

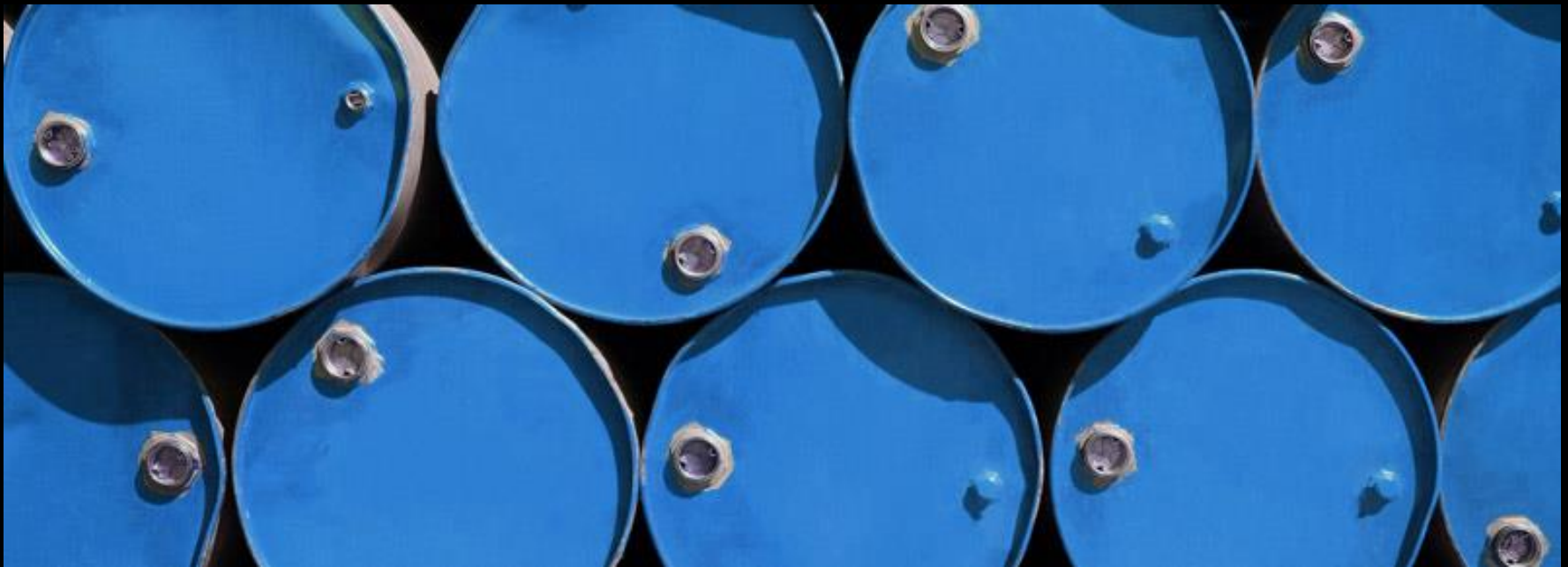


9º Congreso Bolivia Gas
y Energía 2016

Reconfiguración del Mercado Petrolero Mundial y Regional

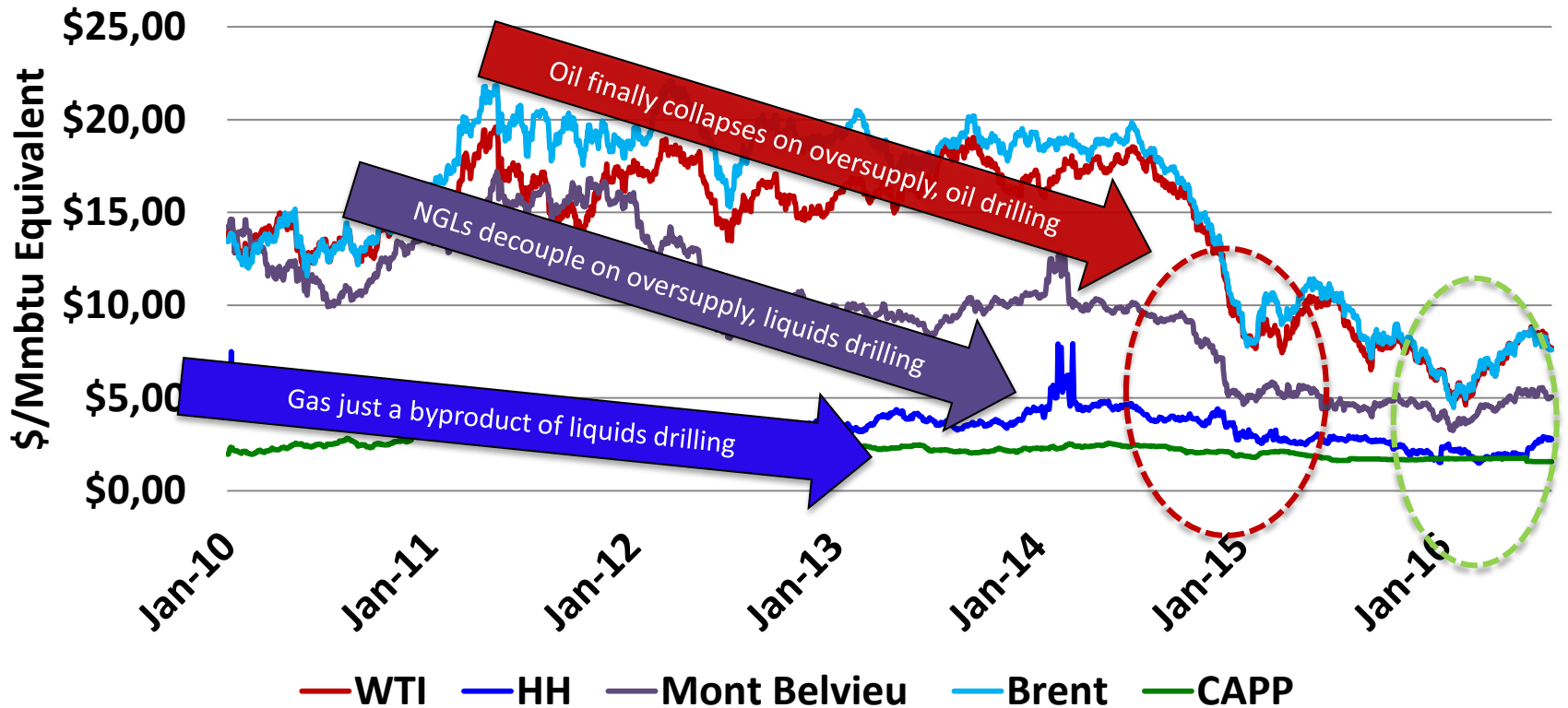
Javier Díaz

Gerente de Consultoría y Análisis de Energía



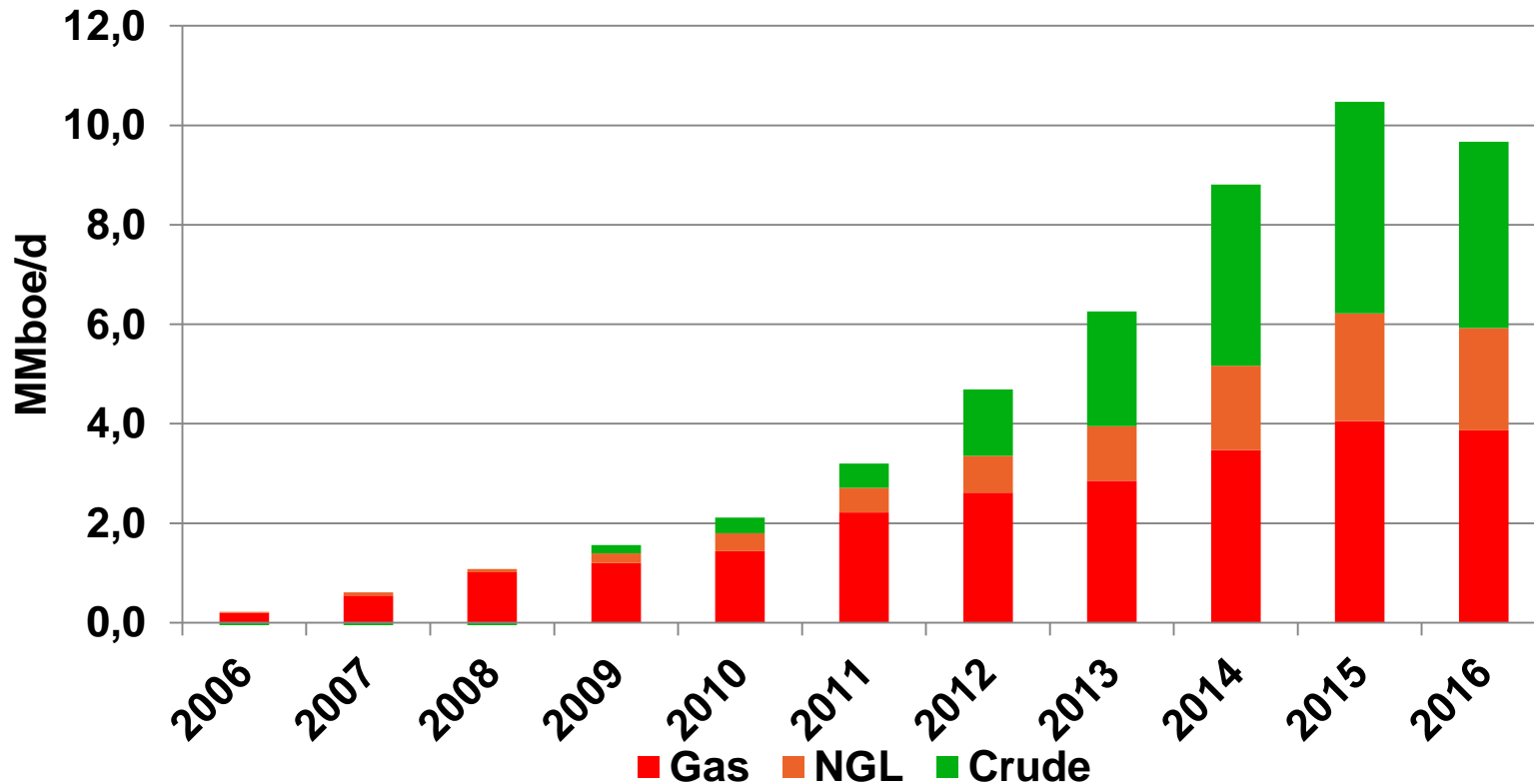
Value gap between commodities collapse as energy markets are flooded with new supply

Gas, Oil and NGL Price Comparison: MMBTU Equivalent



U.S. Added 10 MMboe/d TO GLOBAL MARKETS

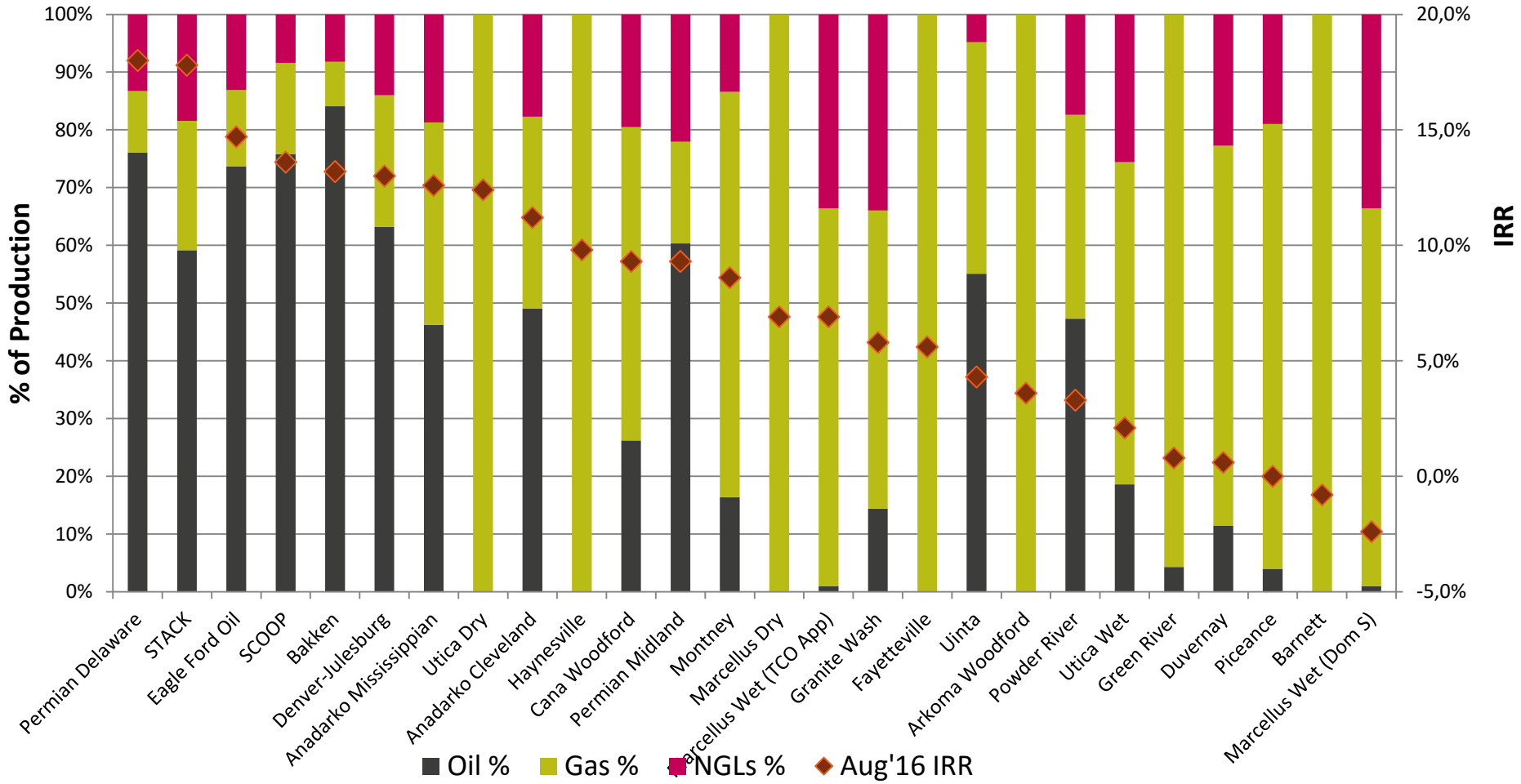
Cumulative Increase in Production Since 2005





PRICE AND PRODUCTION ACTIVITY

IRR by production mix



Aug 2016 Price Assumptions:

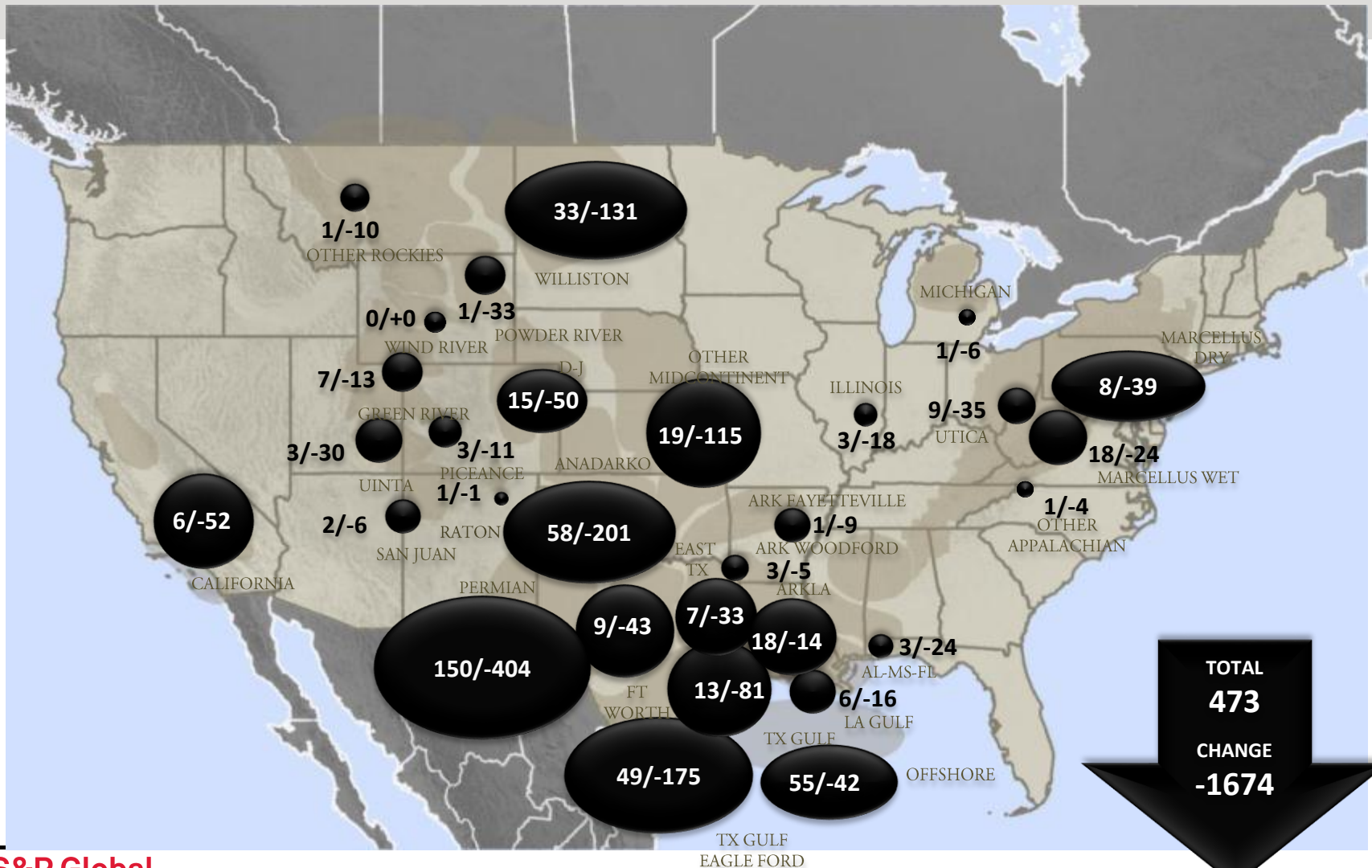


Gas = average of the 12 month forward curve for each regional pricing point (range \$1.98- \$3.12/Mcf)

Oil = 12 month forward average WTI +/- differential (range \$35.51- \$45.07 barrel)

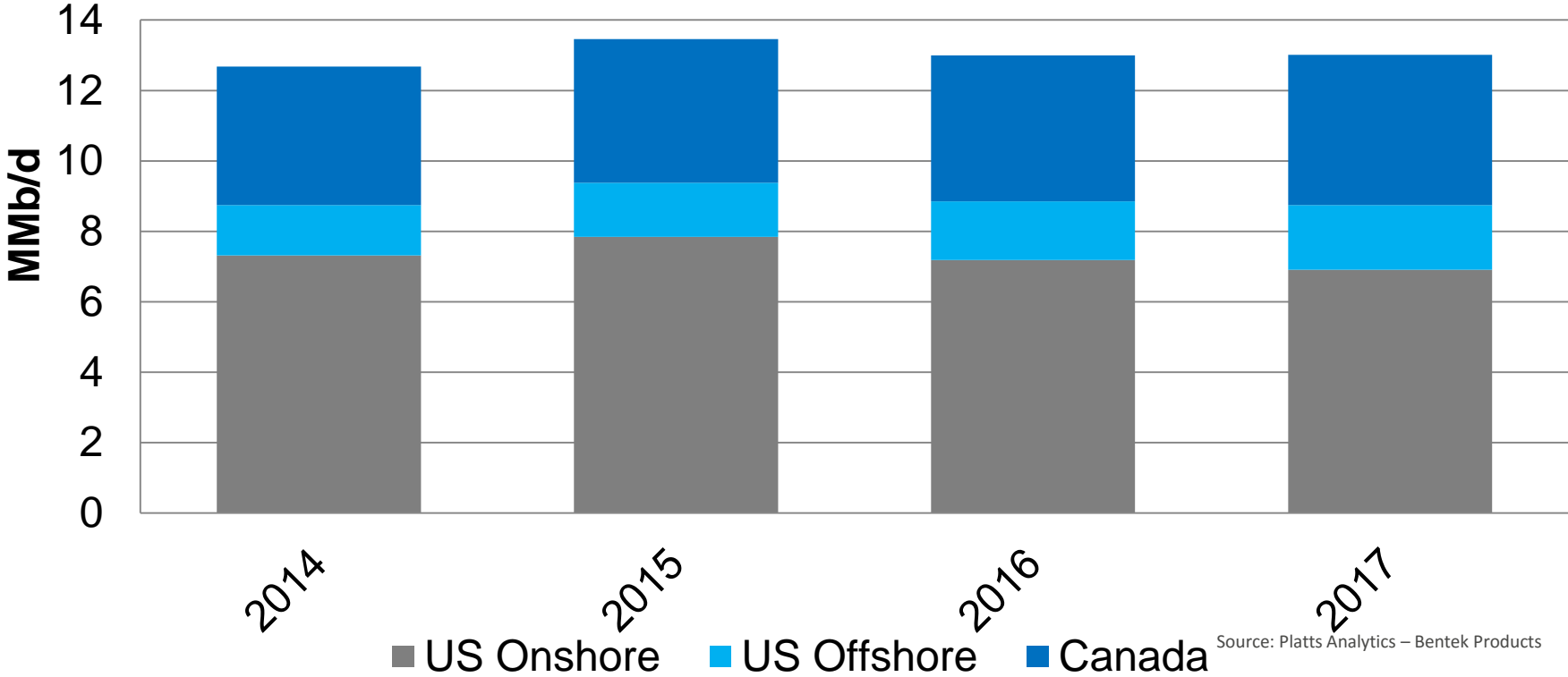
NGLs = weighted average \$/barrel, 12-mo forward average Mt. Belvieu prices (range \$18.98- \$22.37/barrel)

U.S. RIG COUNTS: CURRENT VS. PEAK



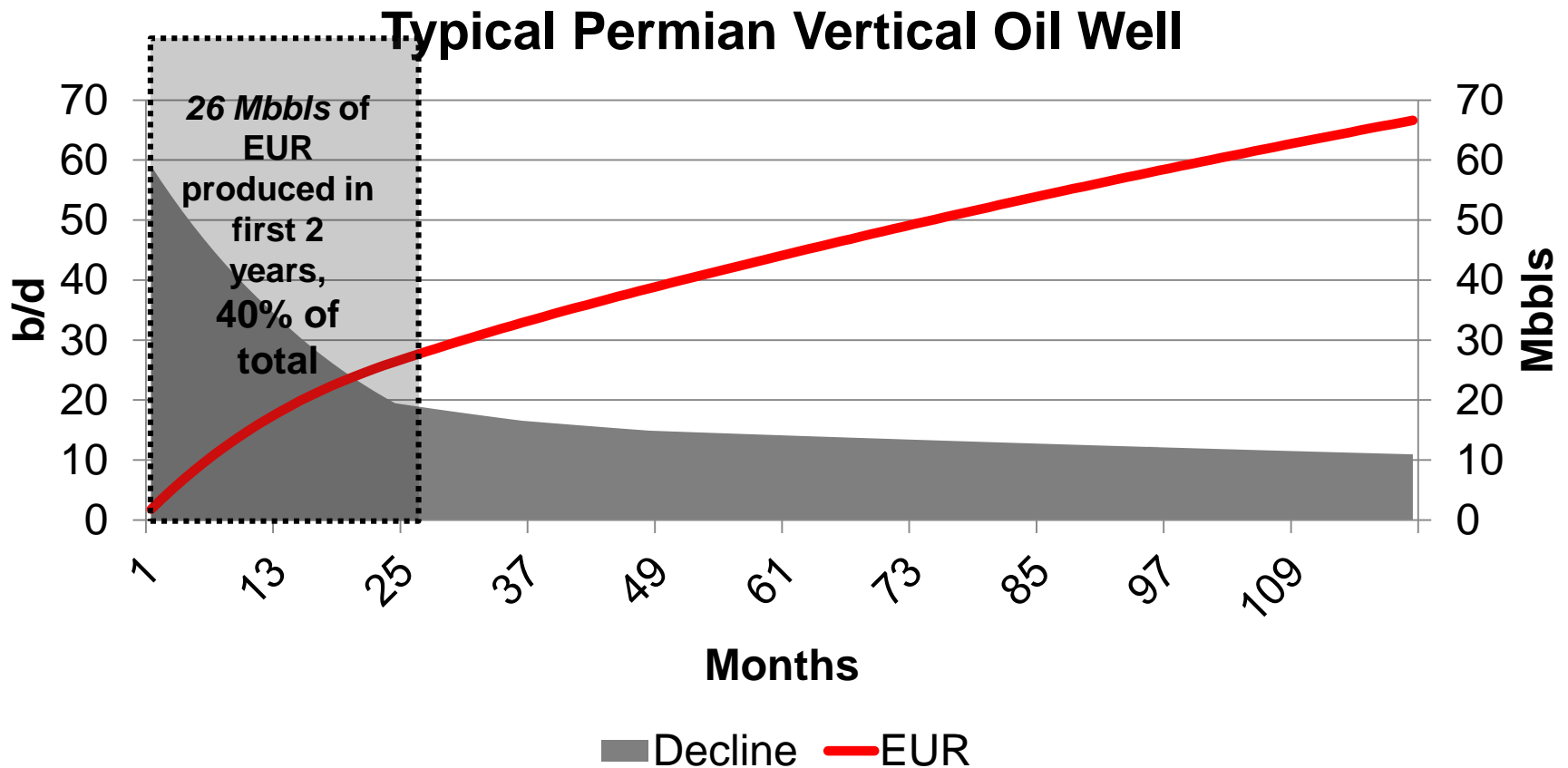
U.S. ONSHORE DECLINE SHOULD CONTINUE SHORT TERM

