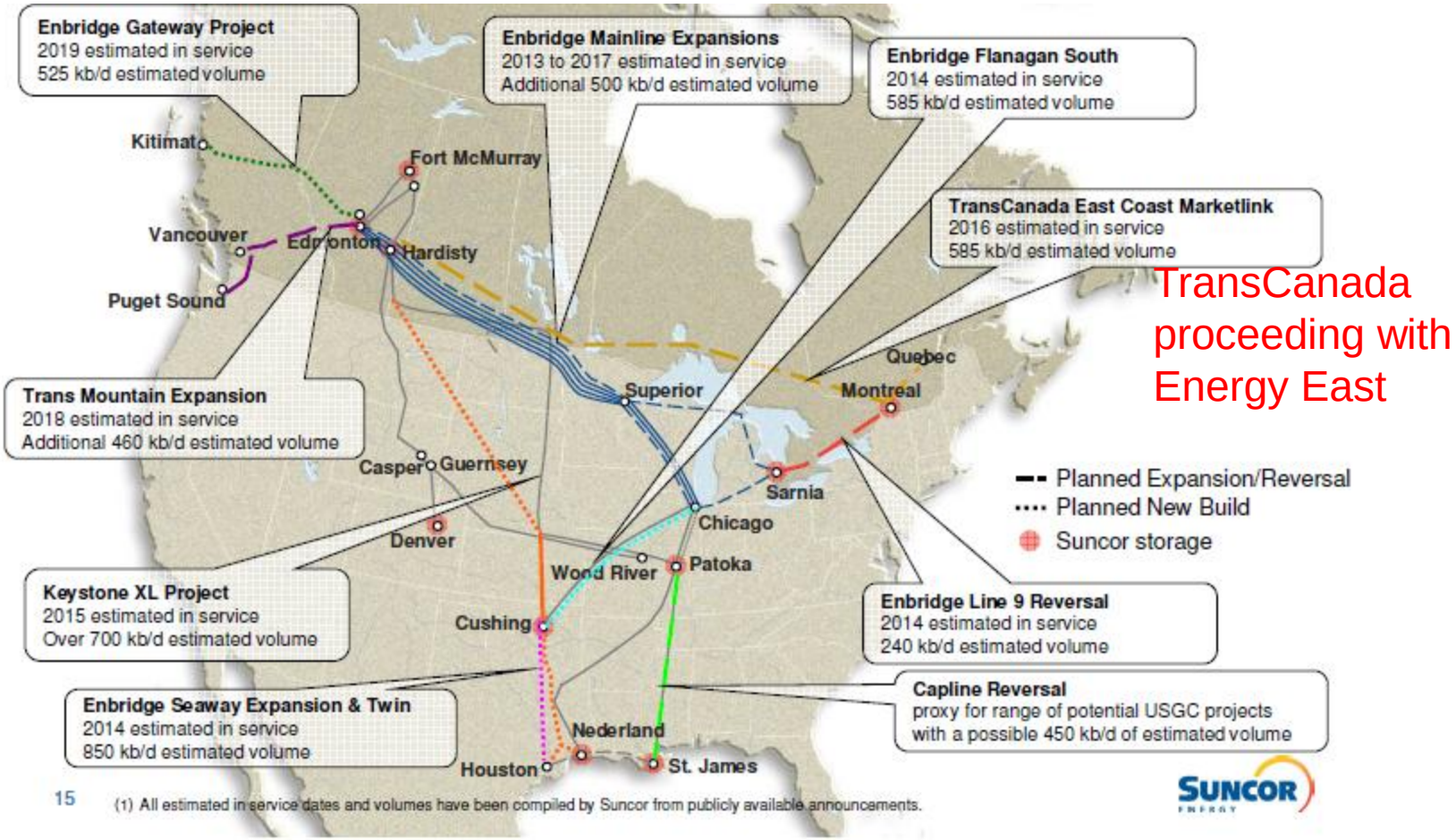
CAPP forecast: More transport capacity needed by 2014.

Canadian rail transport



Source: Canadian Association of Petroleum Producers

Planned pipeline projects



TransCanada proceeding with Energy East

Source: Suncor Energy Investor Information, November 2012.

Obama's 'carbon pollution' speech

- CO_2 standards for new, existing power plants
- CO_2 threshold for Keystone XL
- More renewable energy mandates, subsidies
- End "tax breaks for big oil companies"
- Tighten energy efficiency standards
- End public financing of new coal plants overseas