U.S. and Canada Production

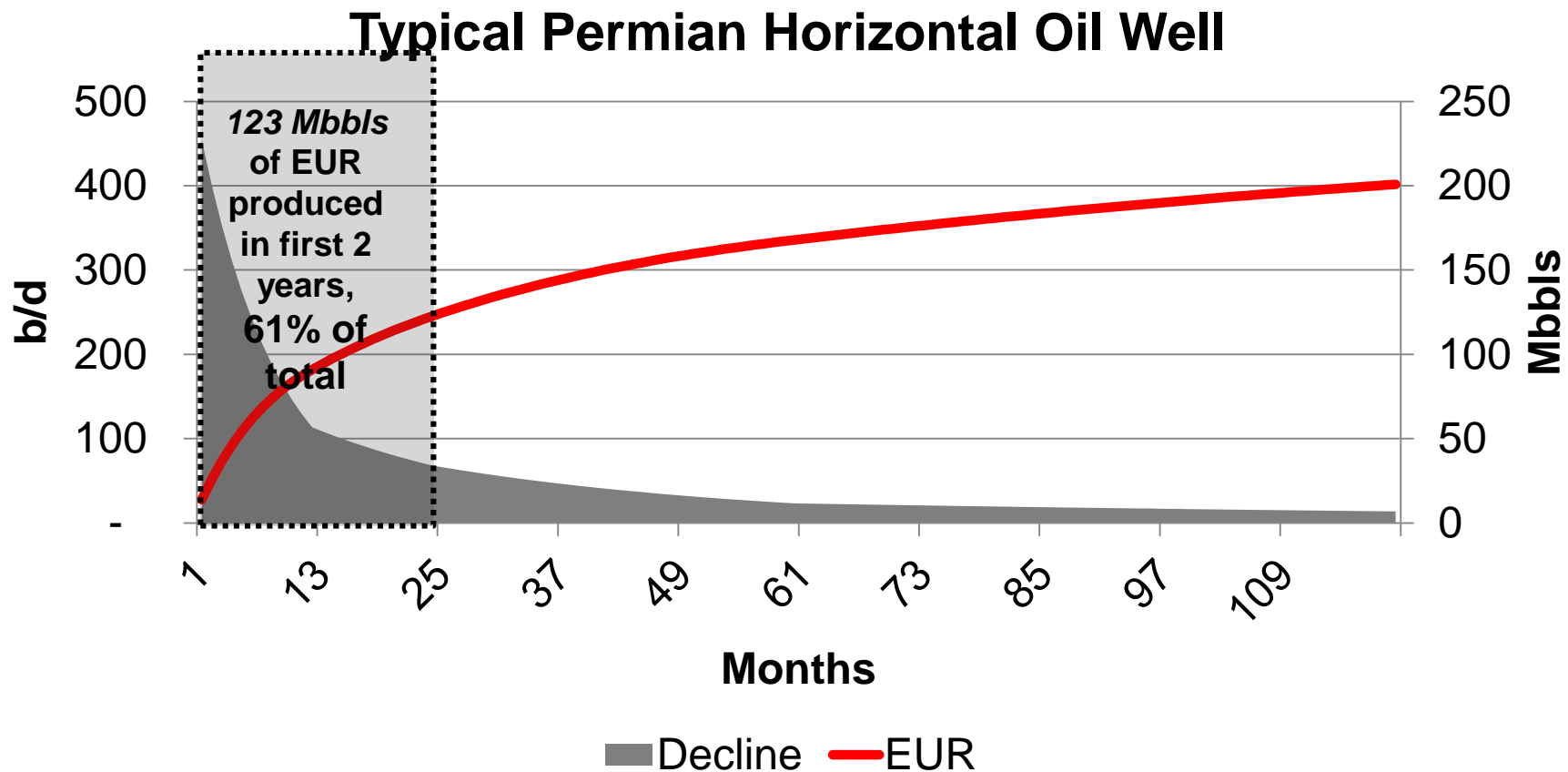


DRILLING DYNAMICS

U.S. HISTORICALLY DRILLED VERTICAL WELLS

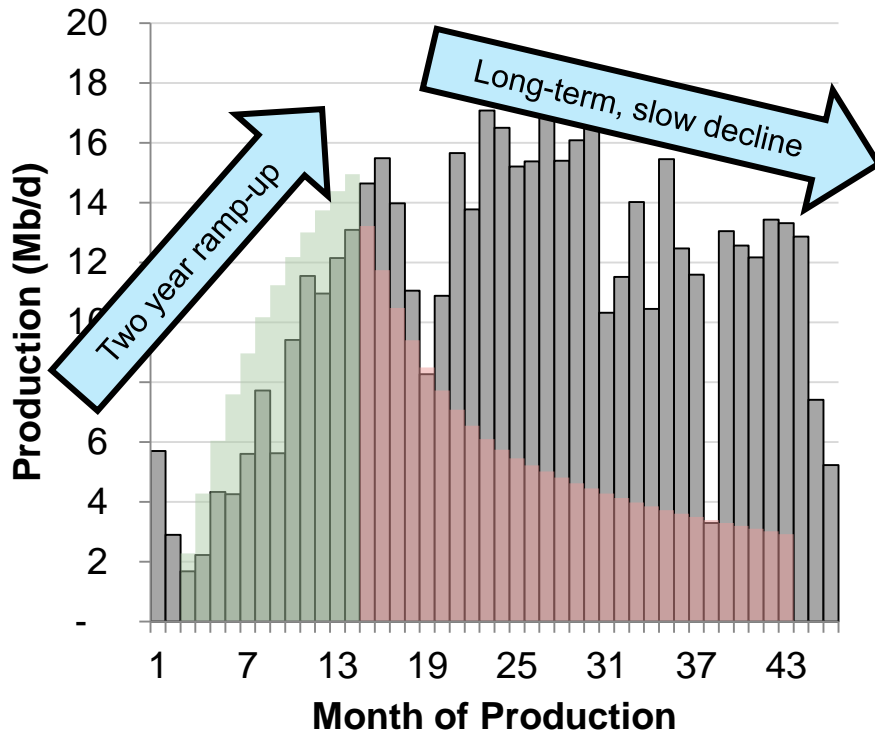


FASTER RESPONSE WITH HORIZONTAL AND FRACKING

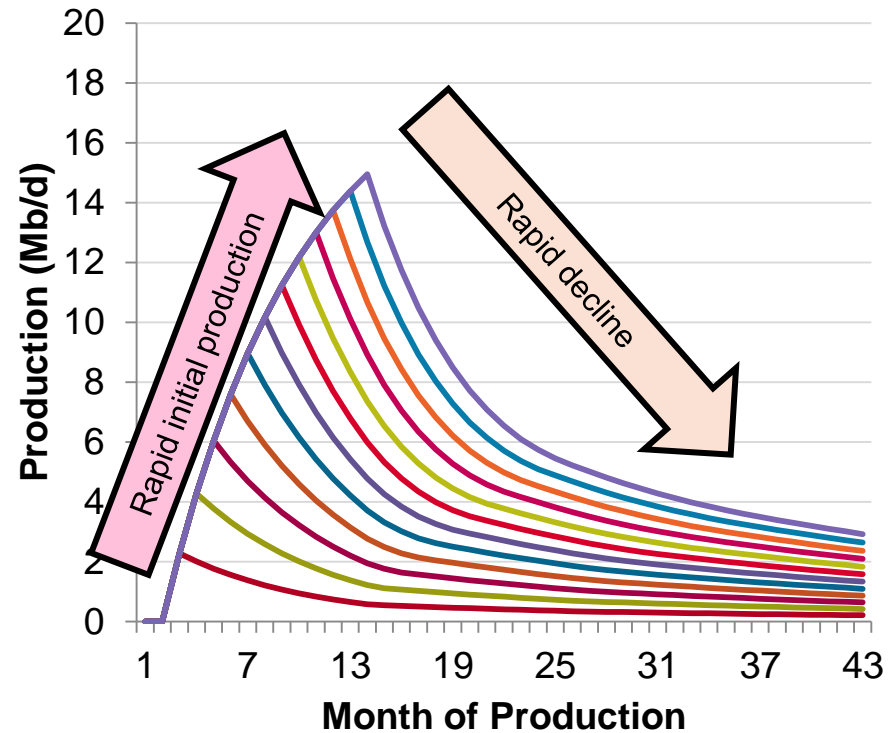


Global production driven by large, capital-intensive projects, unlike the single well economics in the US

Average Production Trend of Offshore Oil Projects



Average Production Trend of Shale Drilling Programs

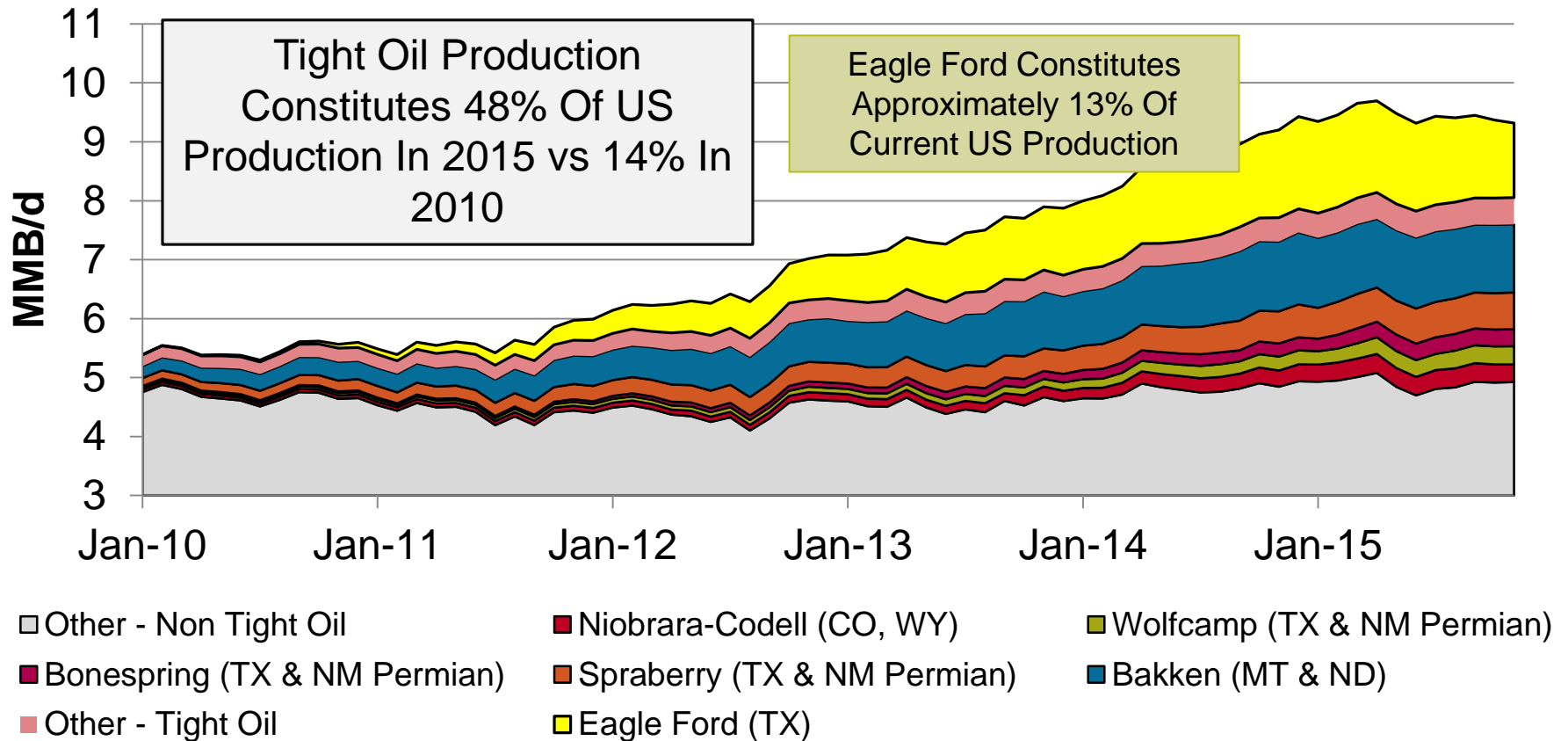


Large start-up costs
Slow ramp-up
Slow decline
Long-term payback

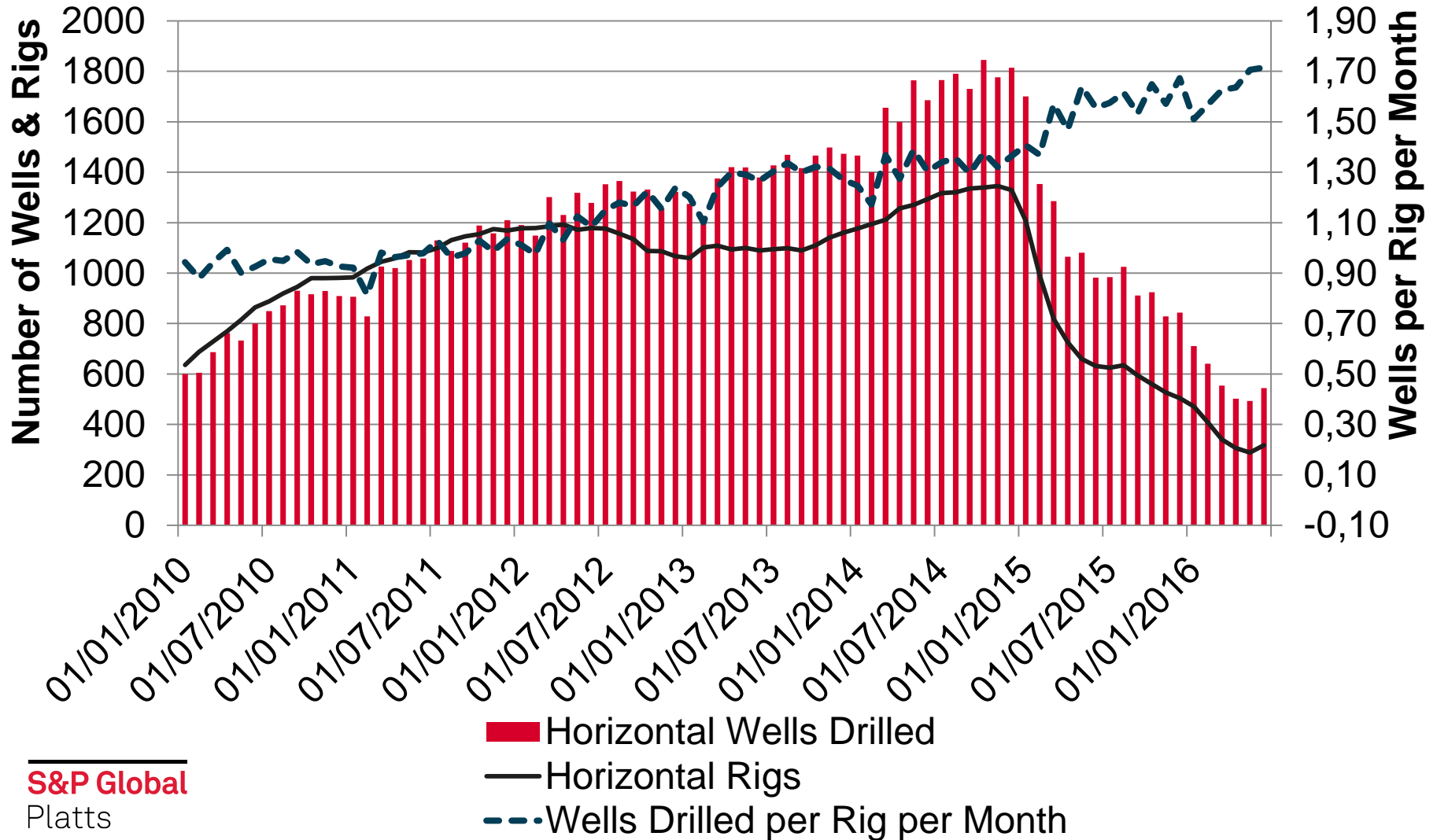
Less start-up costs
Rapid ramp-up
Rapid decline
Short-term payback

U.S. SHALE REVOLUTION CHANGED THE LANDSCAPE

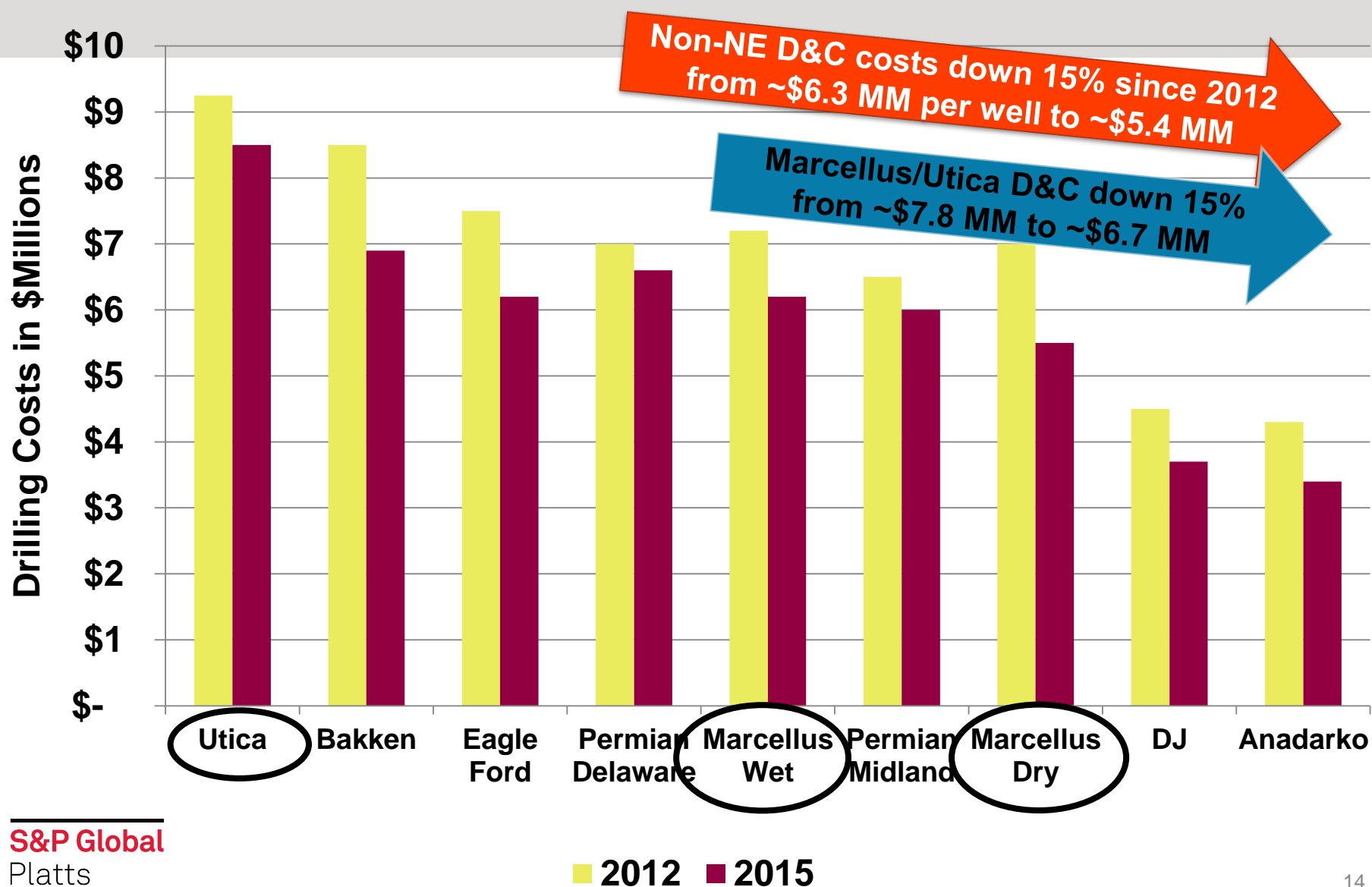
US Production Of Crude Oil By Basin/Type



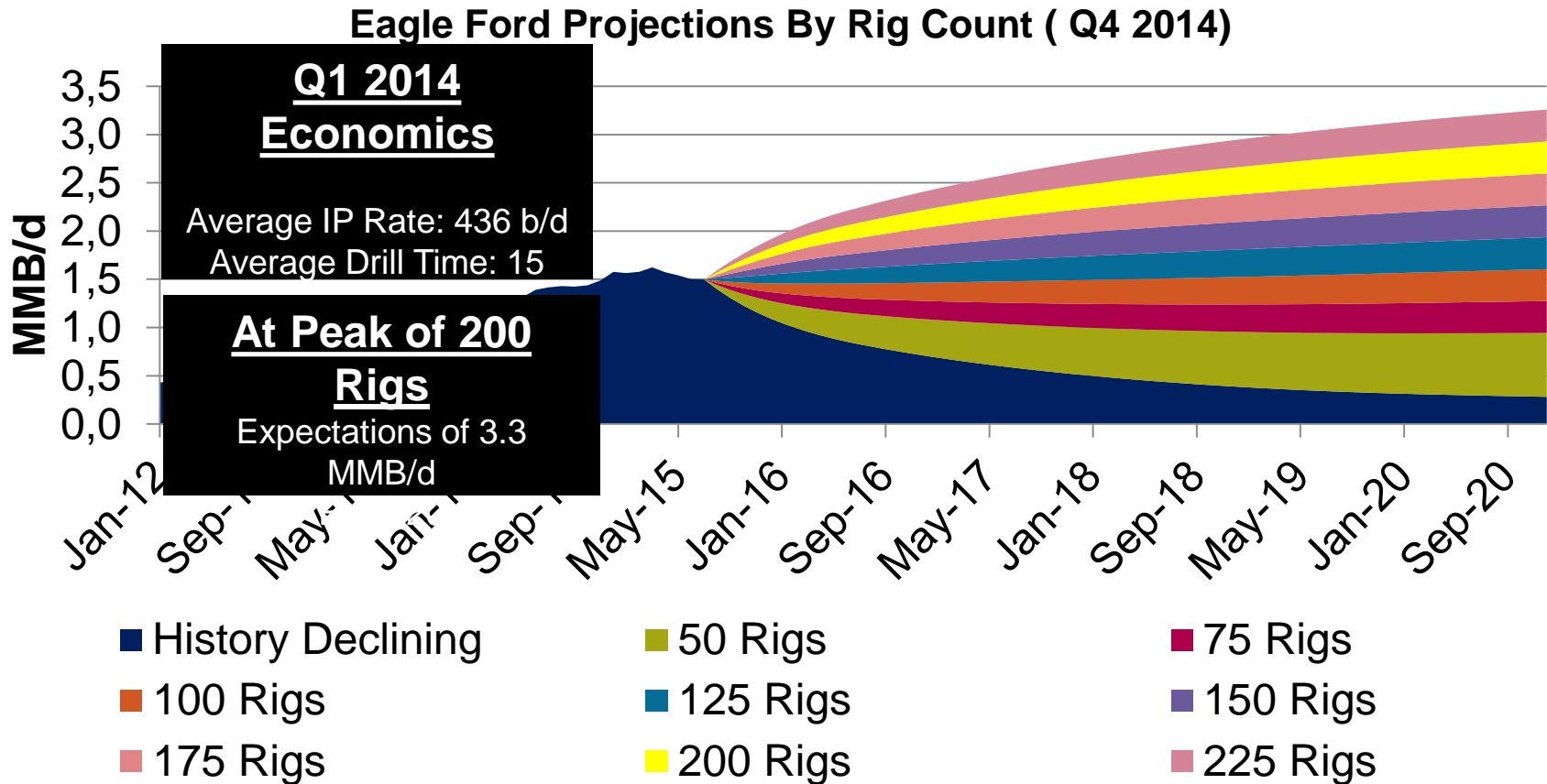
US HORIZONTAL DRILLING DYNAMICS



Drilling & Completion Costs Falling

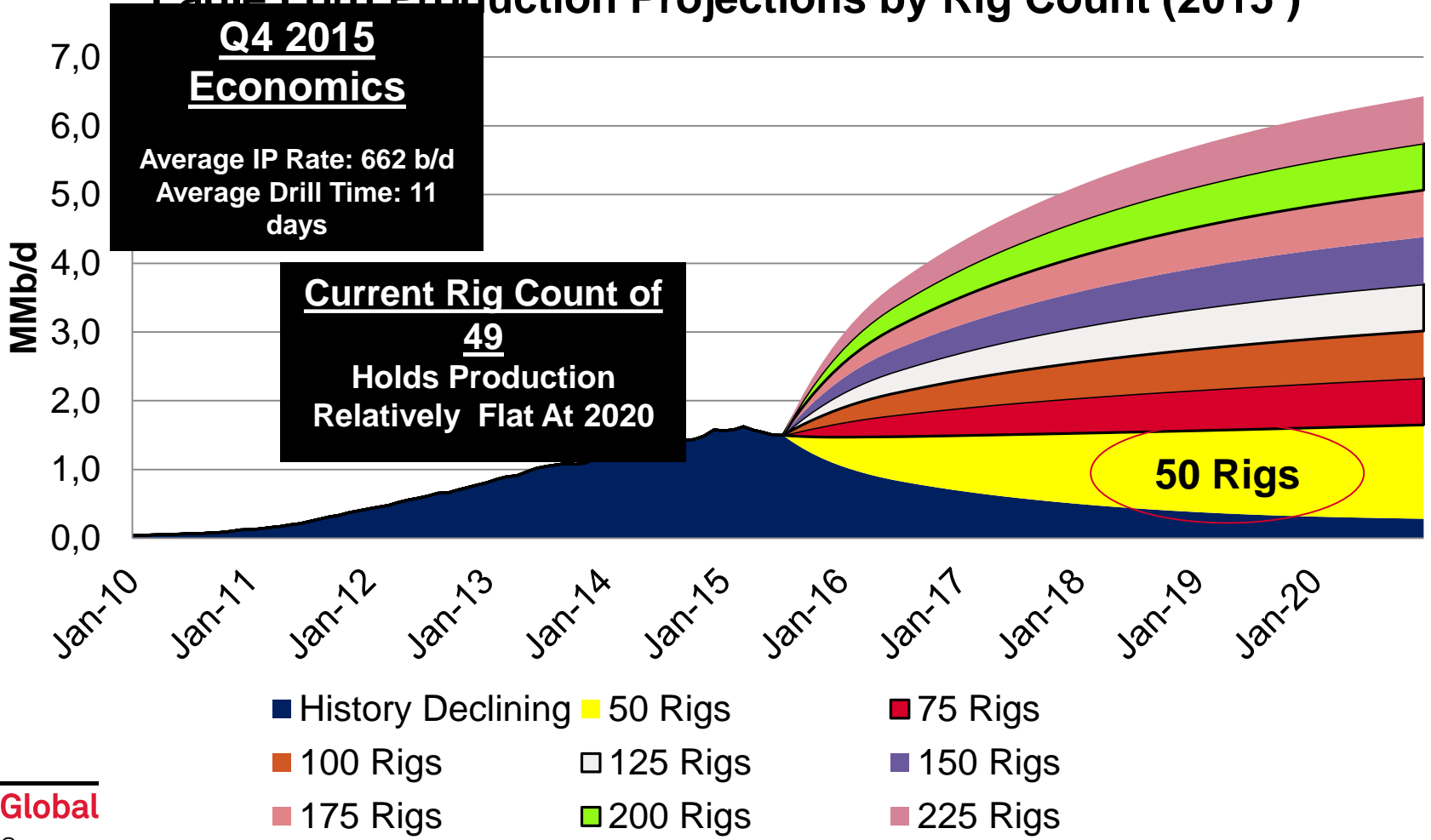


EAGLE FORD RIGS PEAKED AT 209 OCTOBER 2014



TECHNOLOGY GAINS: 125 RIGS NOW EQUAL 200 IN 2014

Eagle Ford Production Projections by Rig Count (2015)

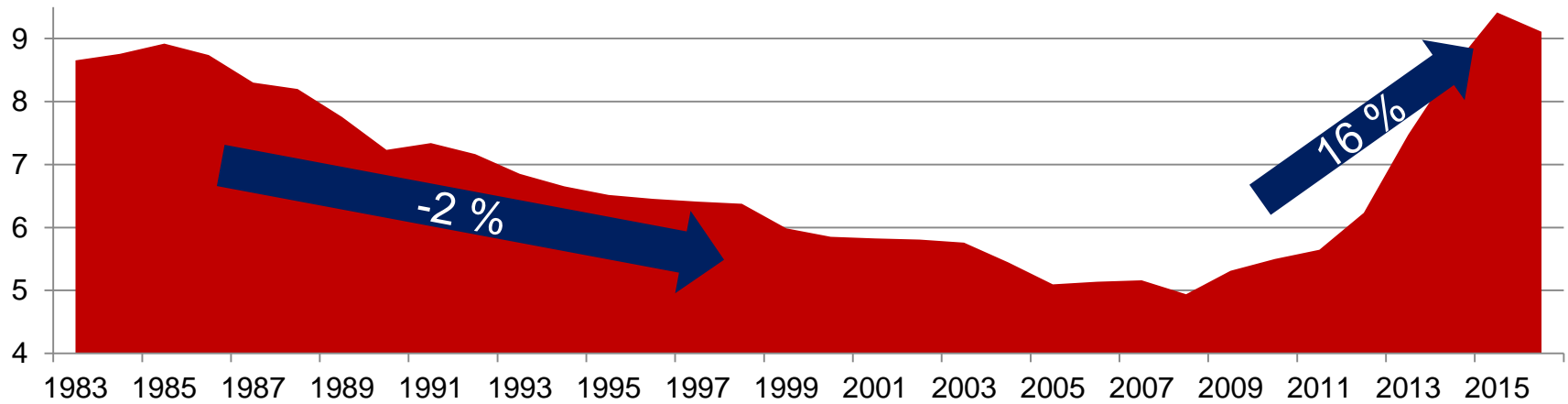


OIL MARKET EFFECTS

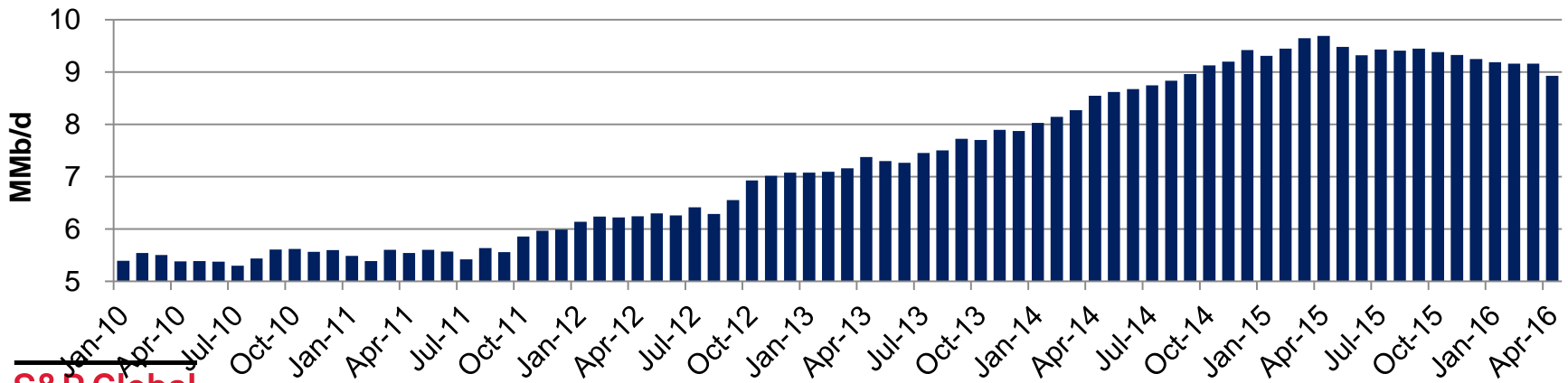
Shale revolution led to rapid growth in oil production after years of decline

MMb/d

US Field Production of Crude Oil (since 1983)



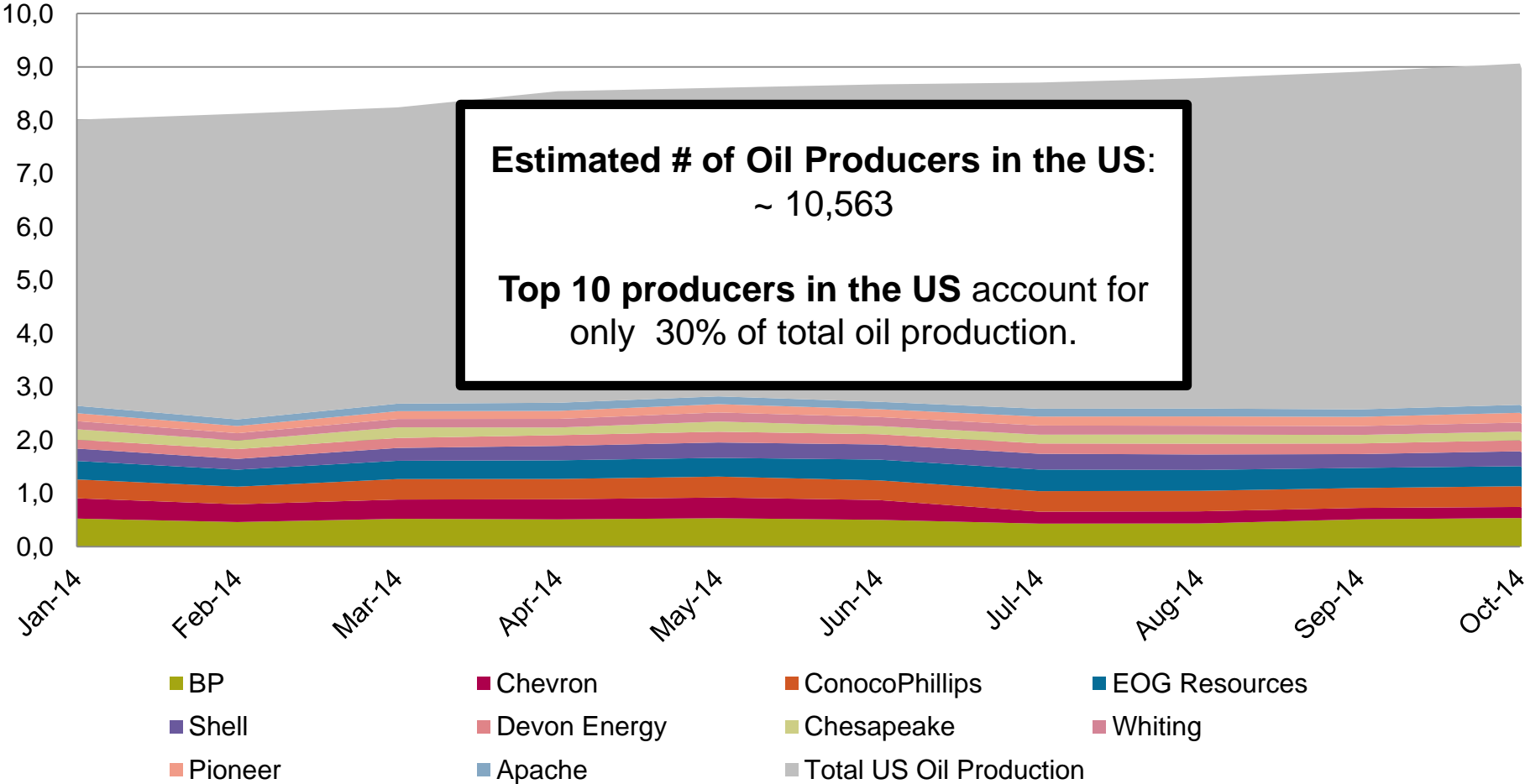
U.S. Field Production of Crude Oil Since 2010



S&P Global
Platts

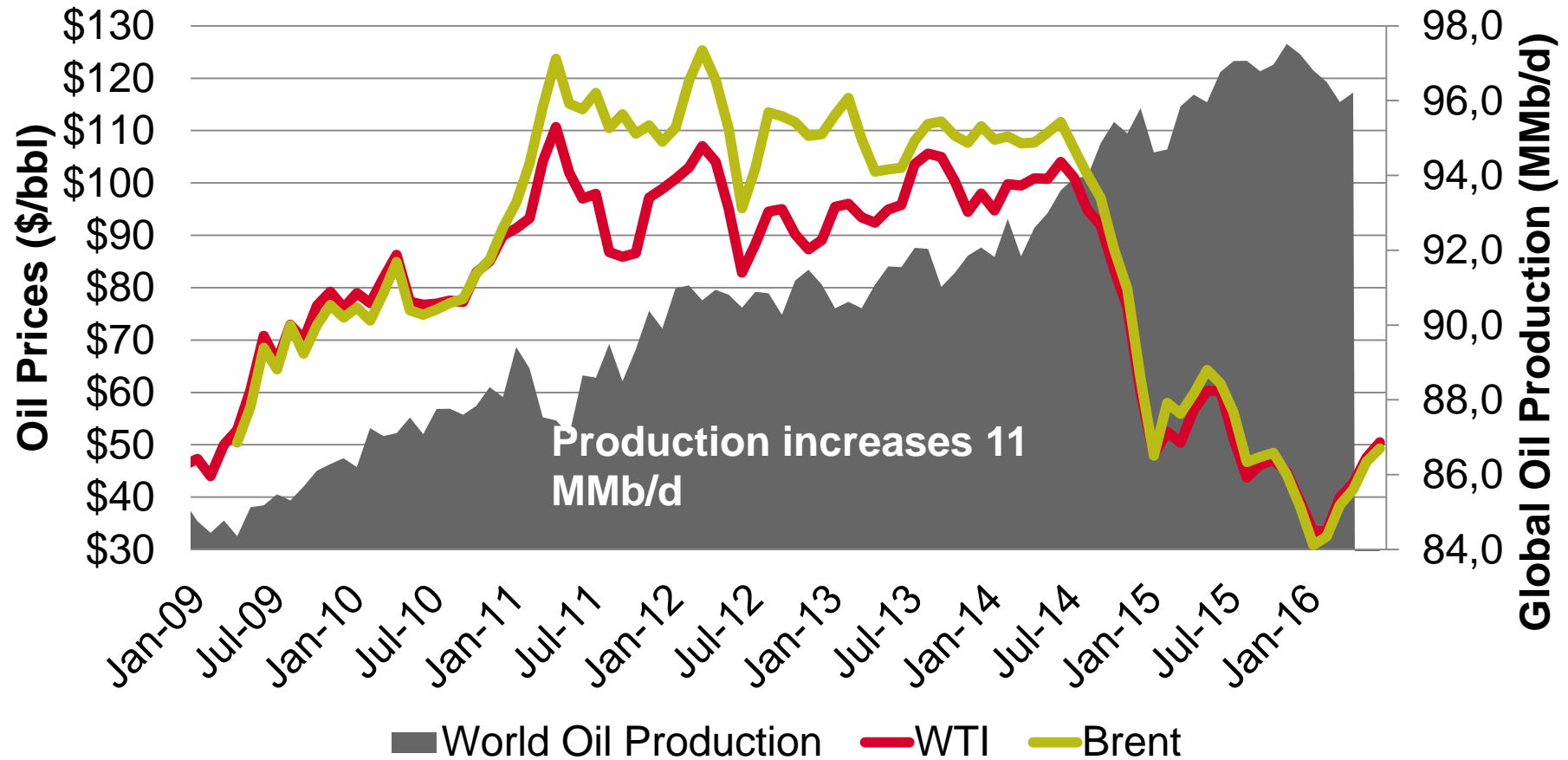
US capitalism driving growth, NOCs no longer control global supply

US Oil Production by Operator



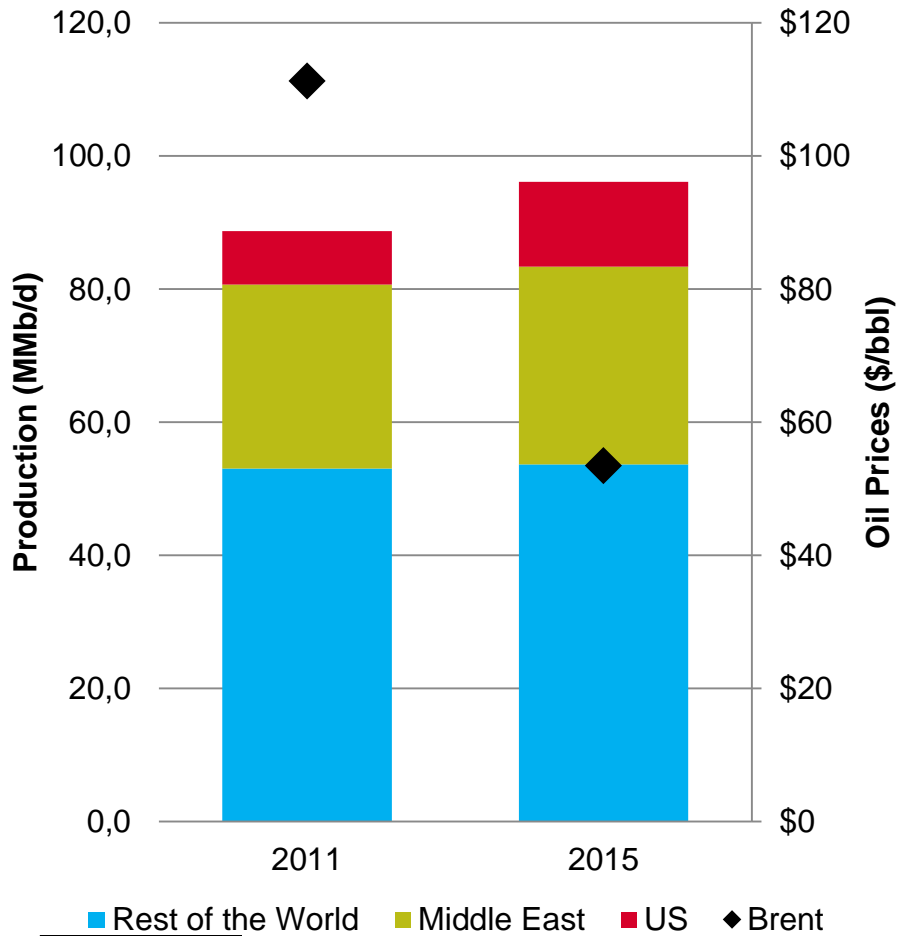
LOW PRICES DRIVEN BY THE U.S. SHALE REVOLUTION

Global Oil Prices v Global Oil Production

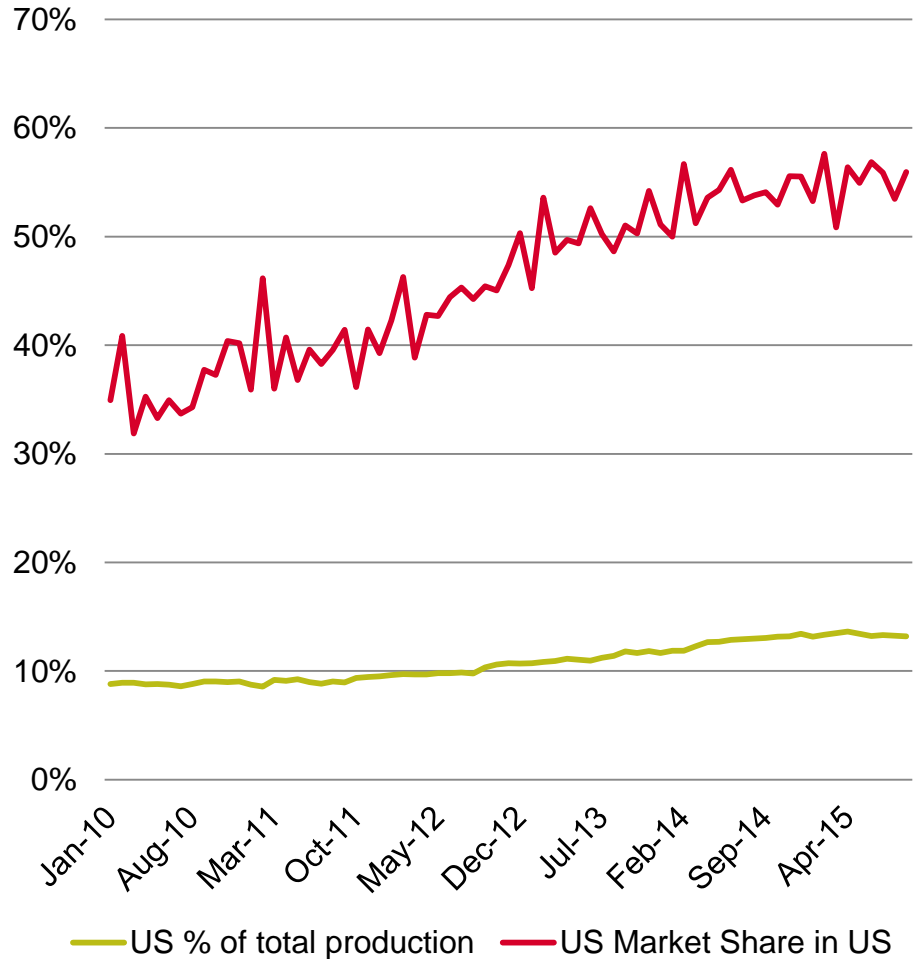


US supply growth has fundamentally altered the global oil market, despite export bans

Global Oil Prices and Production



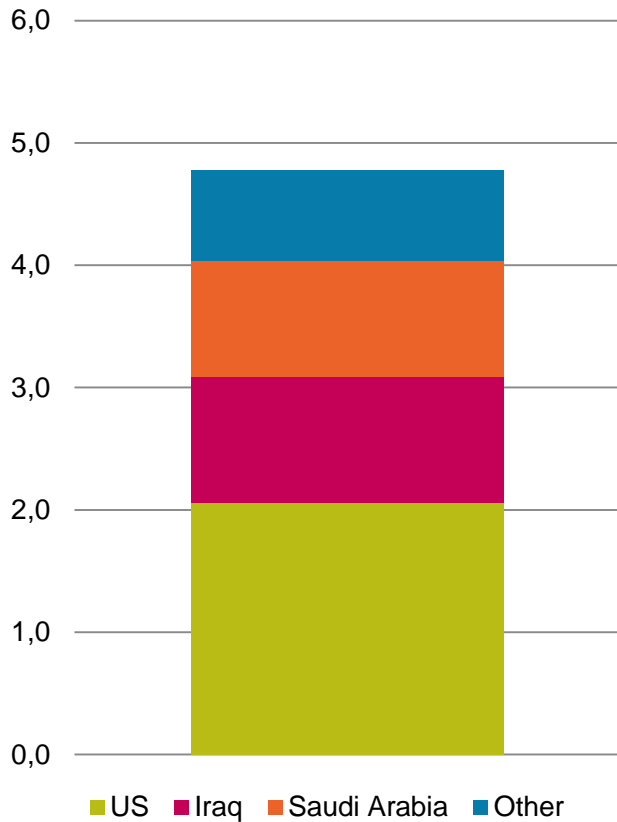
US Market Share



S&P Global
Platts

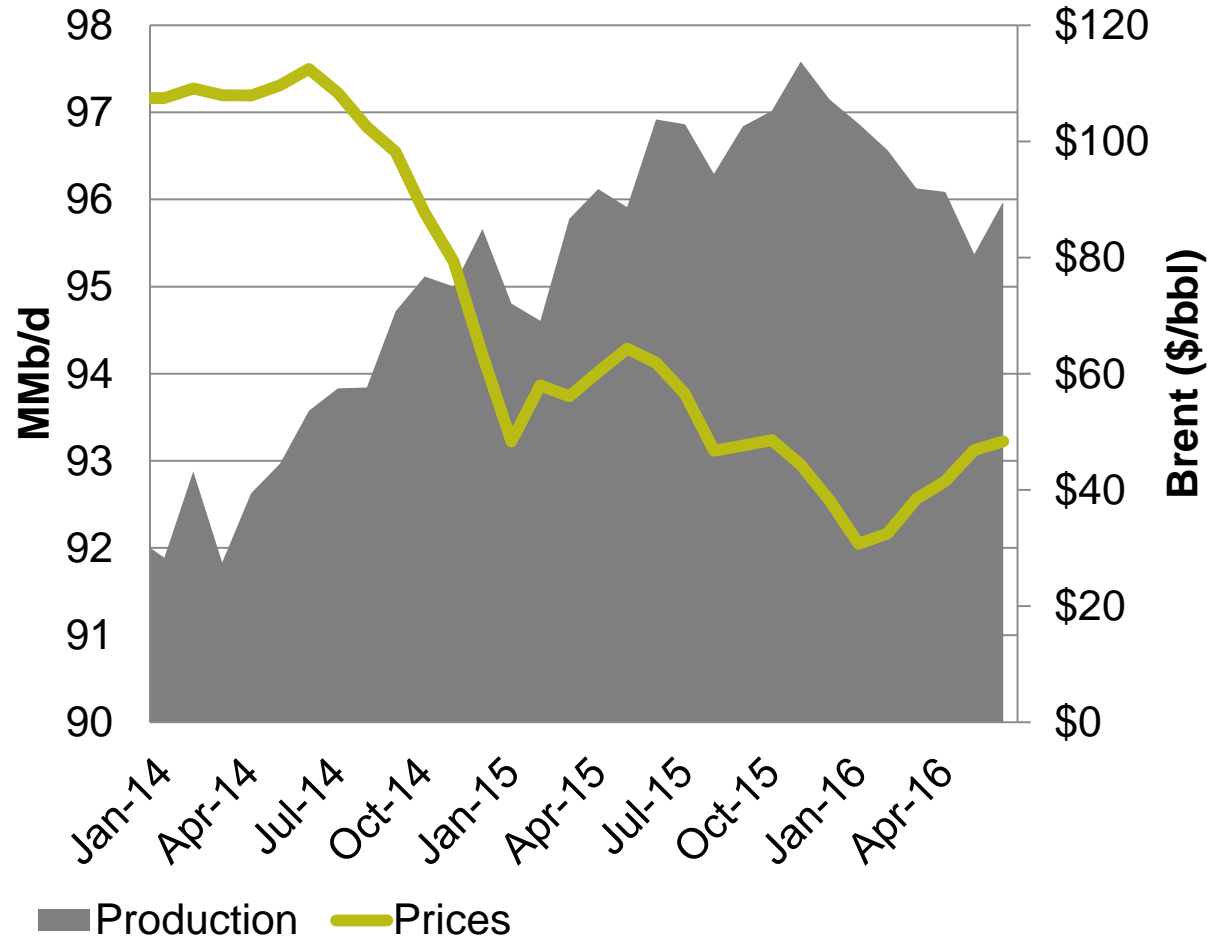
US drives global growth, production grows as prices collapse in a battle for market share

Production Growth by Region (MMb/d)



S&P Global
Platts

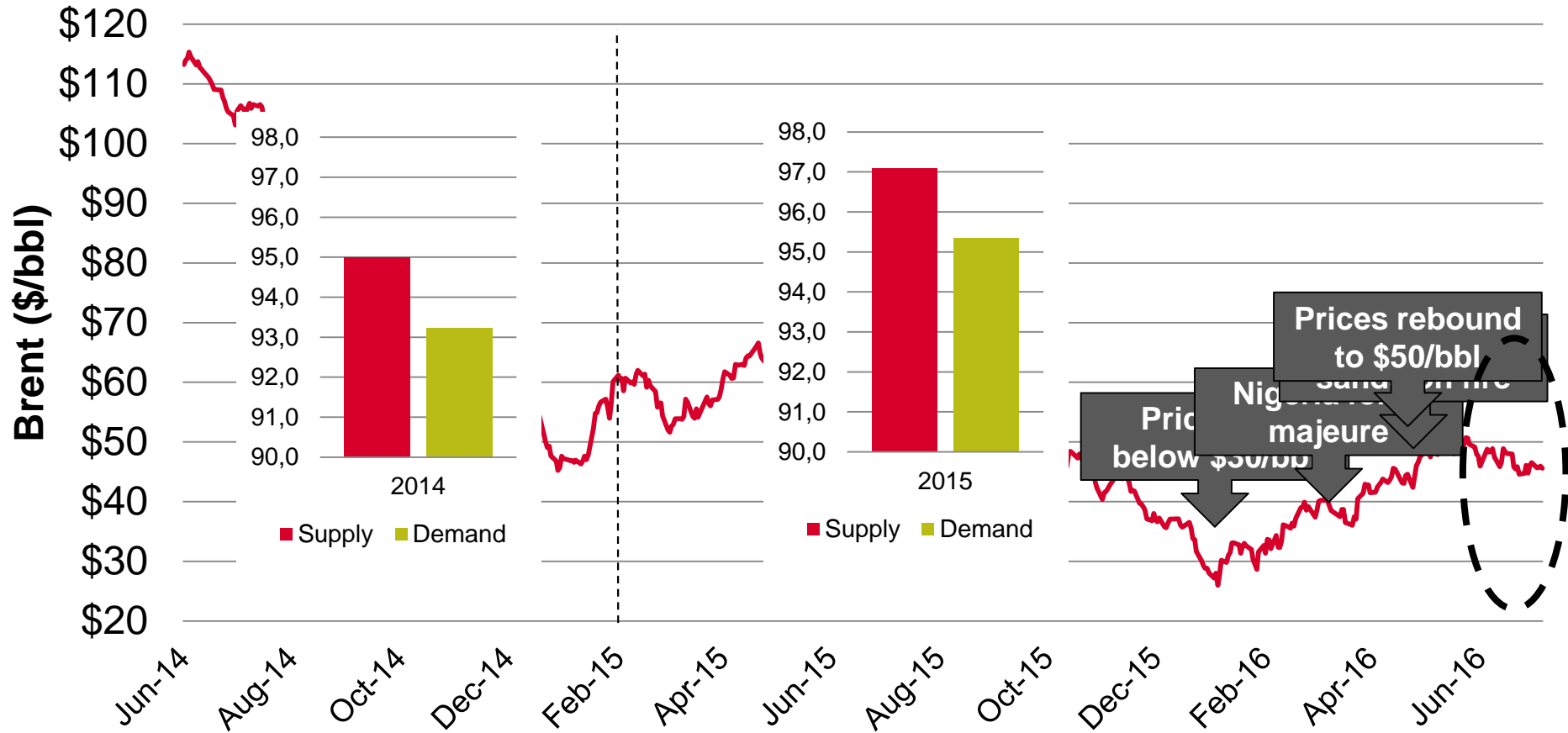
Global Oil Production v Brent Prices



PRICE evolution

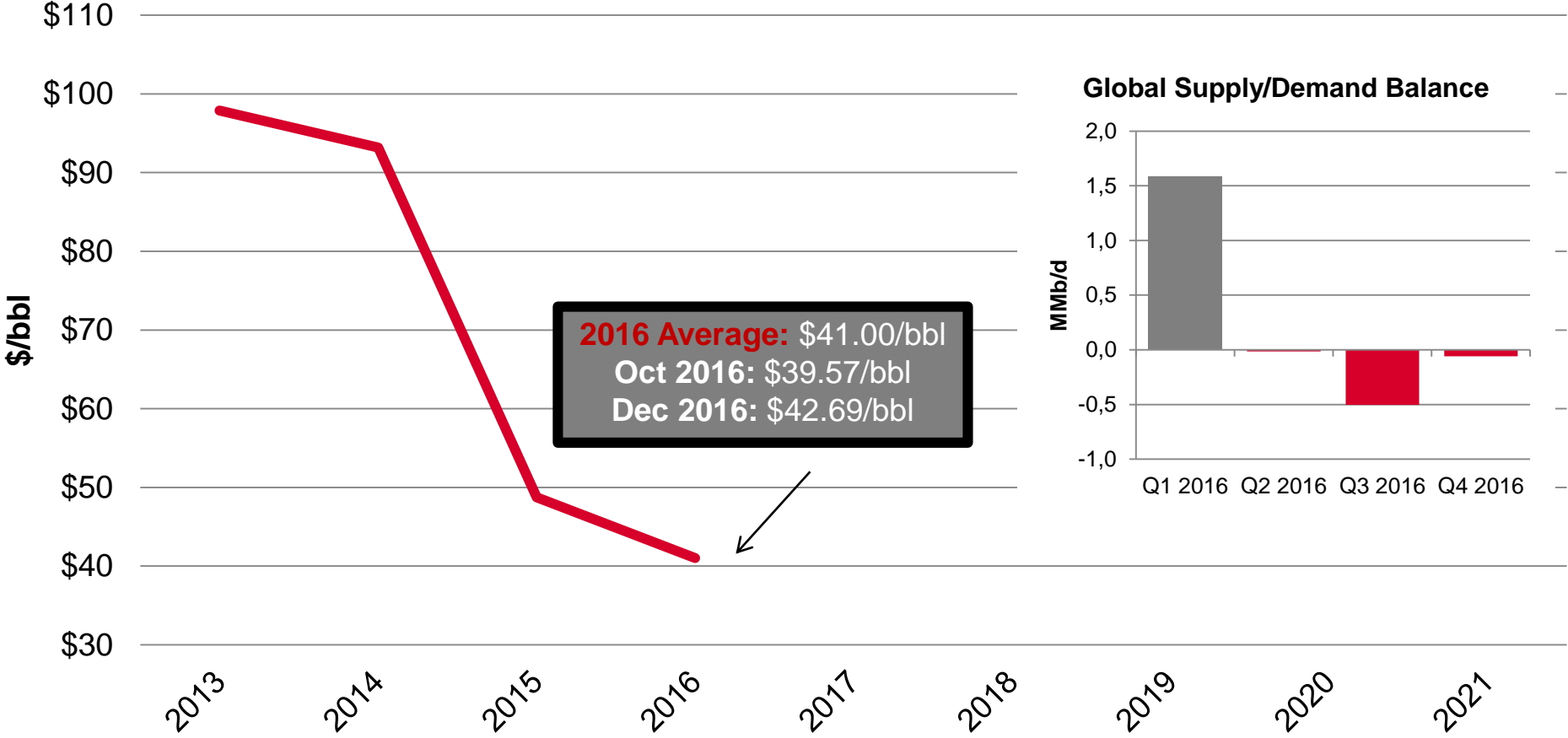
Global oil market still firmly oversupplied through 2016, risk to the recent price rebound

Global Oil Prices



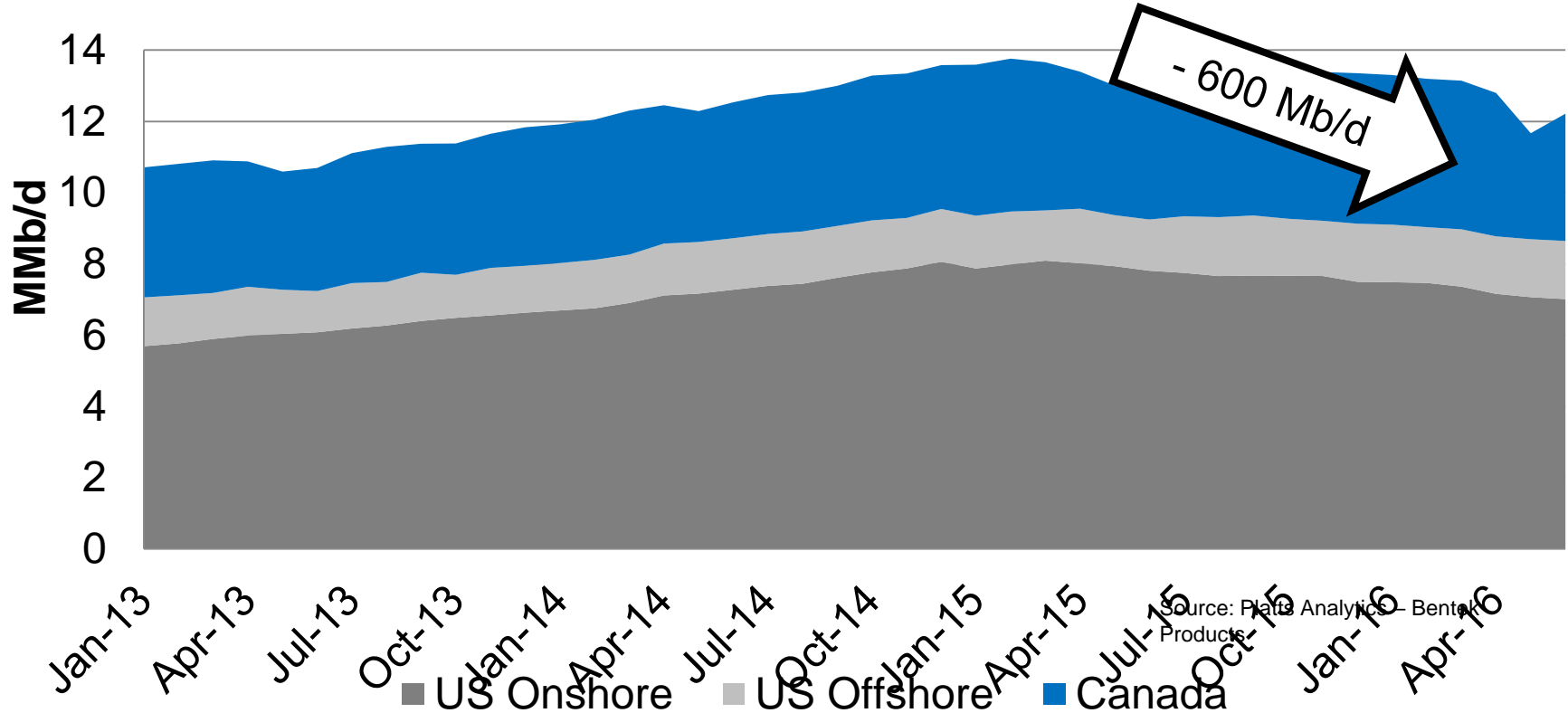
Prices stay low in 2016 on diverging fundamentals, high crude and product inventories globally

Bentek's WTI Price Forecast



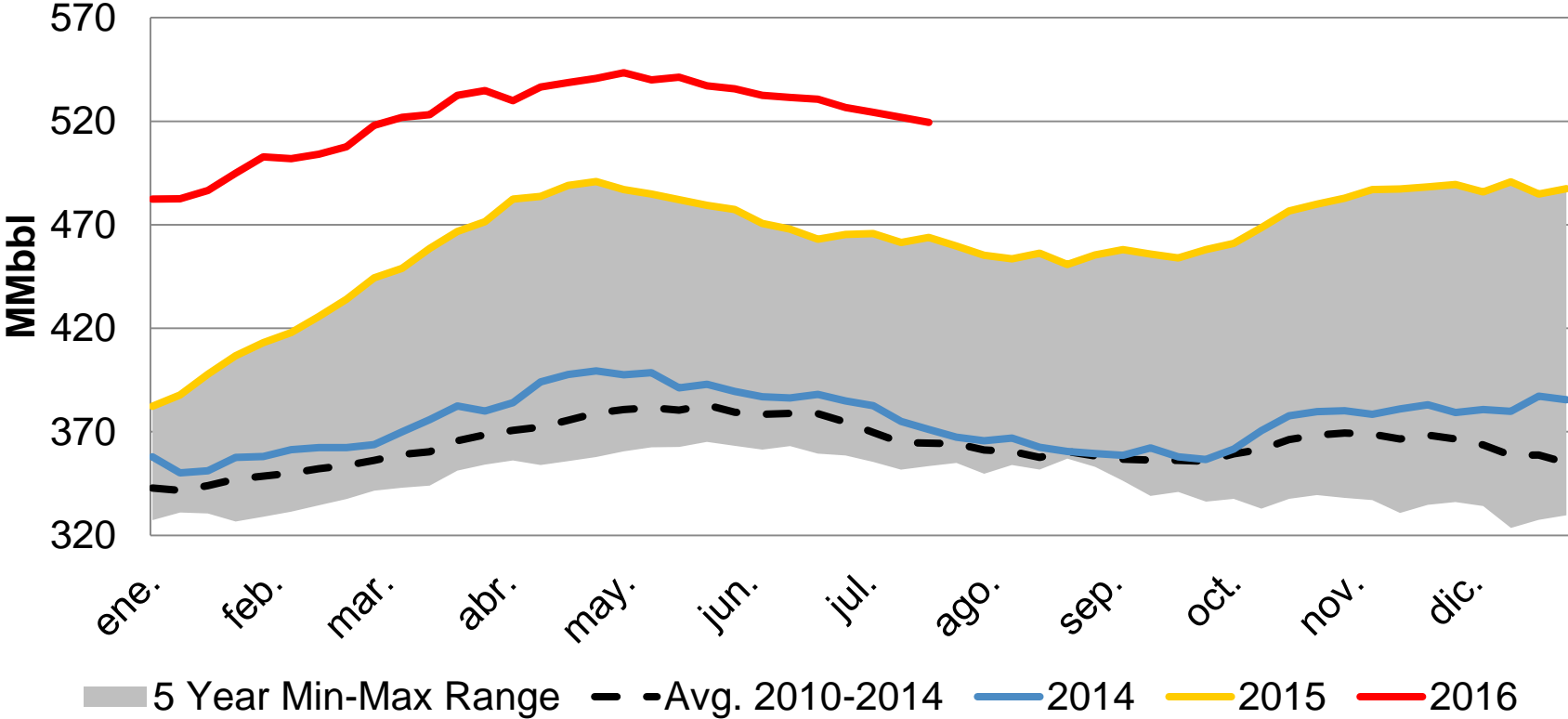
Production growth from Canada and offshore will not be able to offset losses from onshore losses

U.S. and Canada Production

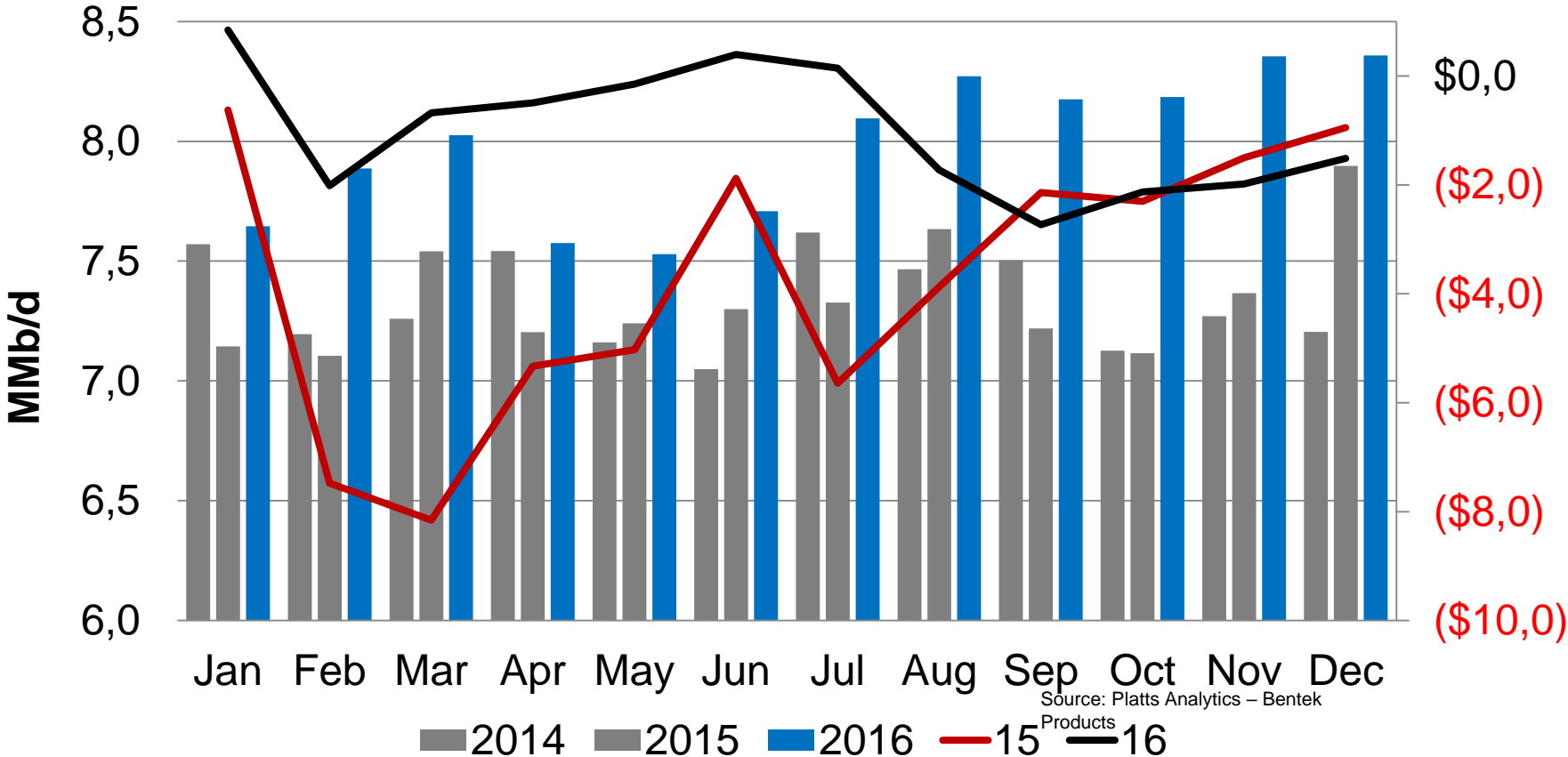


US crude inventories remain high, drawing slowly, despite declining production

US Crude Stocks (excl. SPR)

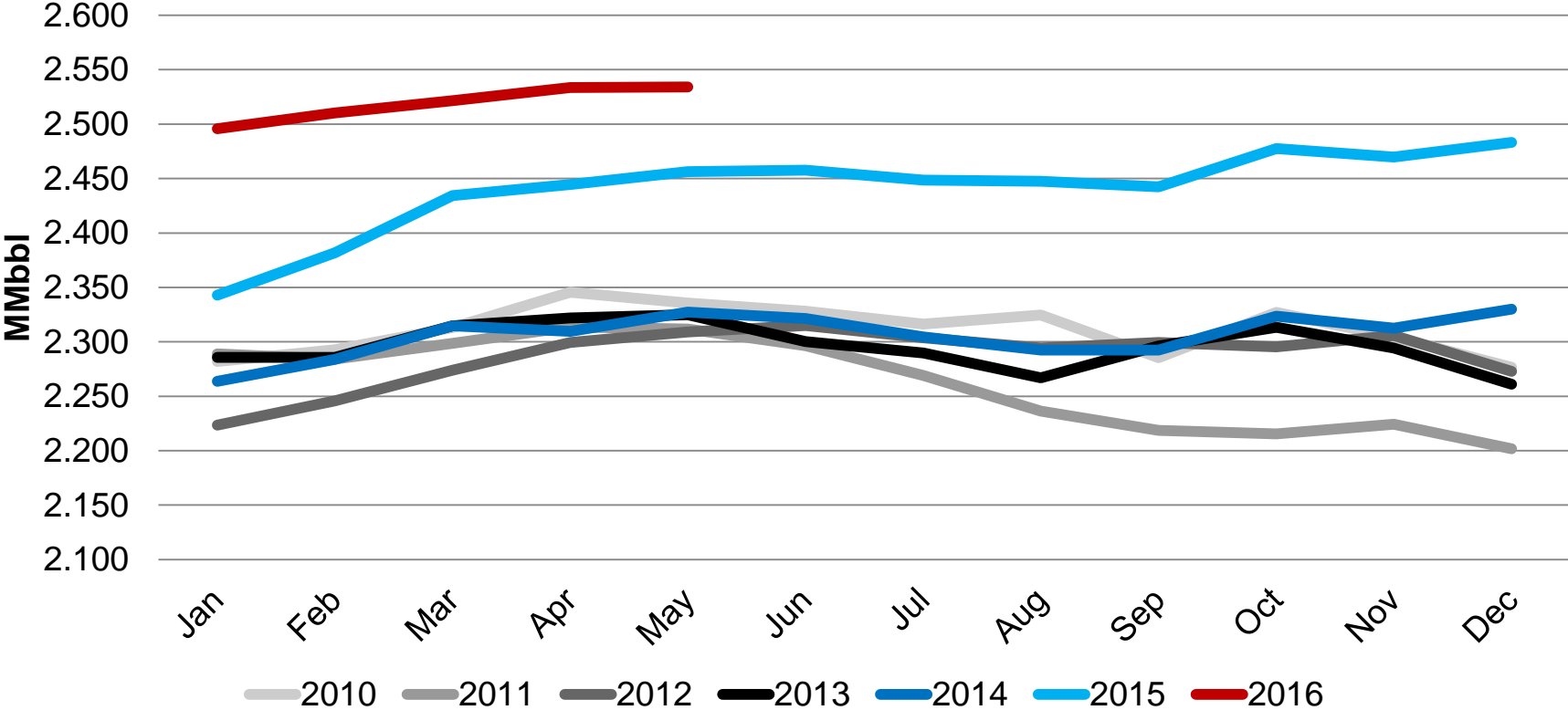


US inventory draws hinder by a narrow WTI/Brent spread, incentivizing refiners to consume imports

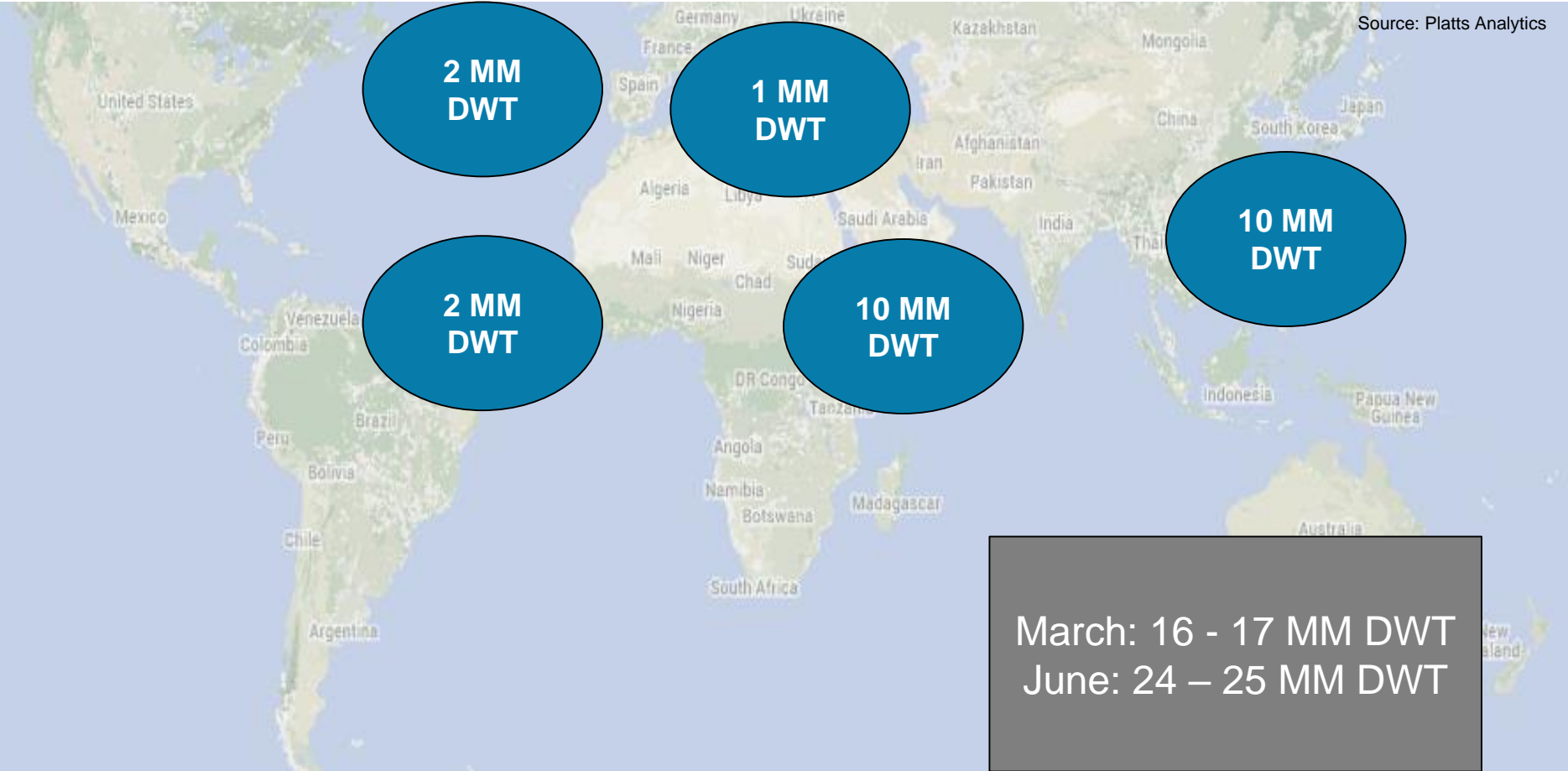


Inventories remain high globally, must return to normal before market can balance

OECD Crude Inventories

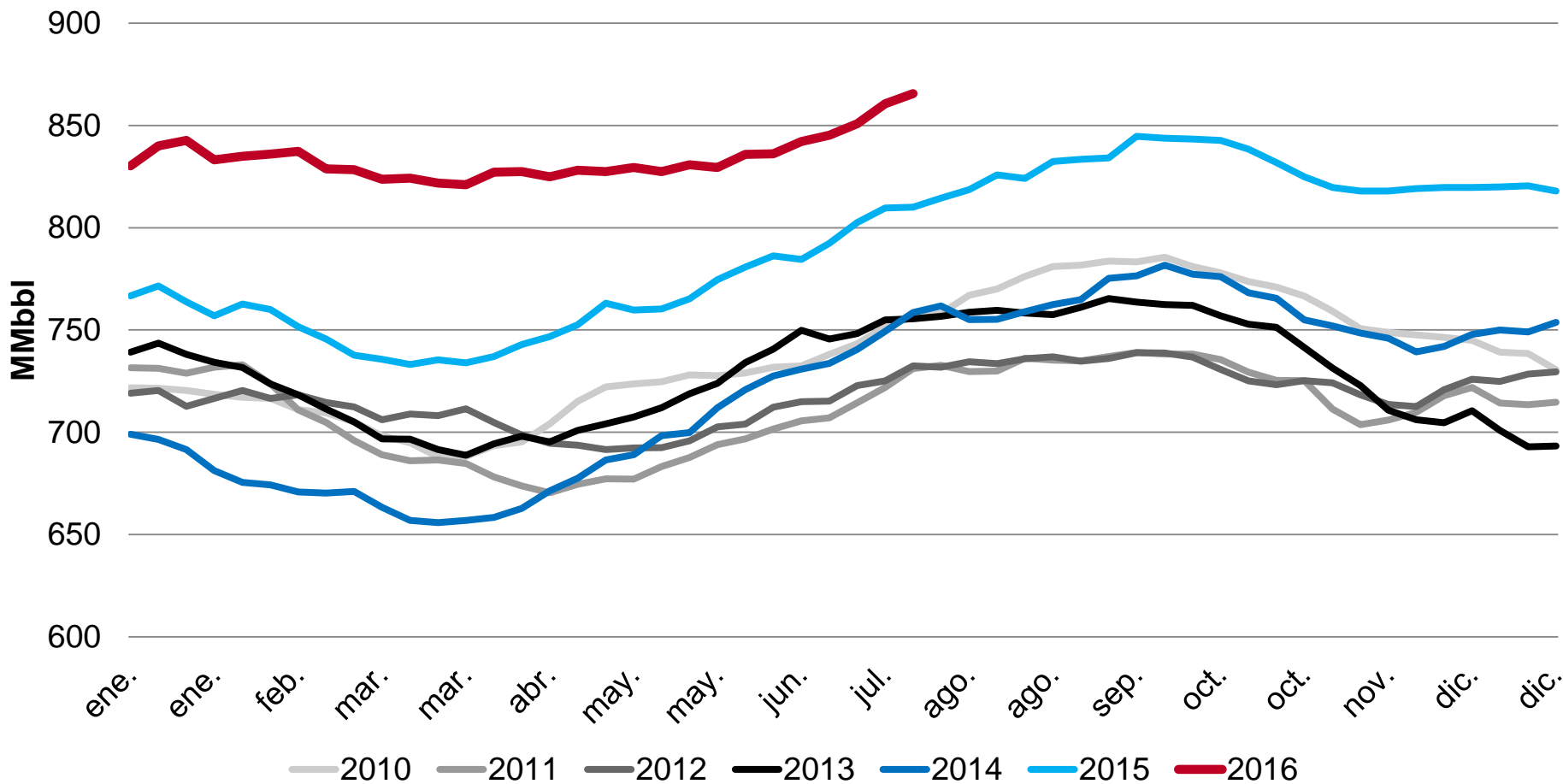


Floating storage testament to high storage levels, market struggling to balance



Refined product inventories must return to normal before crude inventories can be consumed

Total US Refined Product Stocks

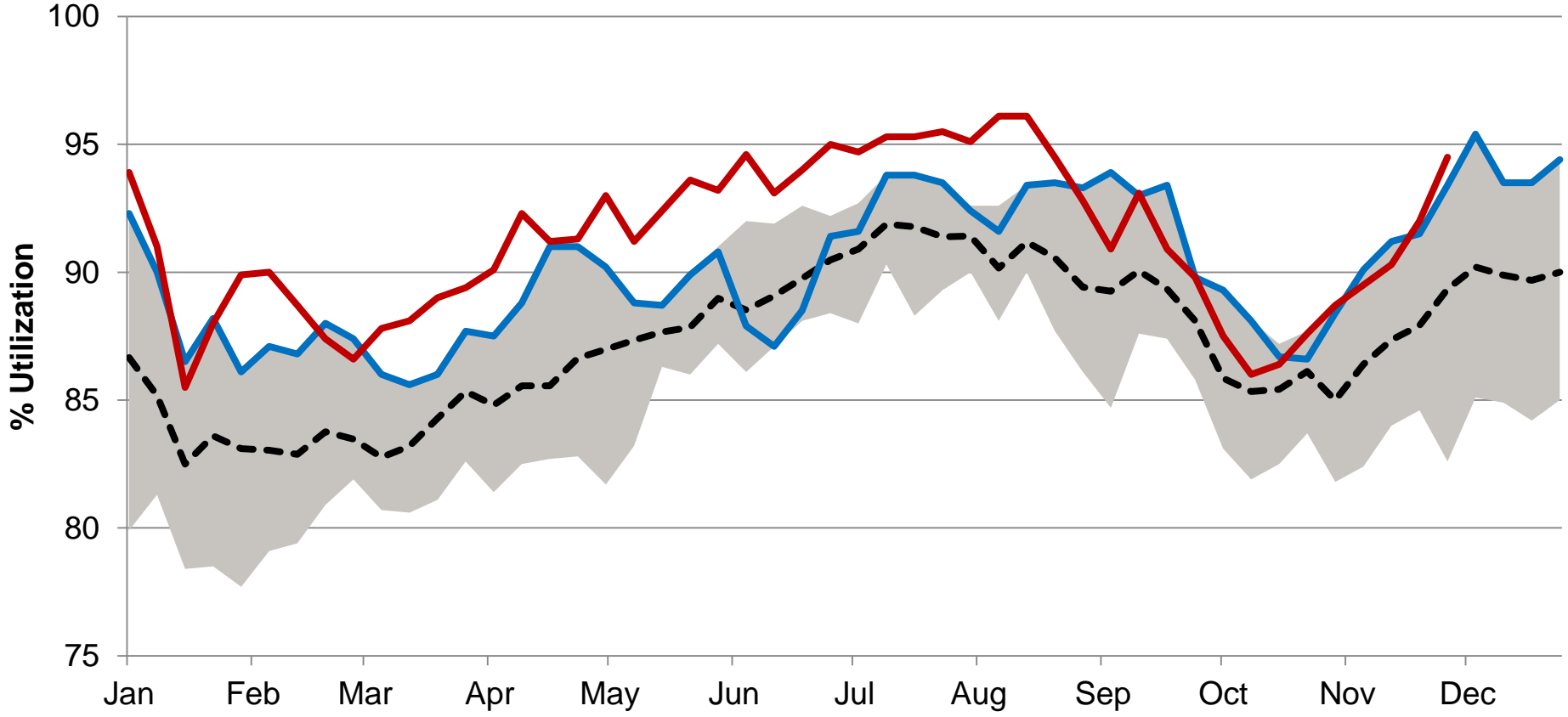


S&P Global
Platts

Source: Bentek, S&P Global Platts

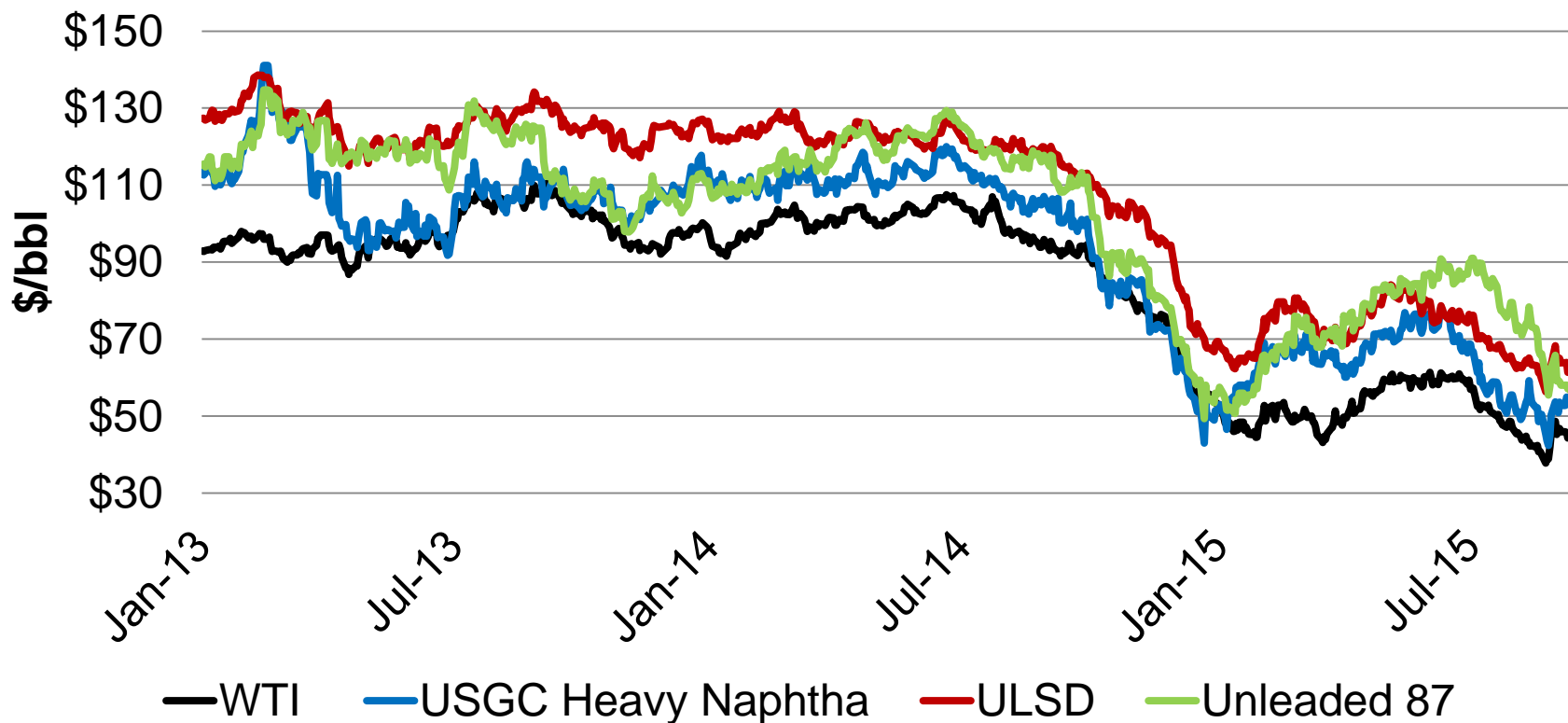
Refineries continue to run at high utilization on high margins, exacerbating the inventory overhang

US Refinery Utilization



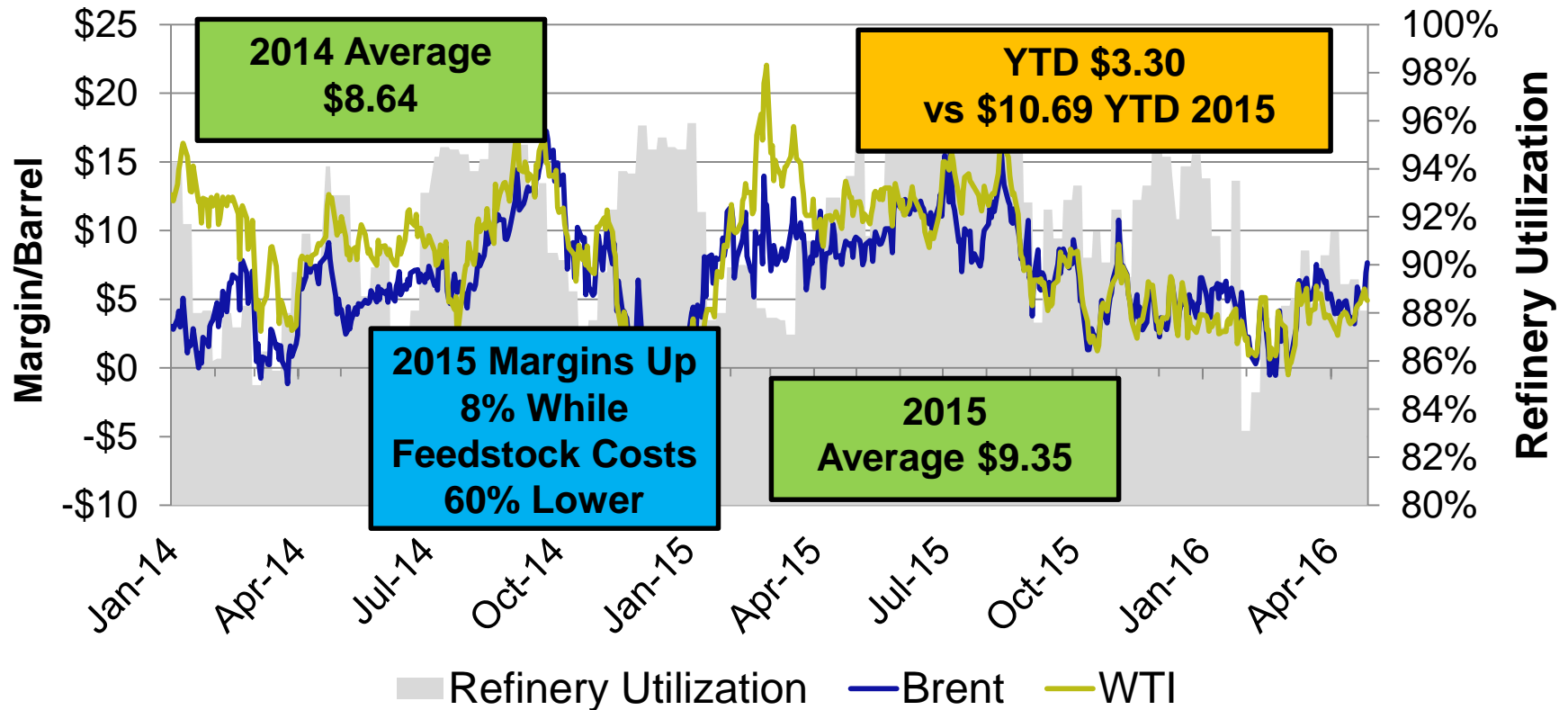
Low product prices incentivize consumption, but affect refinery margins

WTI and Refined Product Prices



REFINED PRODUCTS OVERSUPPLIED; MARGINS DOWN

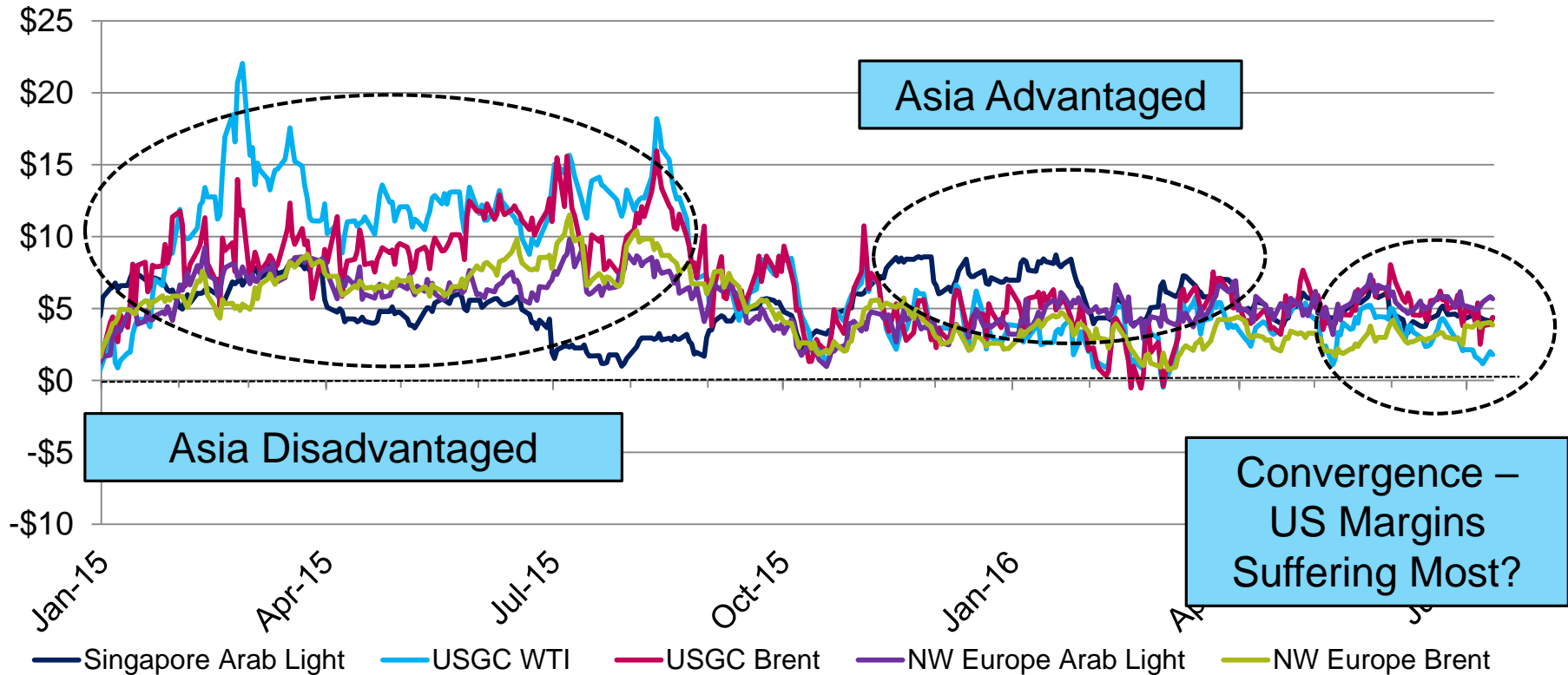
USGC Refining Margins vs. Refinery Utilization



As Selling Prices Shift Refined Margins Converge – USGC Loses Advantage

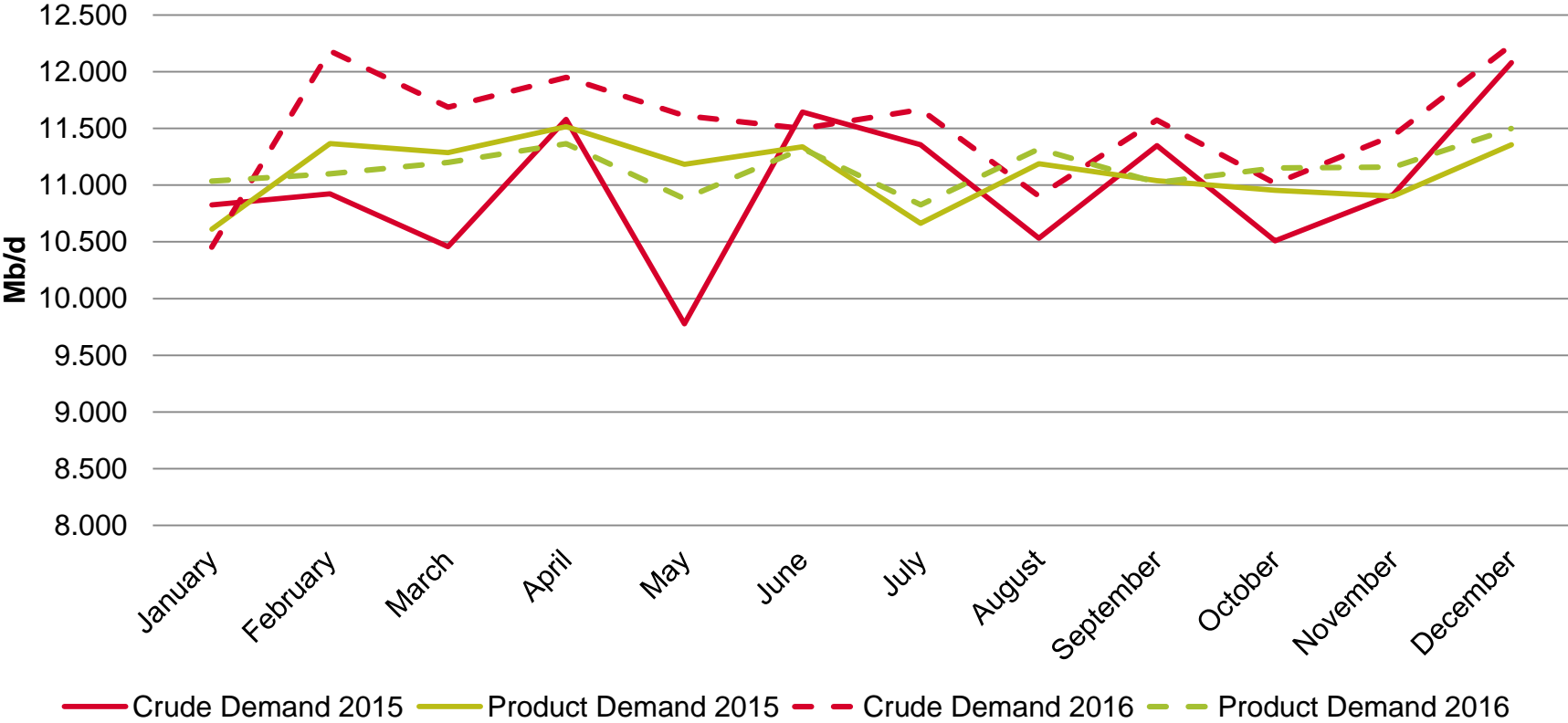
Global Playing Field For Refined Products Is Flat

Regional Refining Margin Based On Feedstock



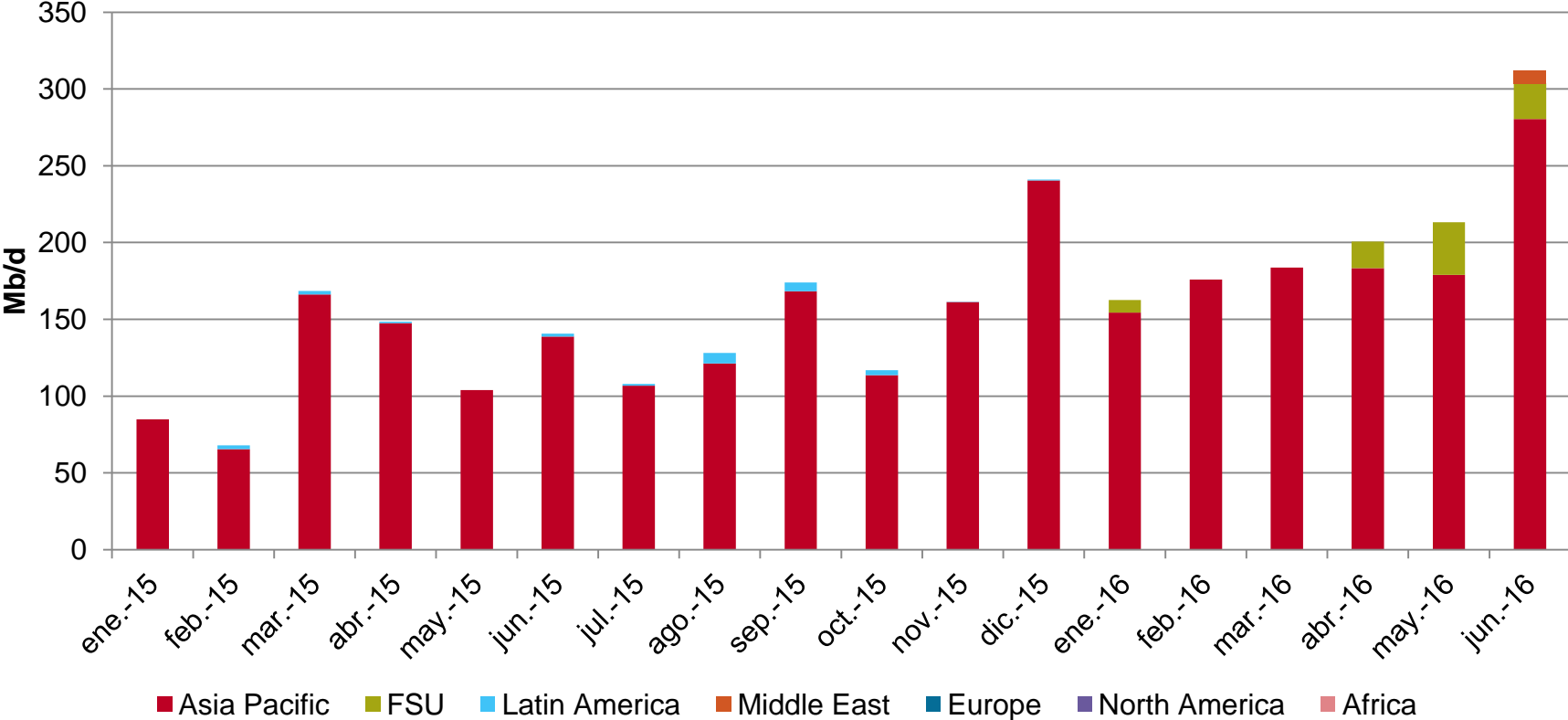
As Chinese Implied Demand Drags Along, Crude Demand Outpaces Product Demand

Chinese Implied Product and Crude Demand



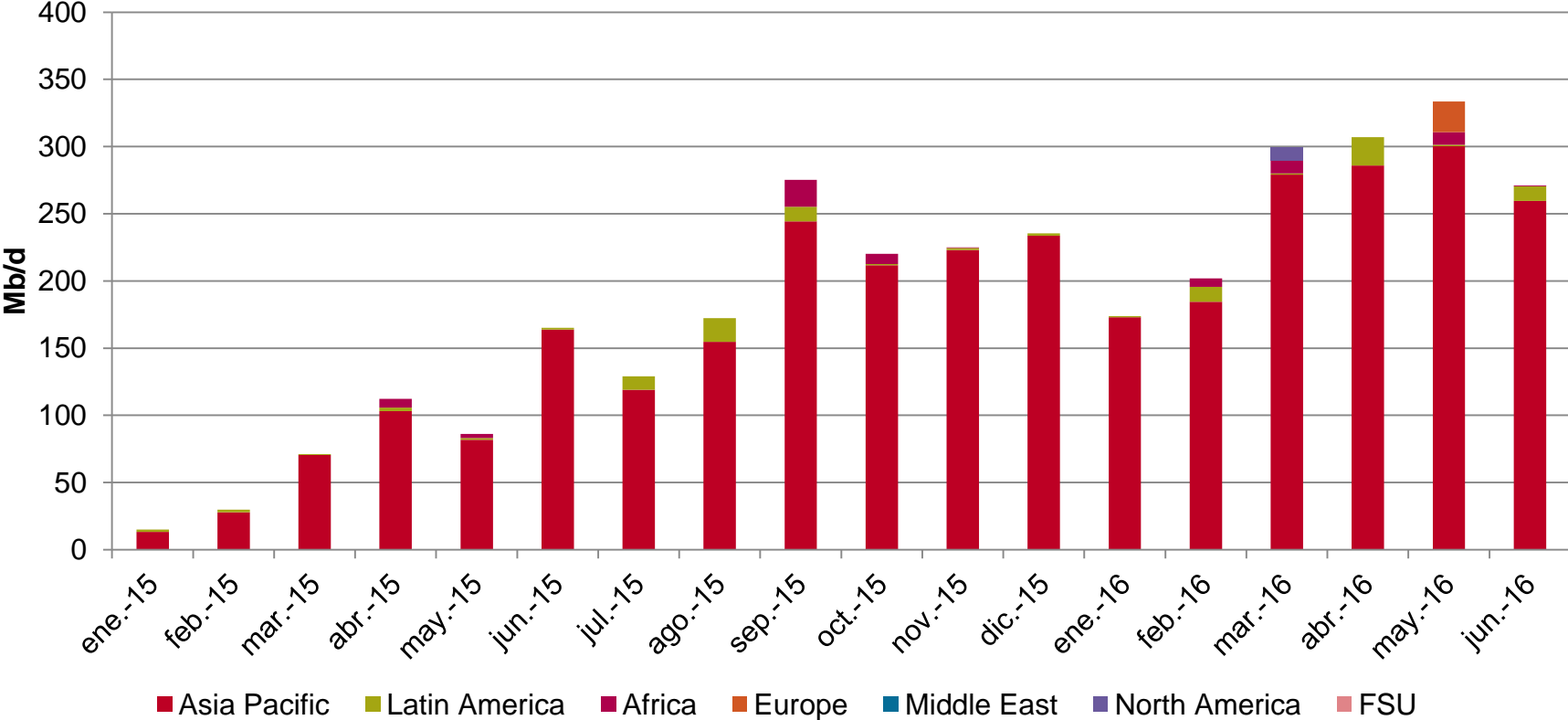
While the Export Market is Fierce

Chinese Gasoline Exports

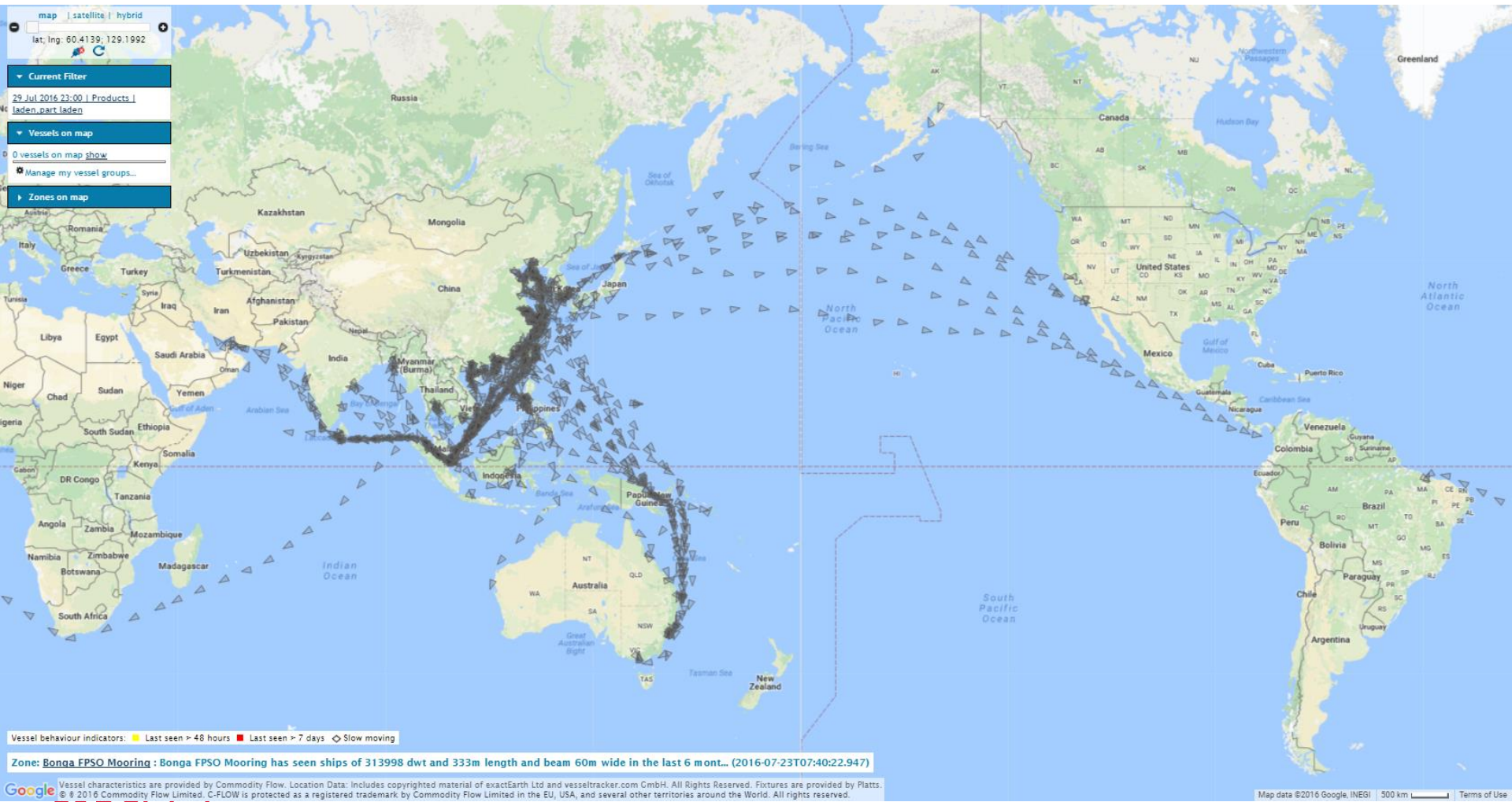


While the Export Market is Fierce

Chinese Fuel Oil Exports

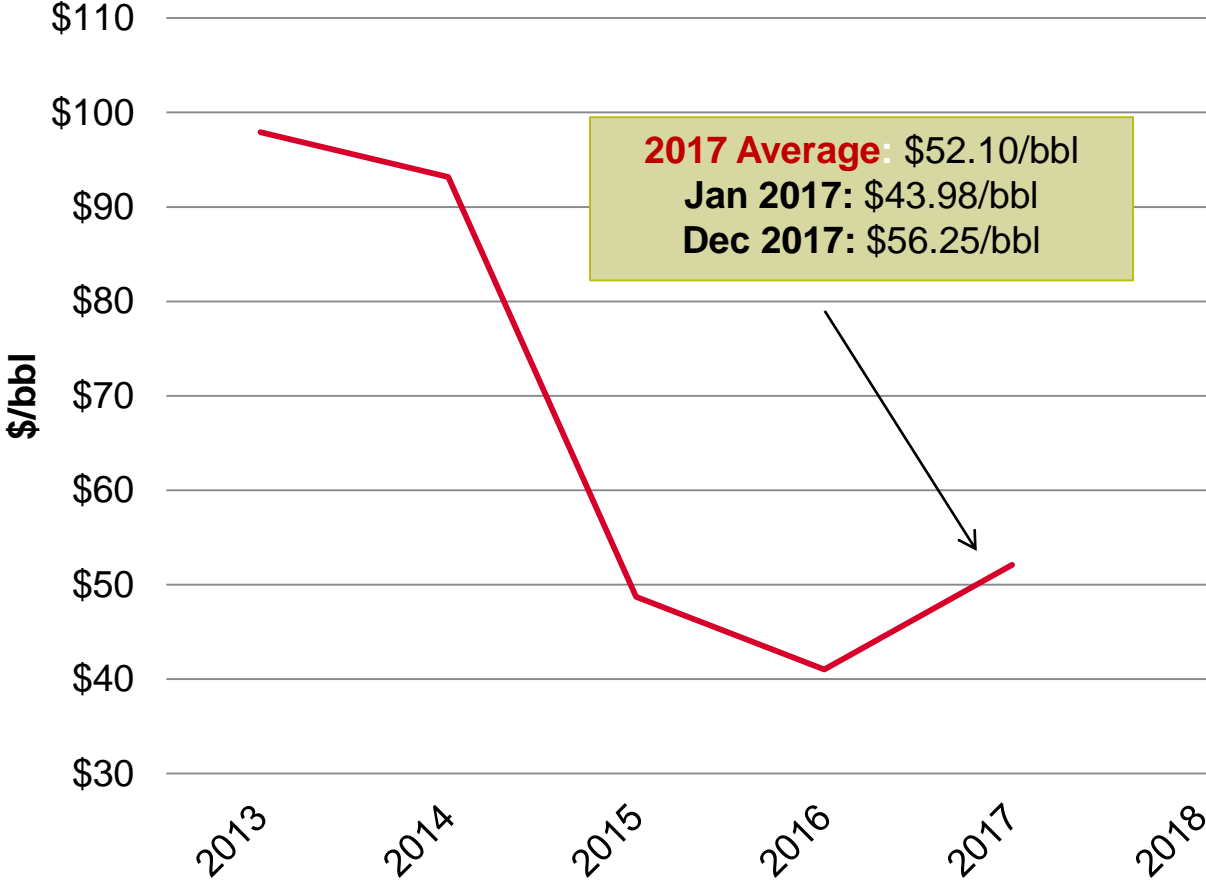


While the Export Market is Fierce

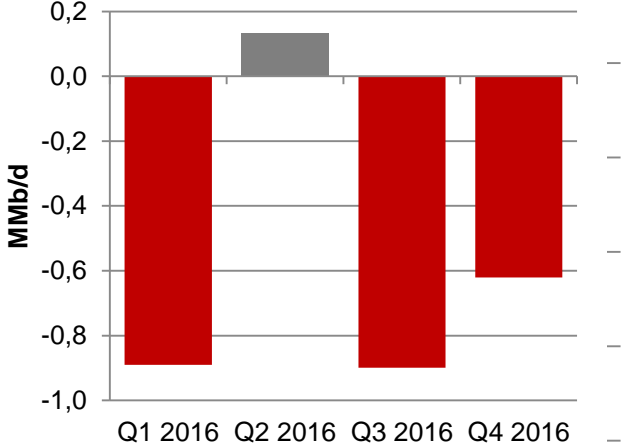


Market balances in 2017 as product and crude inventory consumed, stagnating supply

Bentek's WTI Price Forecast

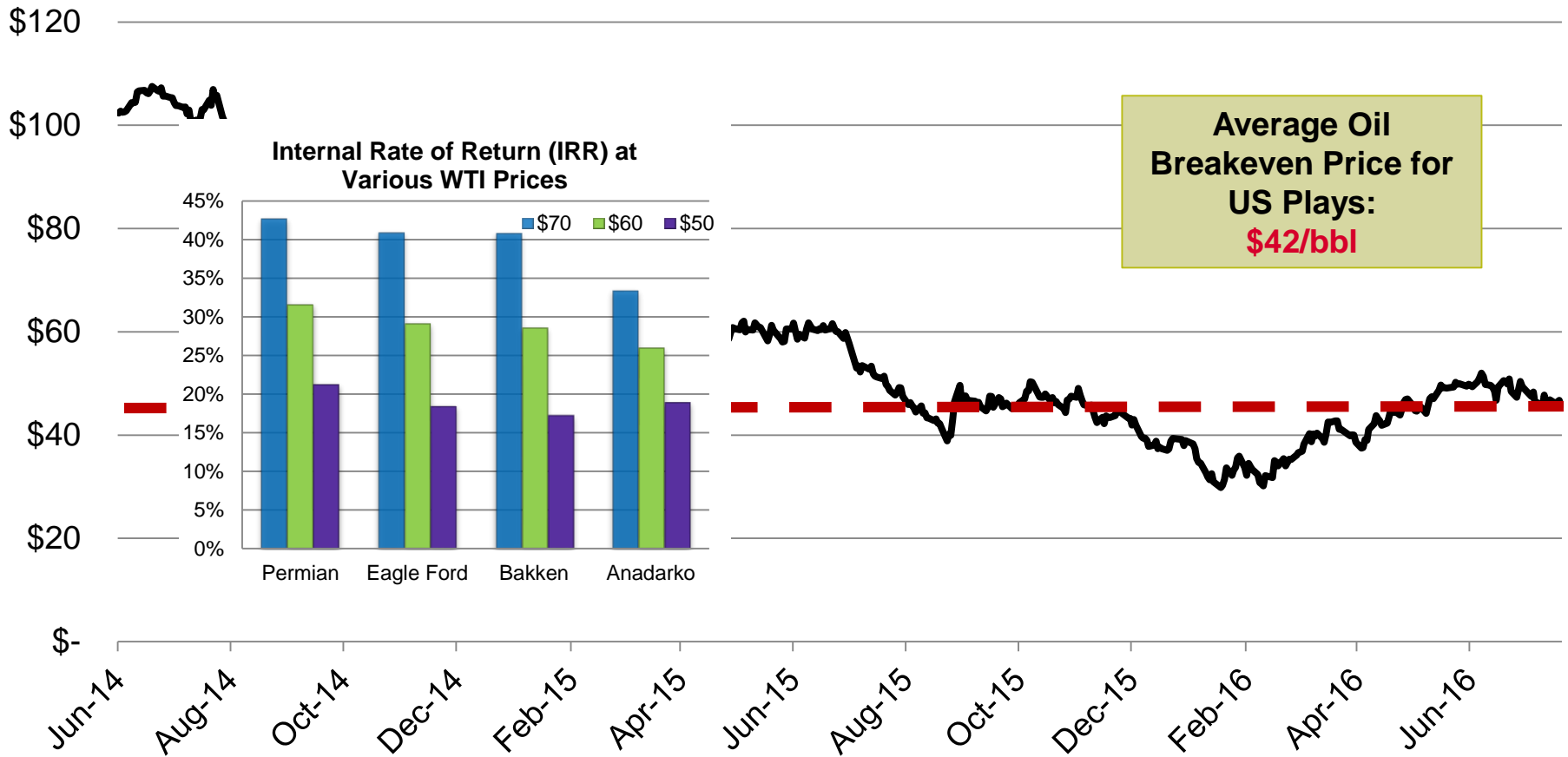


Global Supply/Demand Balance



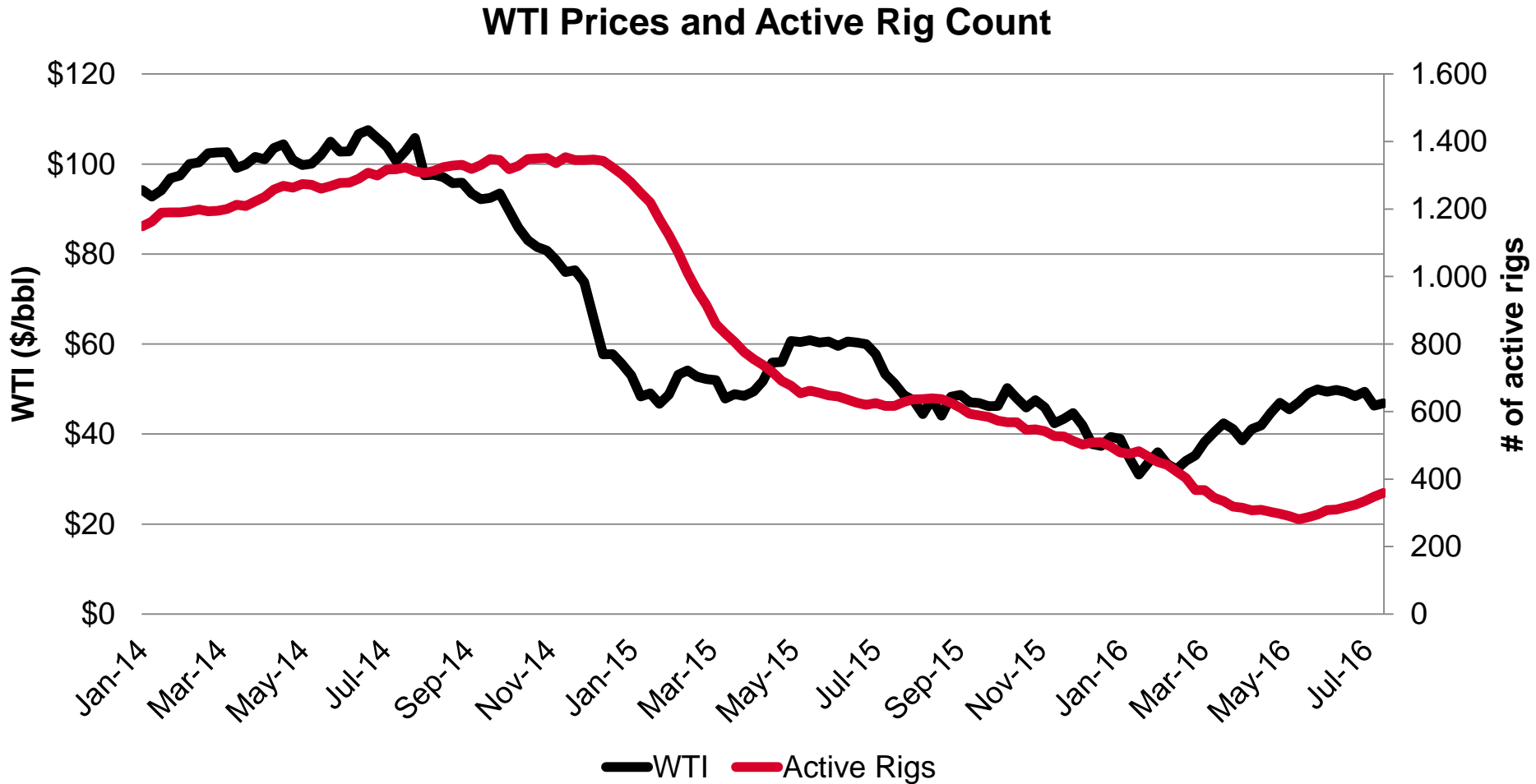
US producers will likely increase drilling and production at ~\$50/bbl

WTI Spot Prices



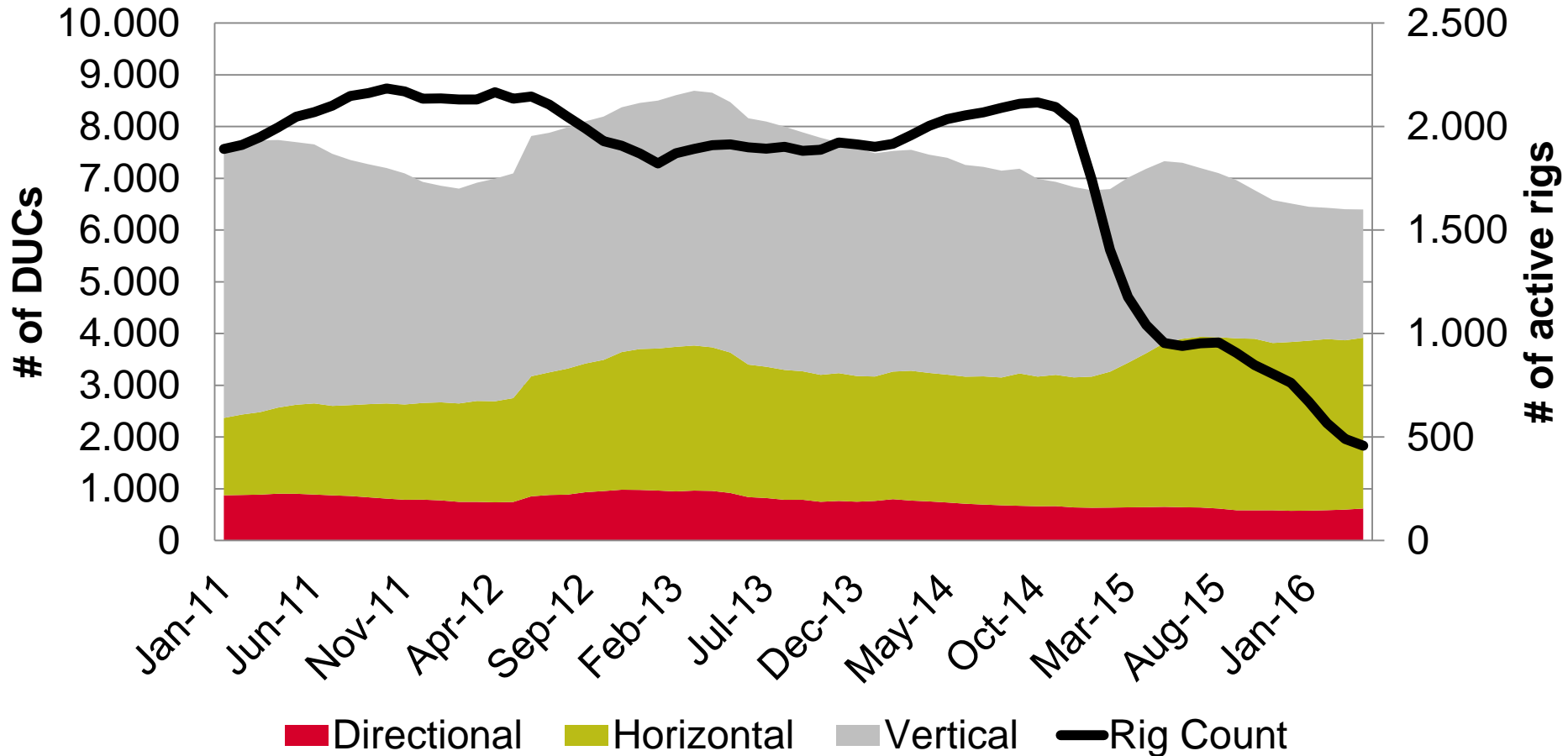
Average Oil Breakeven Price for US Plays:
\$42/bbl

Producers can and will respond quickly to changes in crude prices, rig count responds to recent uptick



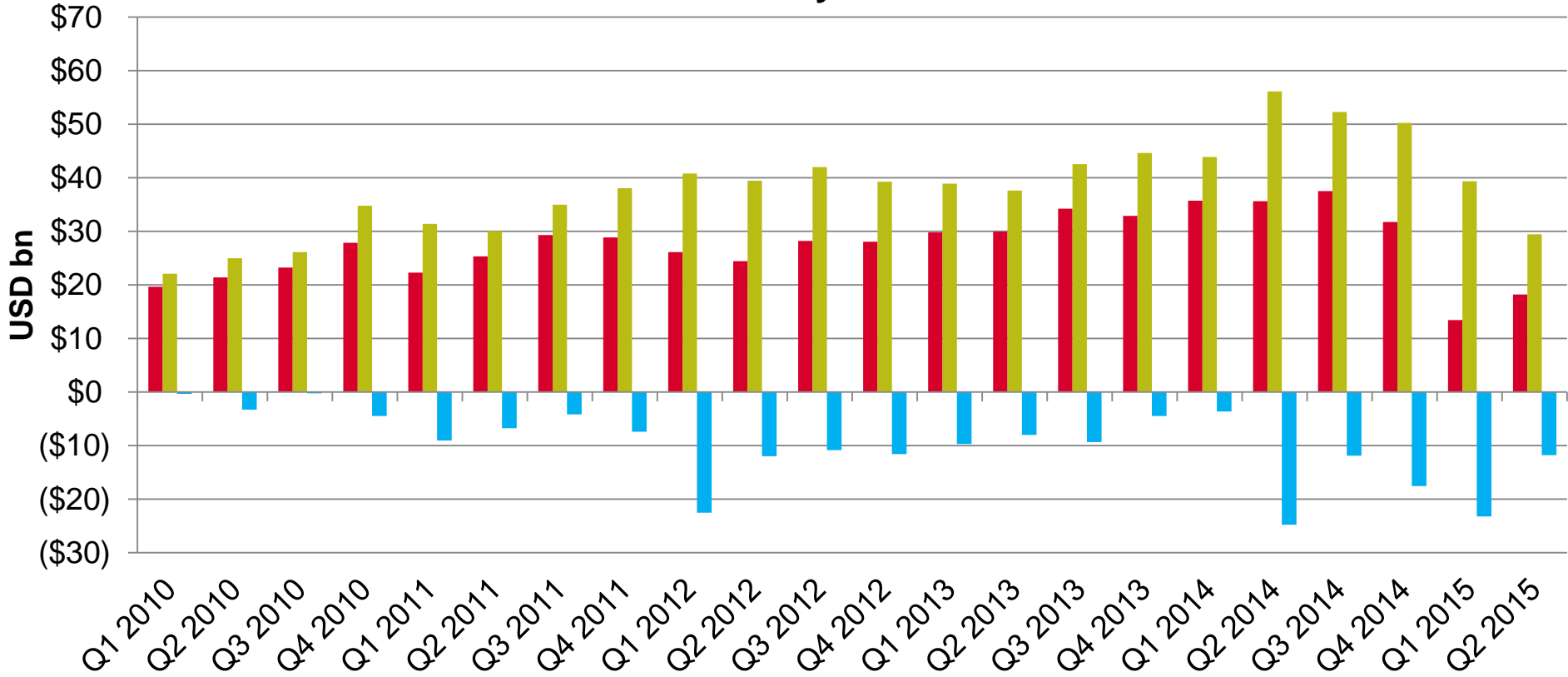
Producers likely to rely on diminishing backlog, but will need higher prices to drill again

Well Backlog through History



Less cash flow, less capital, less exploration, more producer discretion through 2017

U.S. and Canada Quarterly Free Cash Flow Burn



■ Cash Flow from Ops.
 ■ Capital Expenditures
 ■ Unlevered Free Cash Flow

Note: Companies with market capitalization greater than \$100MM

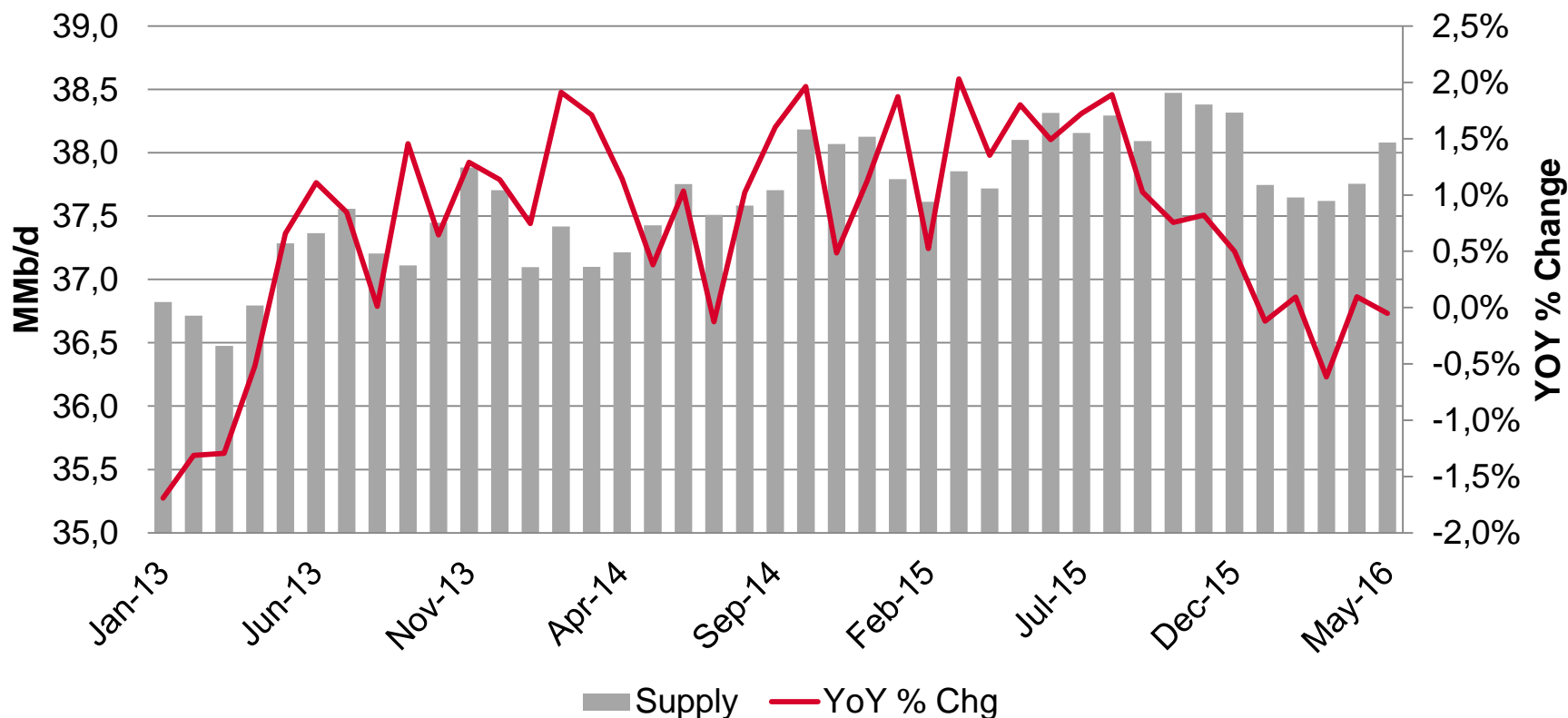
S&P Global

Platts

Source: Platts Bentek, CapitalIQ

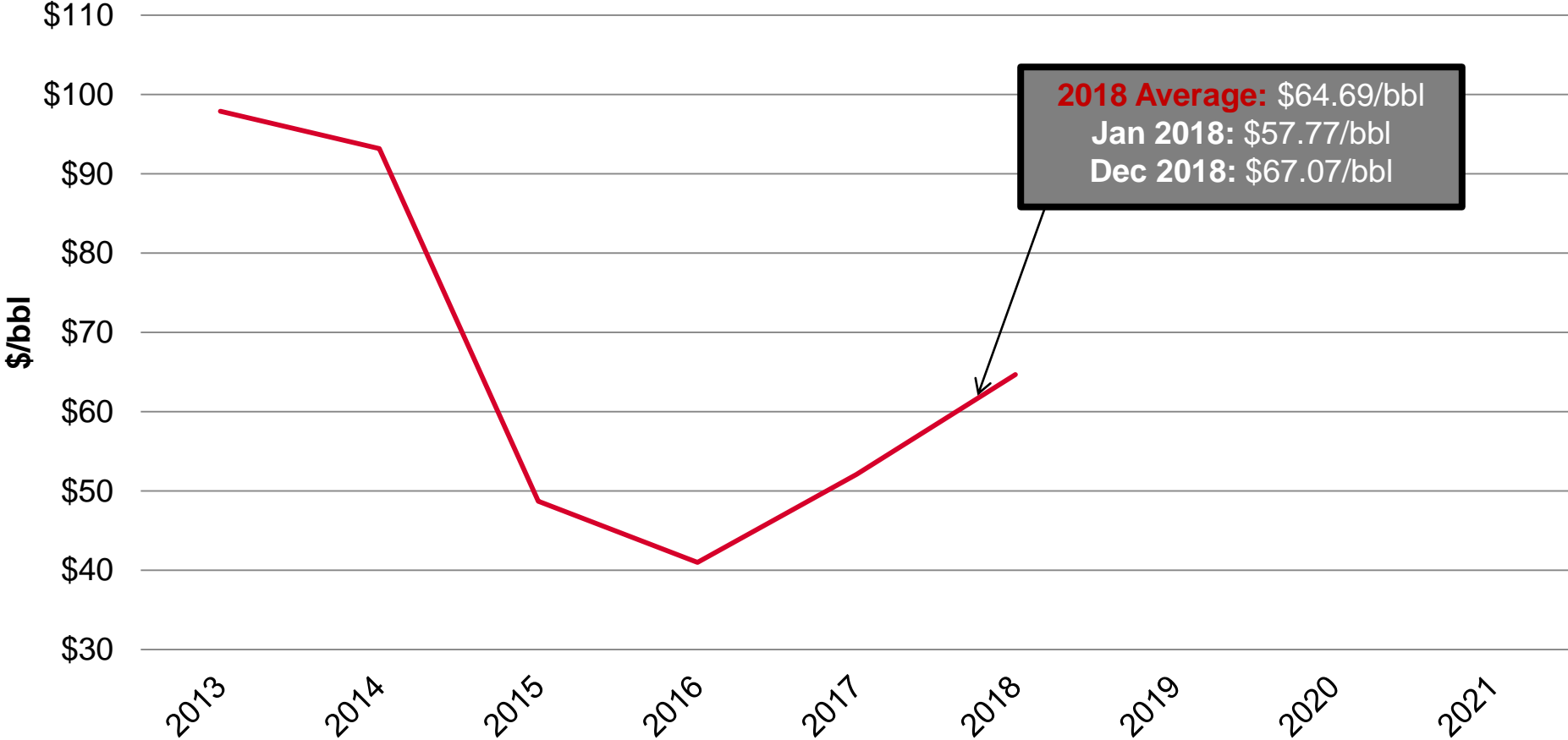
US production likely incapable of growing fast enough to offset declines globally

Non-OPEC non-US/Canada Production



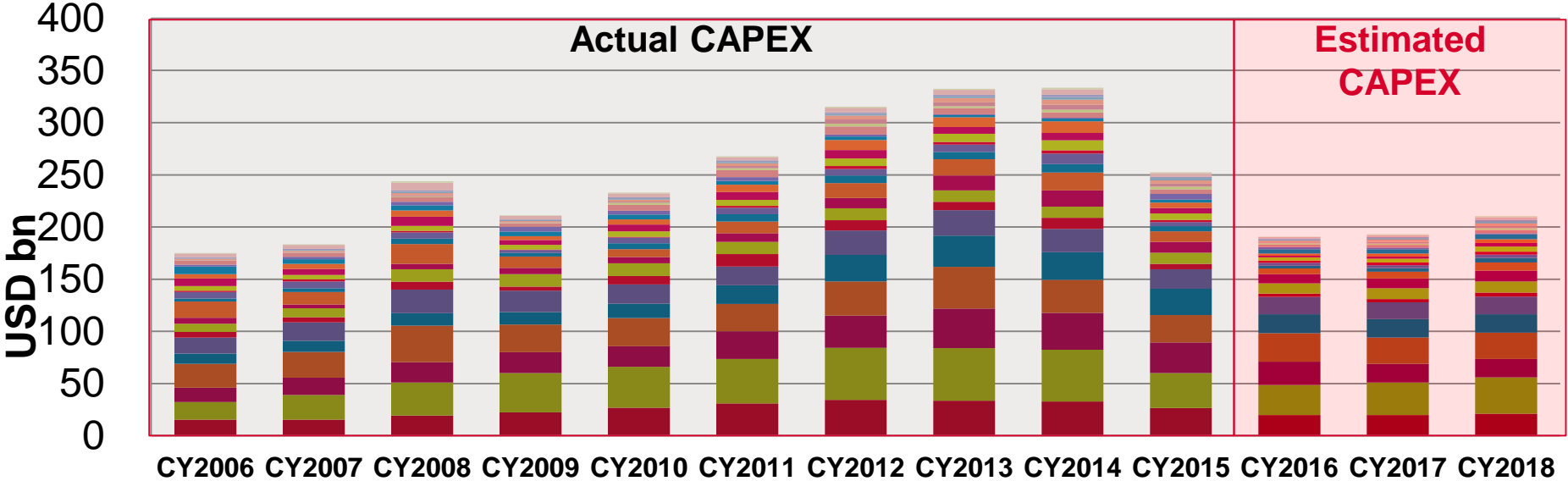
Demand begins to outpace supply, higher prices needed to incite investment in new supply sources

Bentek's WTI Price Forecast



Lack of capital spending now will impact available supply in long-term

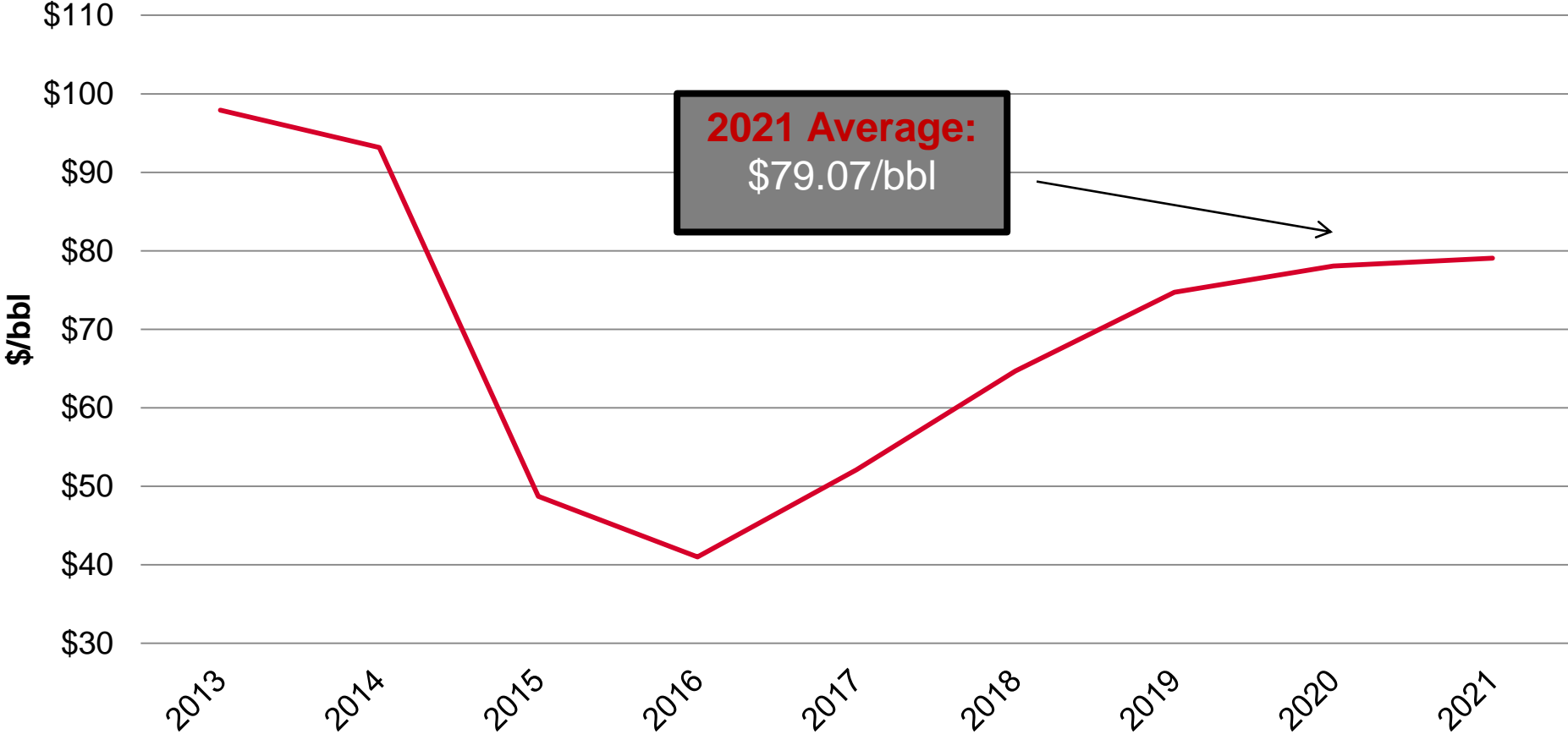
Quarterly Capital Expenditures



- Exxon Mobil Corporation
- PetroChina Co. Ltd.
- Chevron Corporation
- Royal Dutch Shell plc
- TOTAL S.A.
- BP p.l.c.
- Occidental Petroleum Corporation
- Eni SpA
- CNOOC Ltd.
- ConocoPhillips
- EOG Resources, Inc.
- Canadian Natural Resources Limited
- Pioneer Natural Resources Co.
- Anadarko Petroleum Corporation
- Devon Energy Corporation
- Apache Corp.
- Repsol, S.A.
- Woodside Petroleum Ltd.
- Hess Corporation
- Concho Resources, Inc.
- Continental Resources, Inc.
- Noble Energy, Inc.
- EQT Corporation
- Cimarex Energy Co.
- Marathon Oil Corporation
- Cabot Oil & Gas Corporation

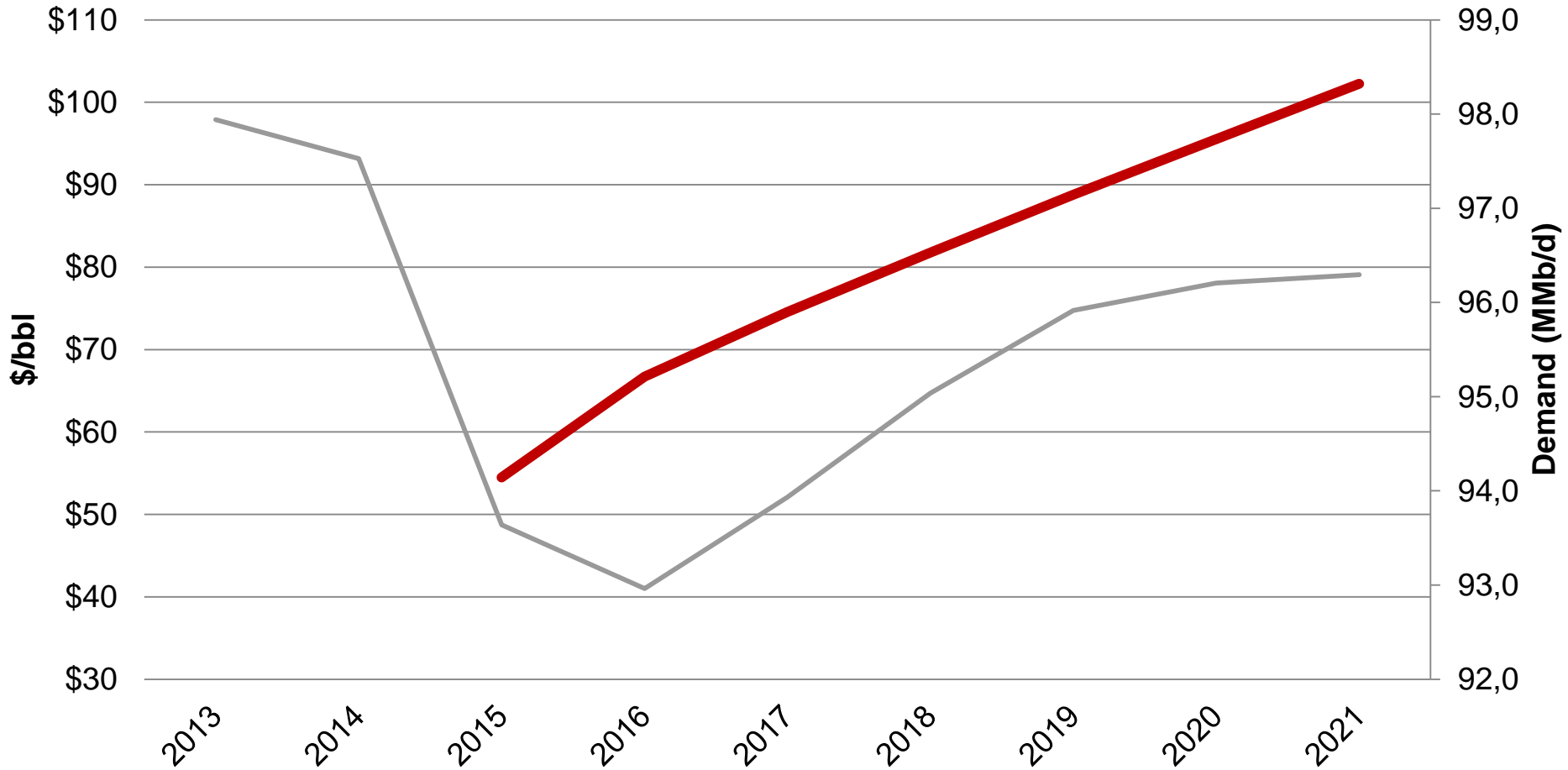
Prices need to stabilize ~\$80/bbl, high enough to incentivize more exploration

Bentek's WTI Price Forecast

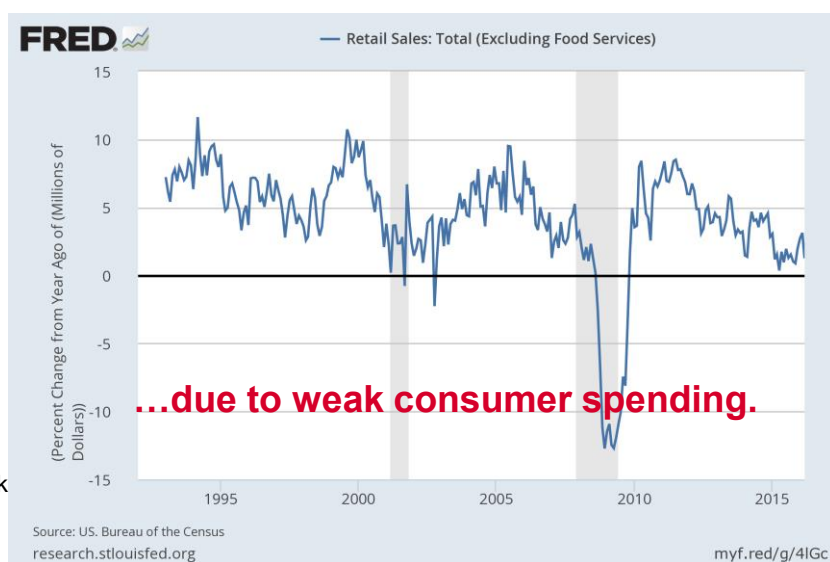
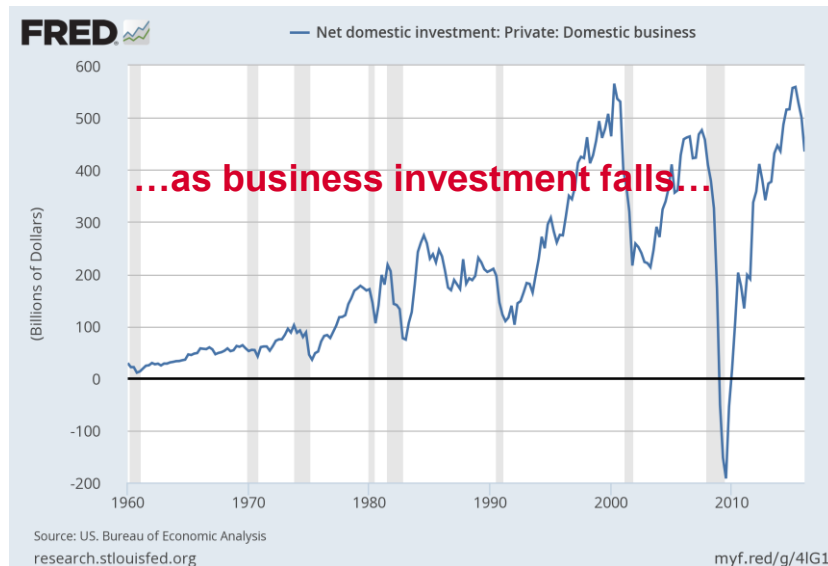
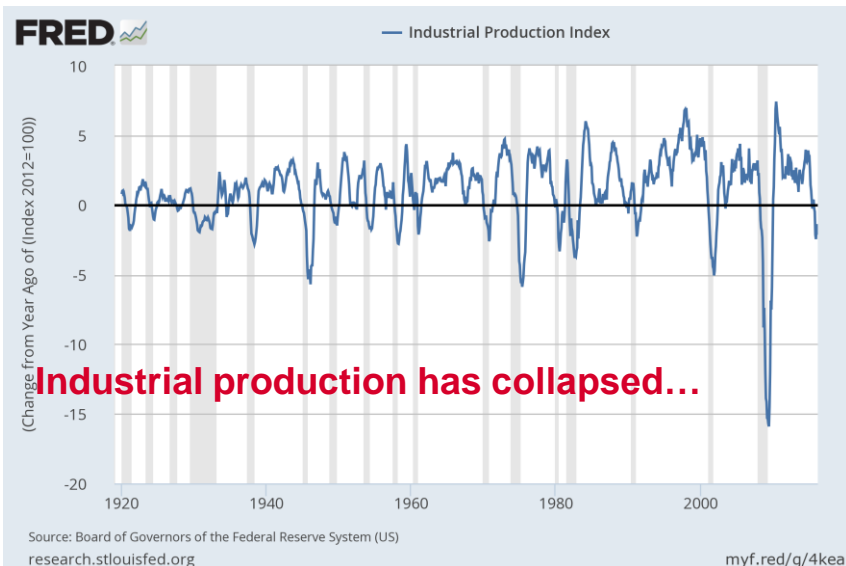


Uplift in prices will depend upon global demand growth of ~700 Mb/d per year

Bentek's WTI Price Forecast v Global Demand Growth

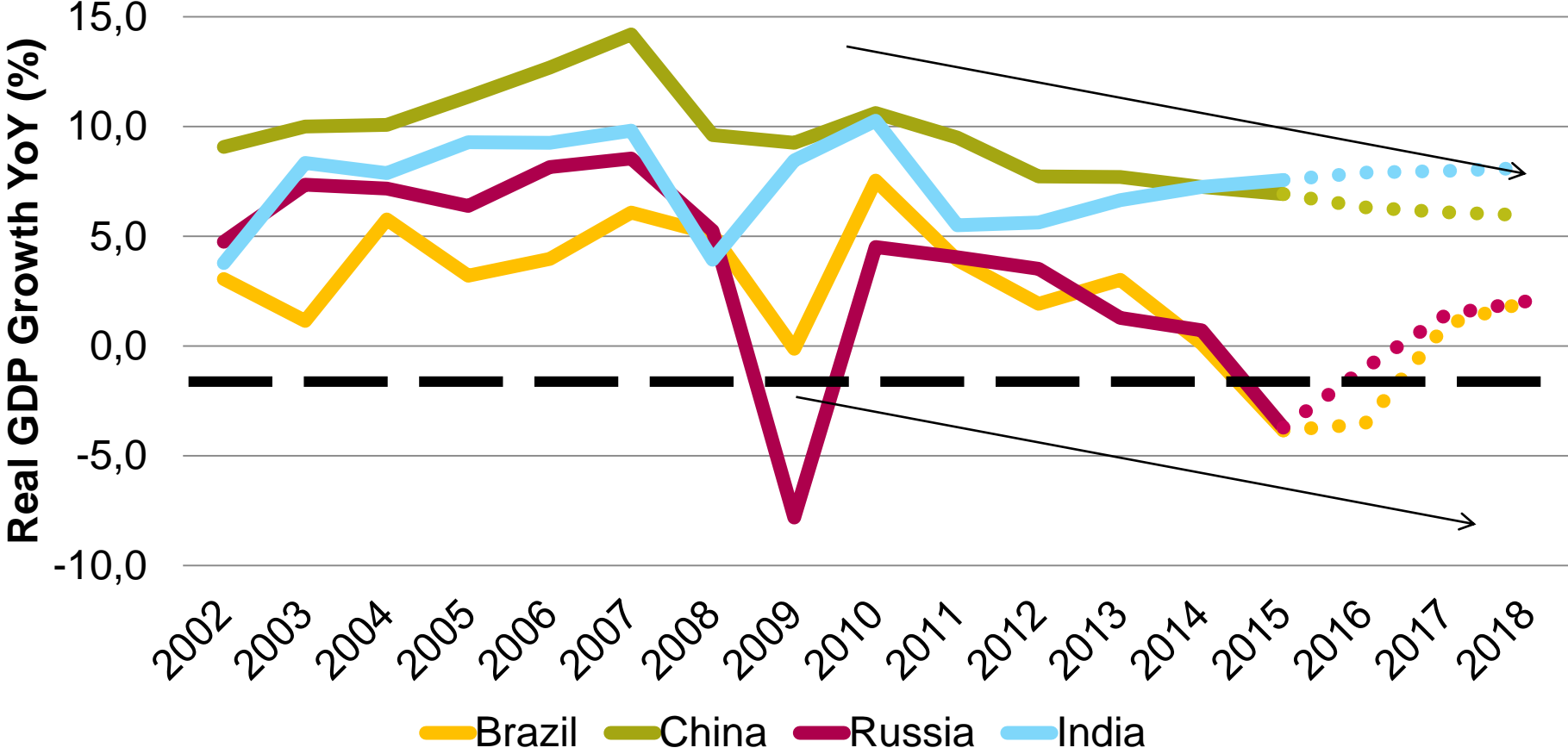


Bentek no longer bearish oil market, bearish global economy instead



Economic growth poses the biggest risk to energy markets and commodities upswing

Real GDP Growth, Emerging Market Economies

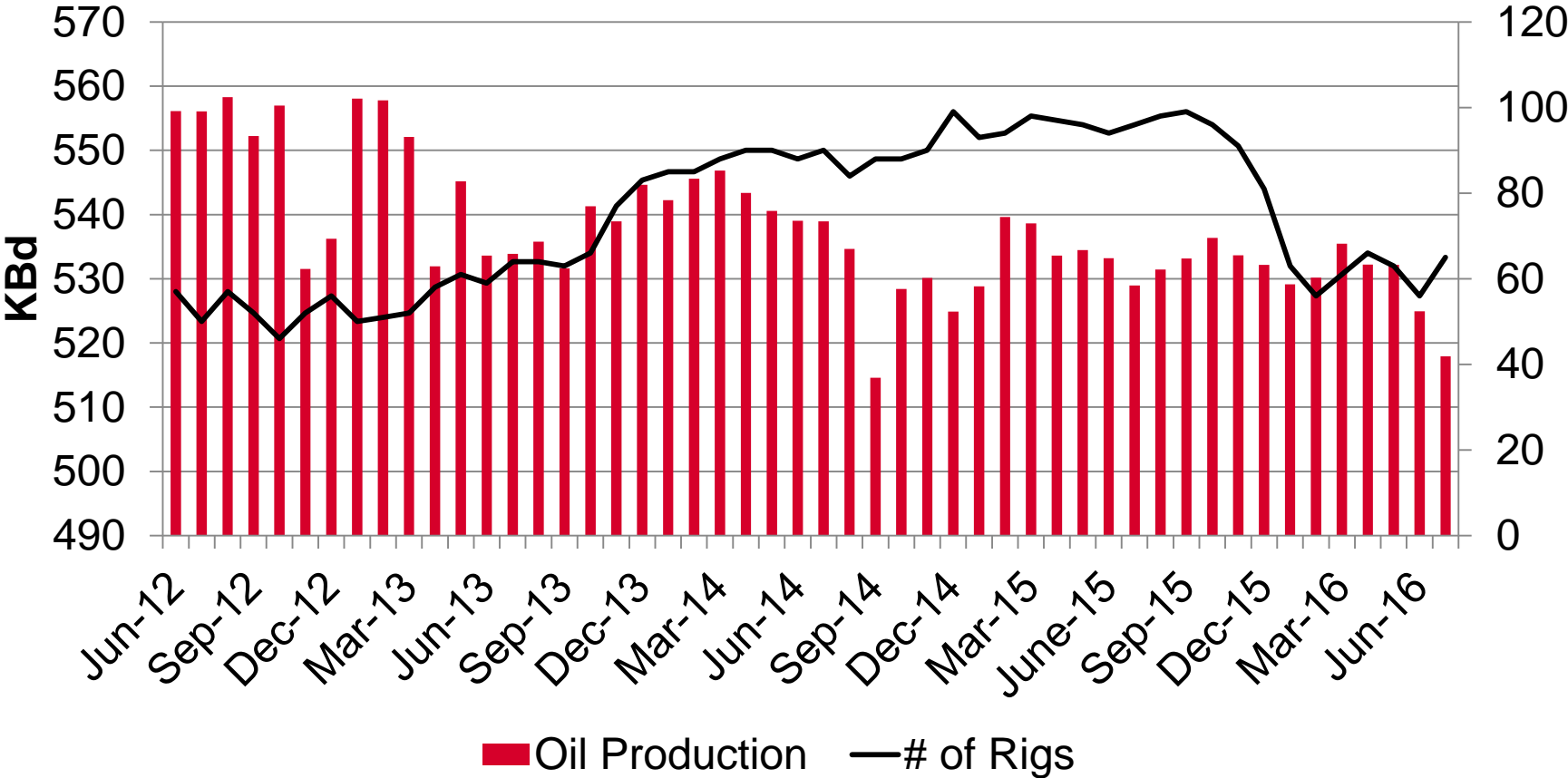


Latin America

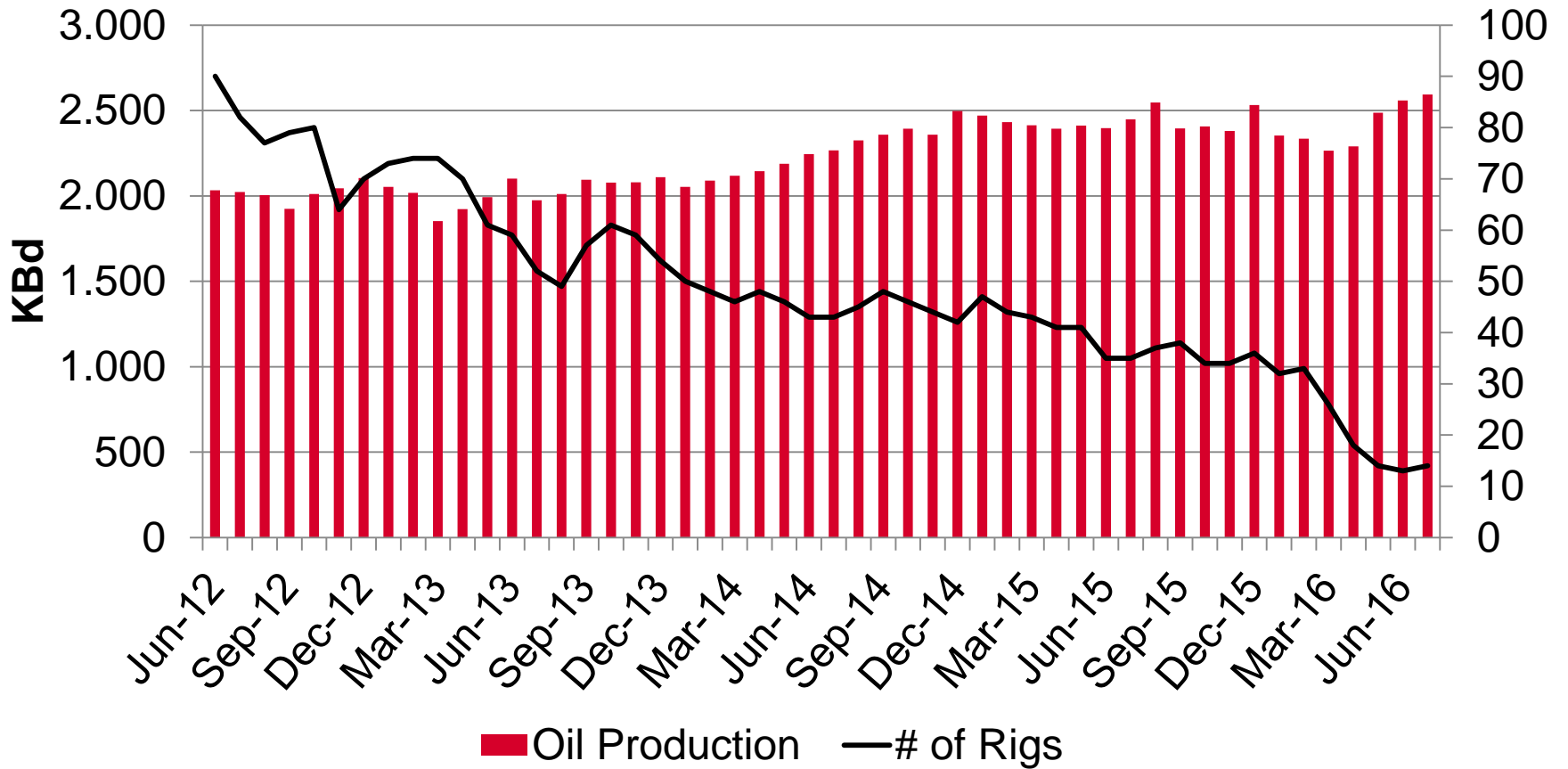
International Rig Count January 2014 vs July 2016



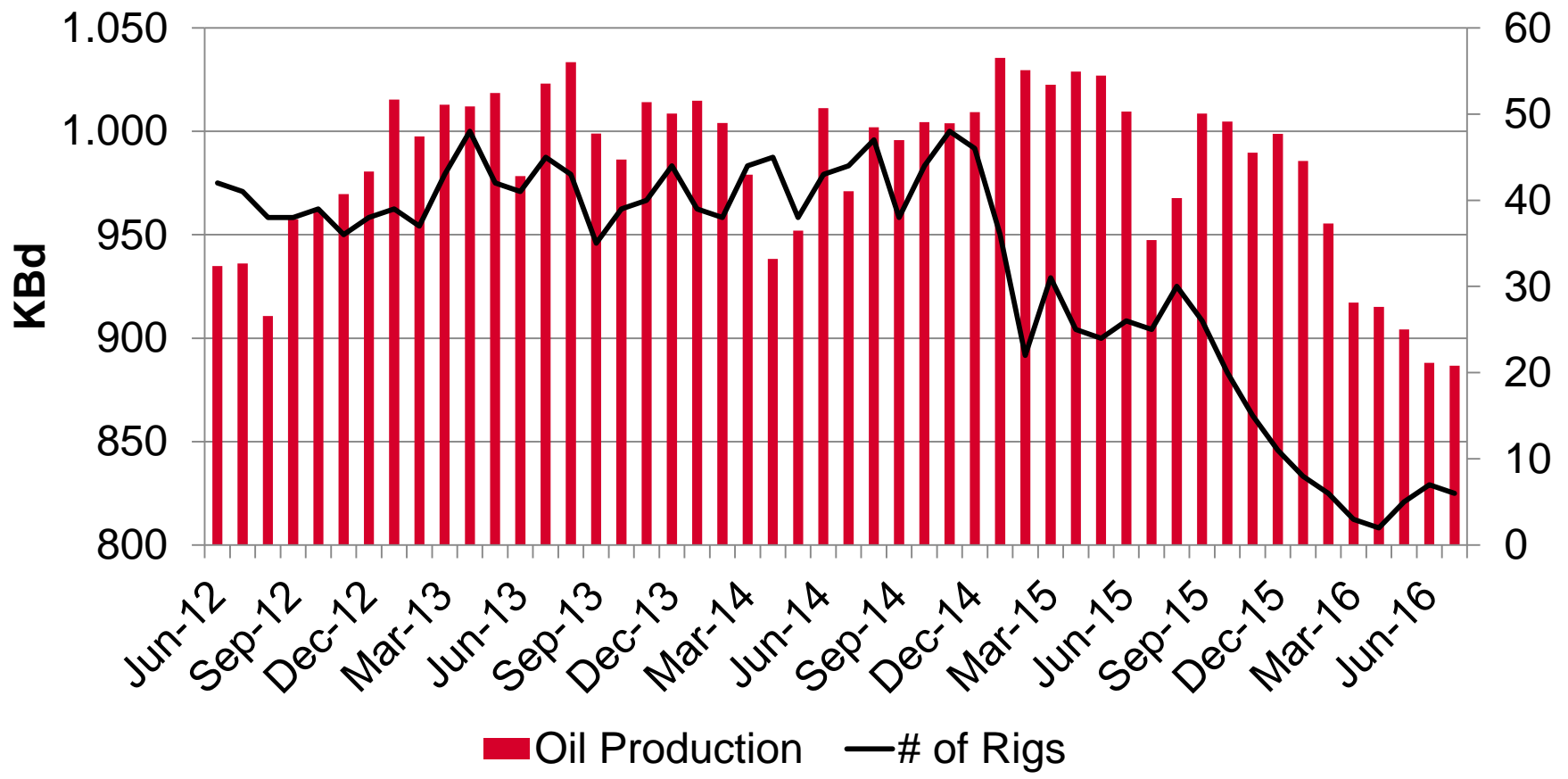
Argentina



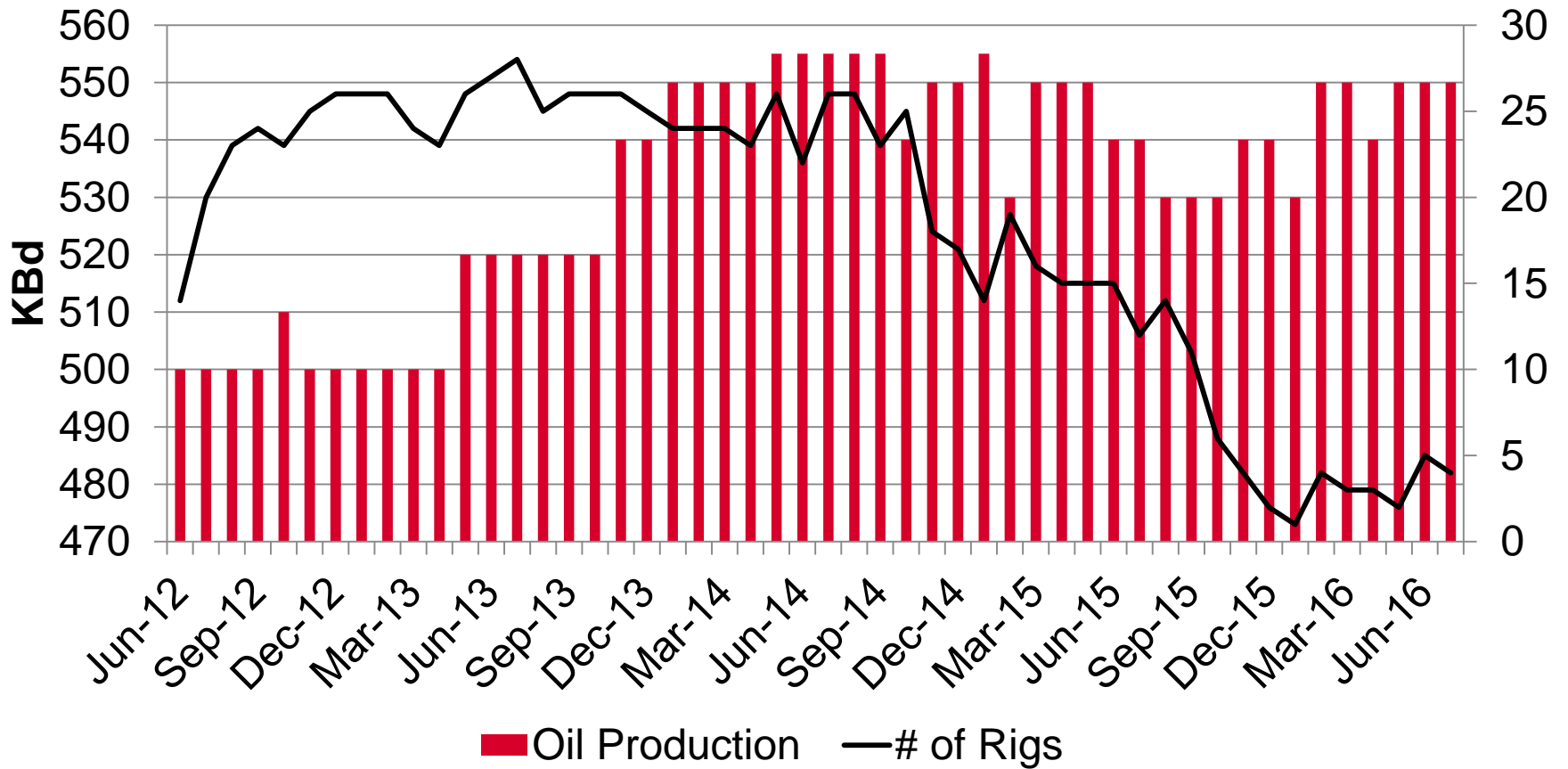
Brazil



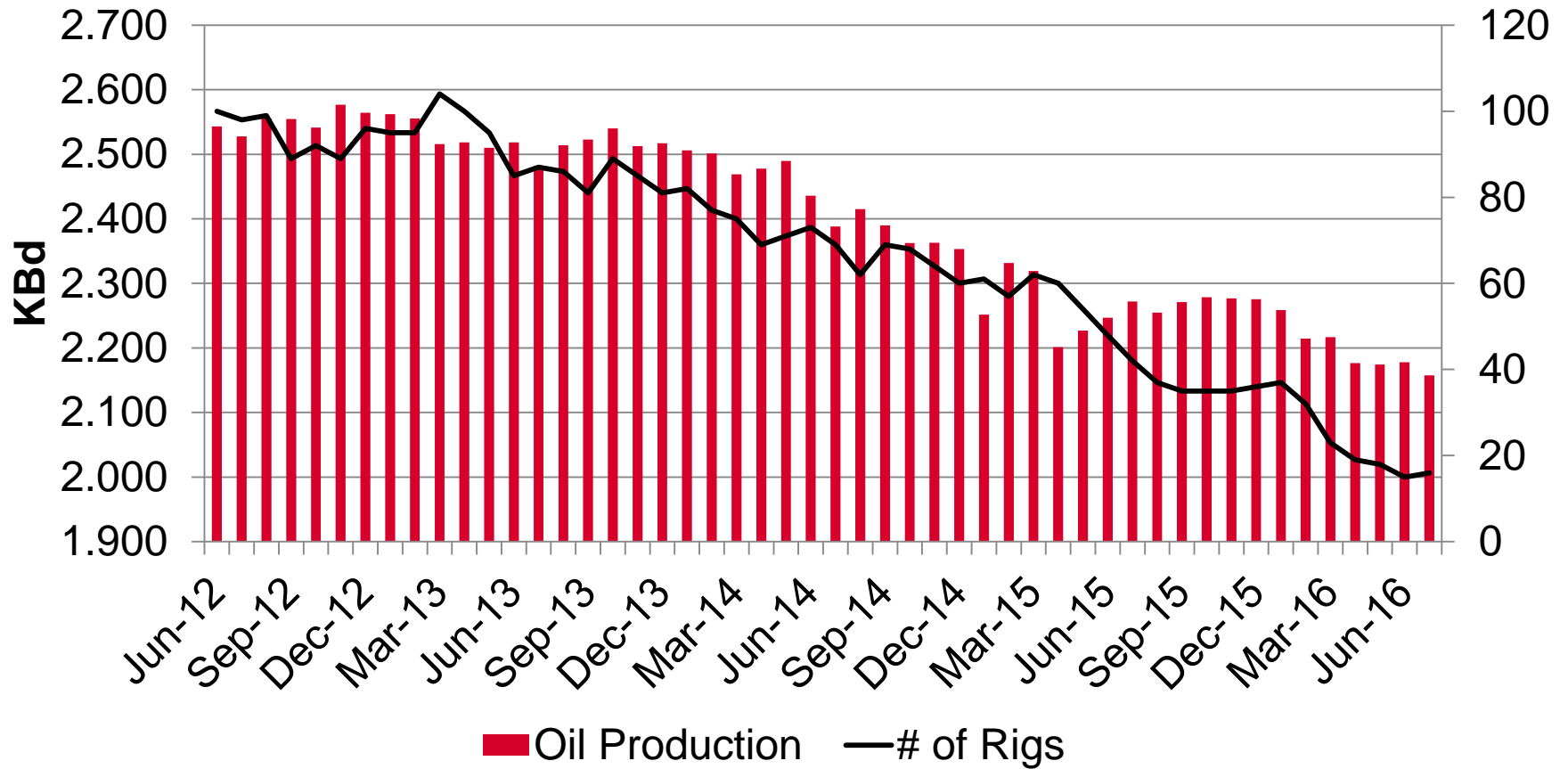
Colombia



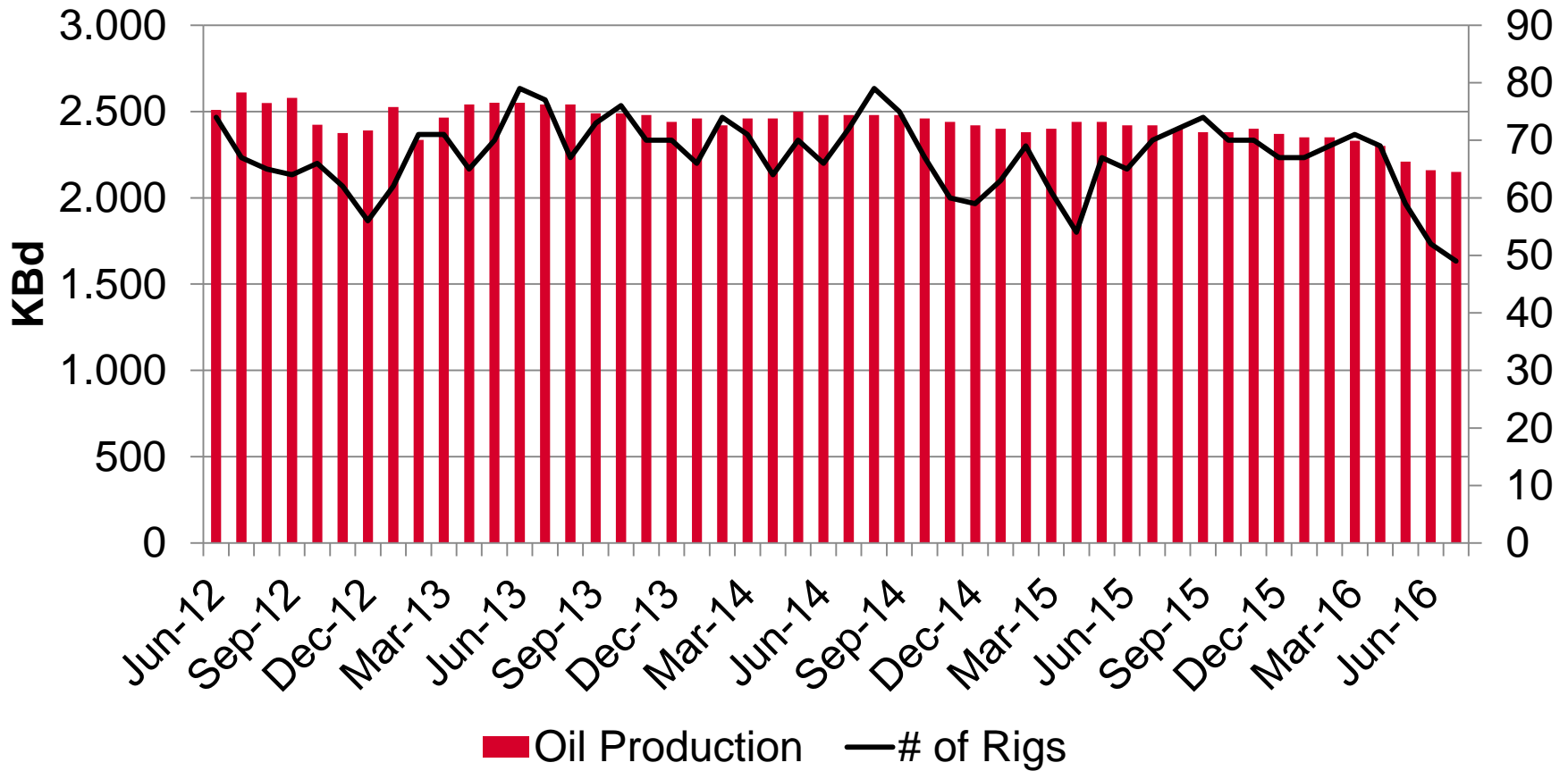
Ecuador



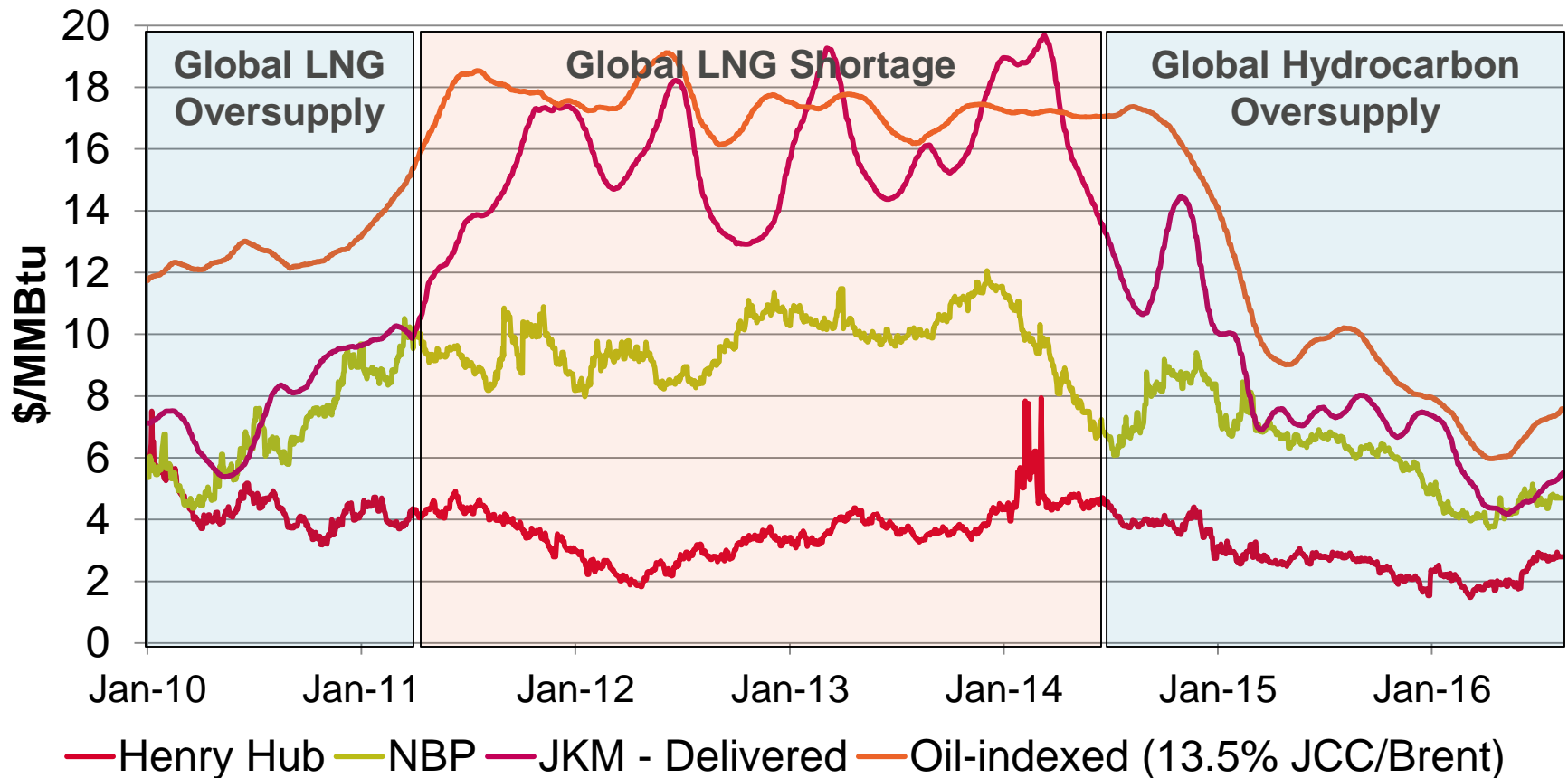
Mexico



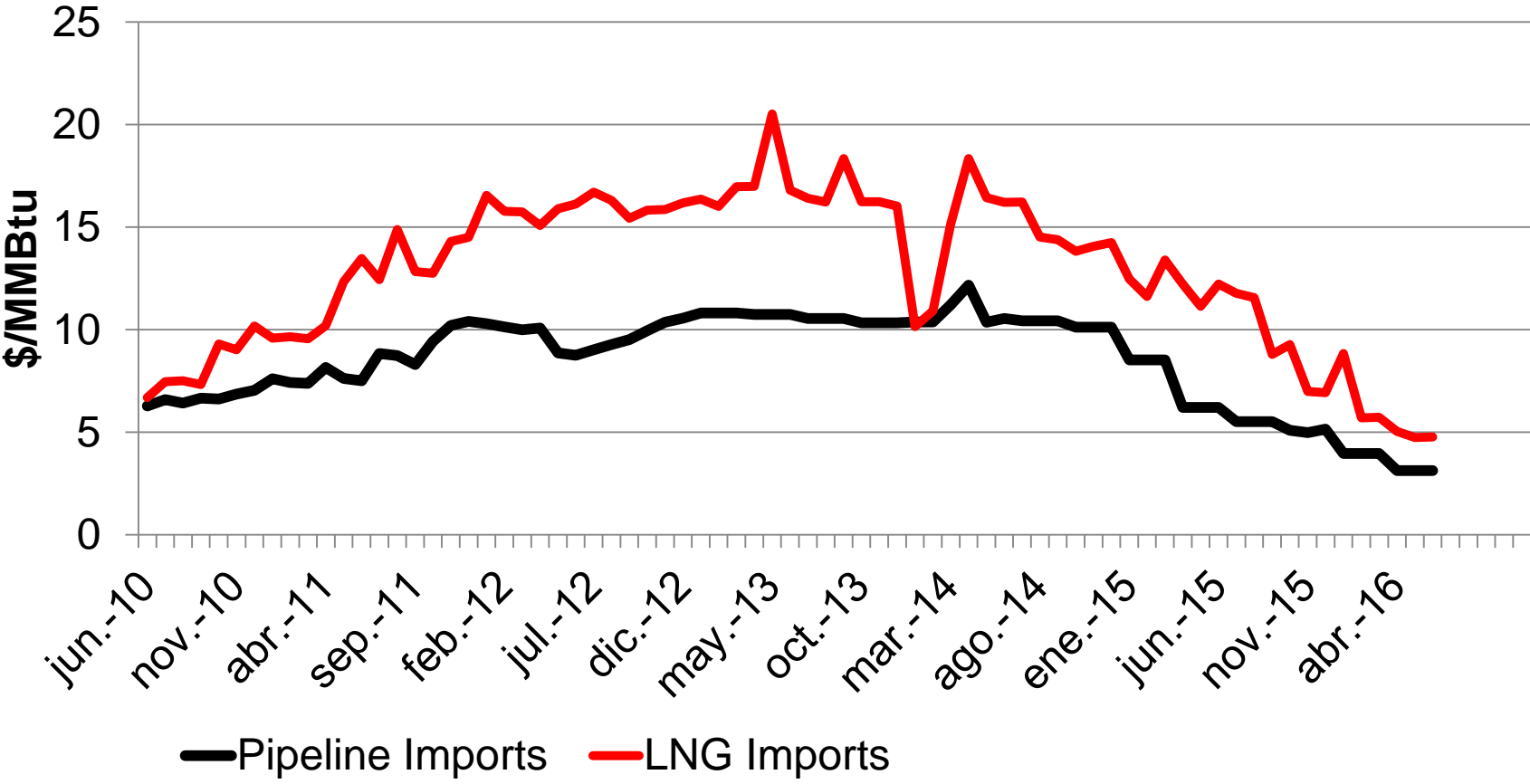
Venezuela



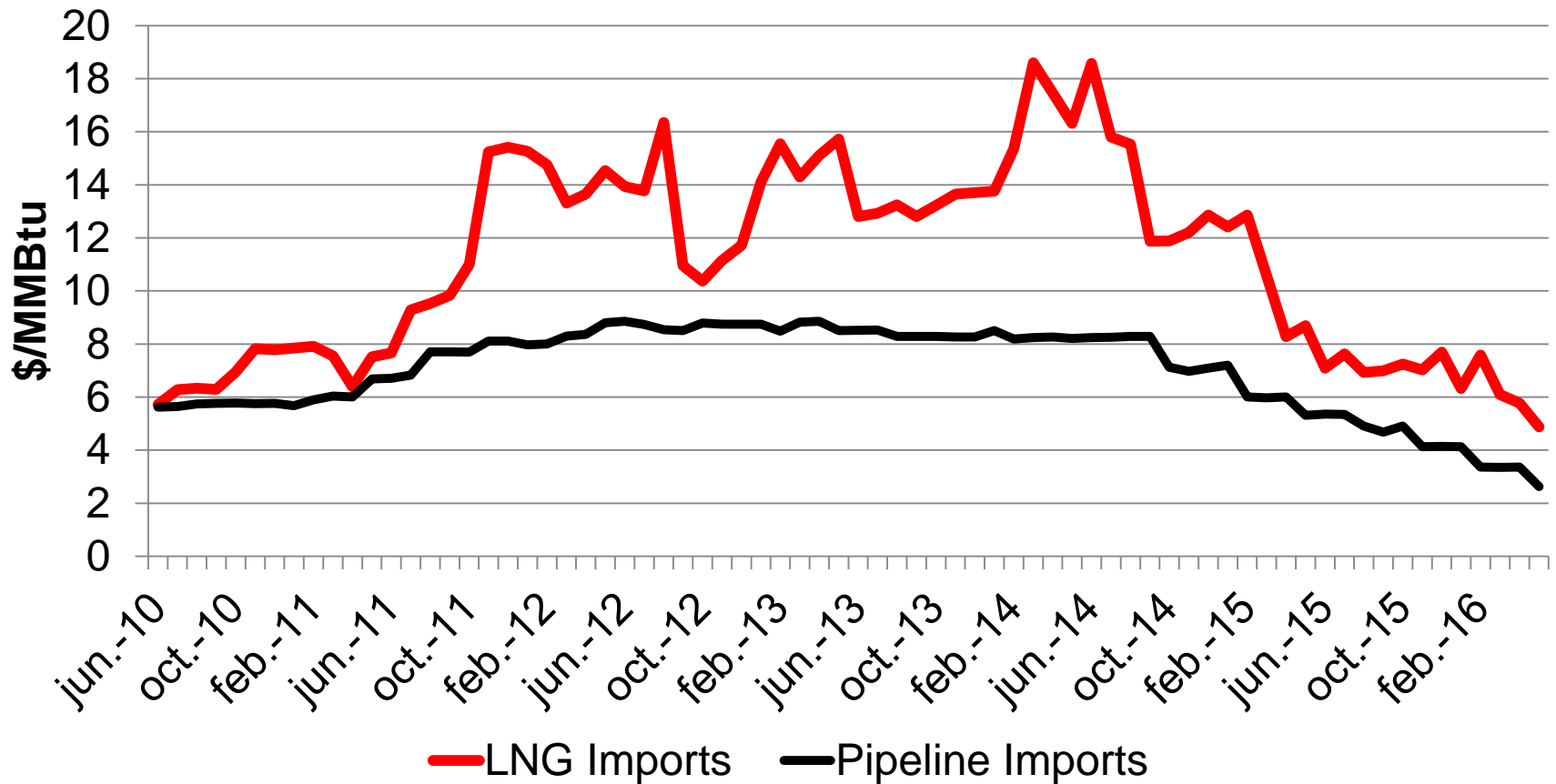
Global Gas Price Convergence



ARGENTINA LNG VS. BOLIVIAN IMPORTS - PRICES

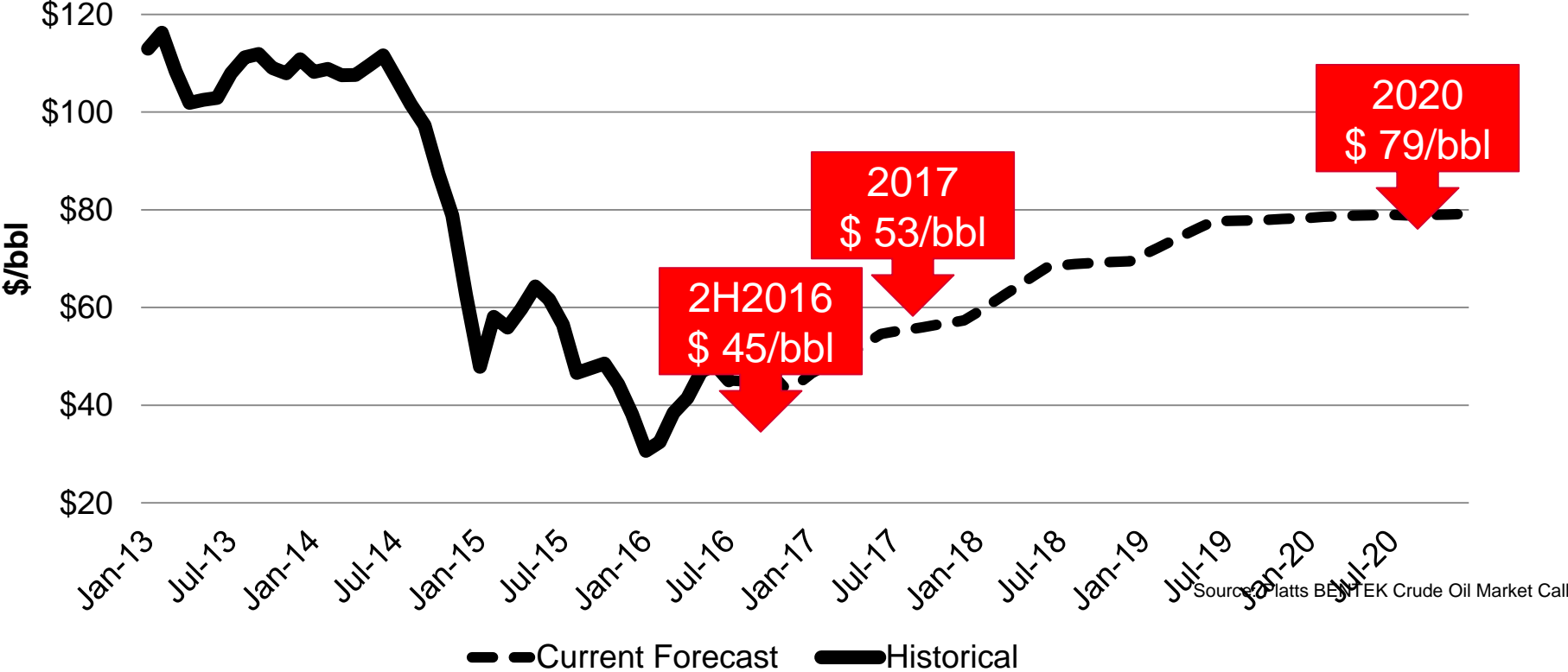


BRAZIL LNG VS. BOLIVIAN IMPORTS - PRICES



Platts Analytics continues to expect subdued pricing in the near term, with more support in latter years

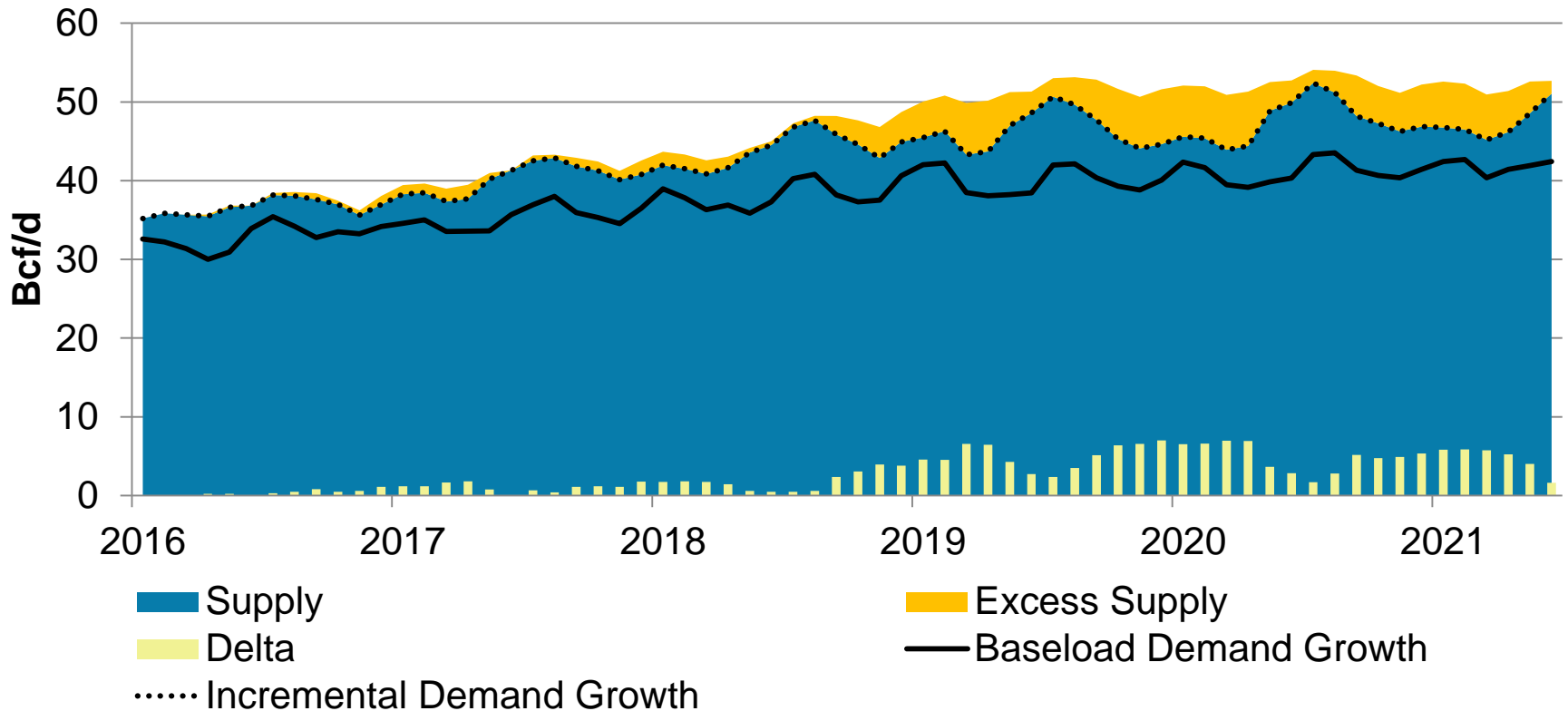
Brent Price Forecast



Source: Platts BENTEK Crude Oil Market Call

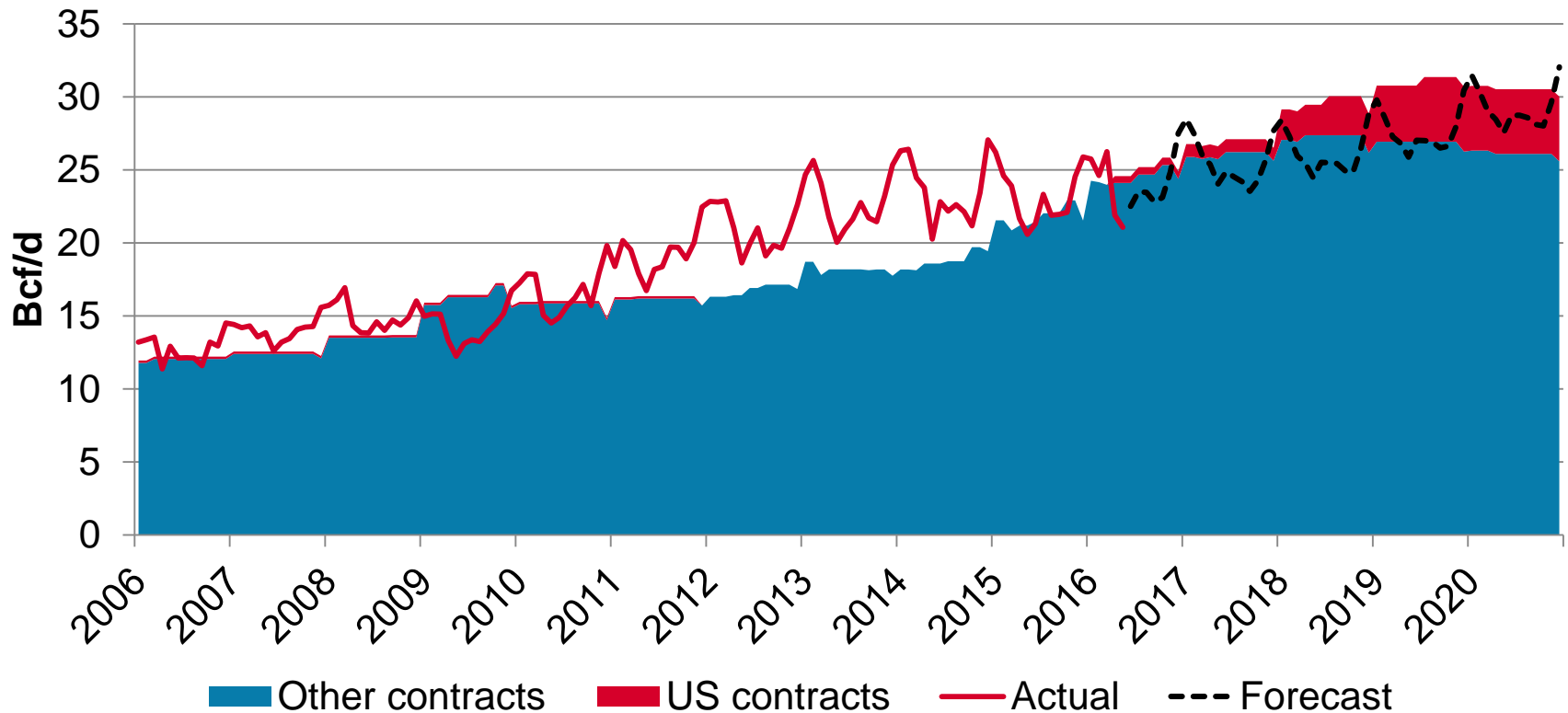
Demand Will Rise Due to Falling Prices and Producer “Push”, But Not Enough to Cover All Supply Growth

Global Supply and Demand Growth



Northeast Asian Buyers Appear Particularly Over-contracted, Excess Supply Will Find its Way to Spot Markets

Northeast Asian Demand Expectations



US CRUDE OIL EXPORTS

Platts New Assessments for US Crude Exports

On February 8, Platts launched six new assessments to reflect US crude exports:

Eagle Ford Crude FOB Houston

Eagle Ford Crude FOB Corpus Christi

Eagle Ford Condensate FOB Houston

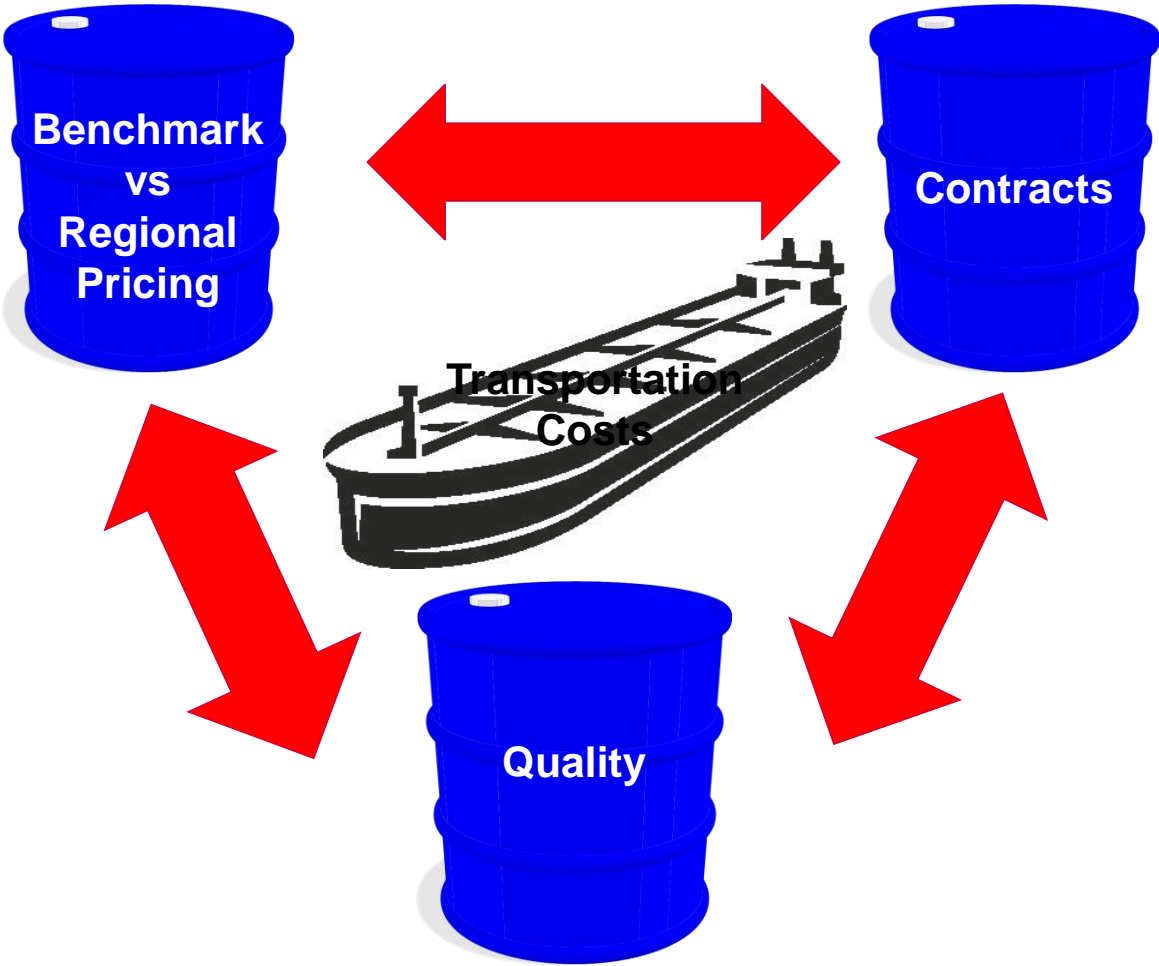
Eagle Ford Condensate FOB Corpus

WTI FOB Houston

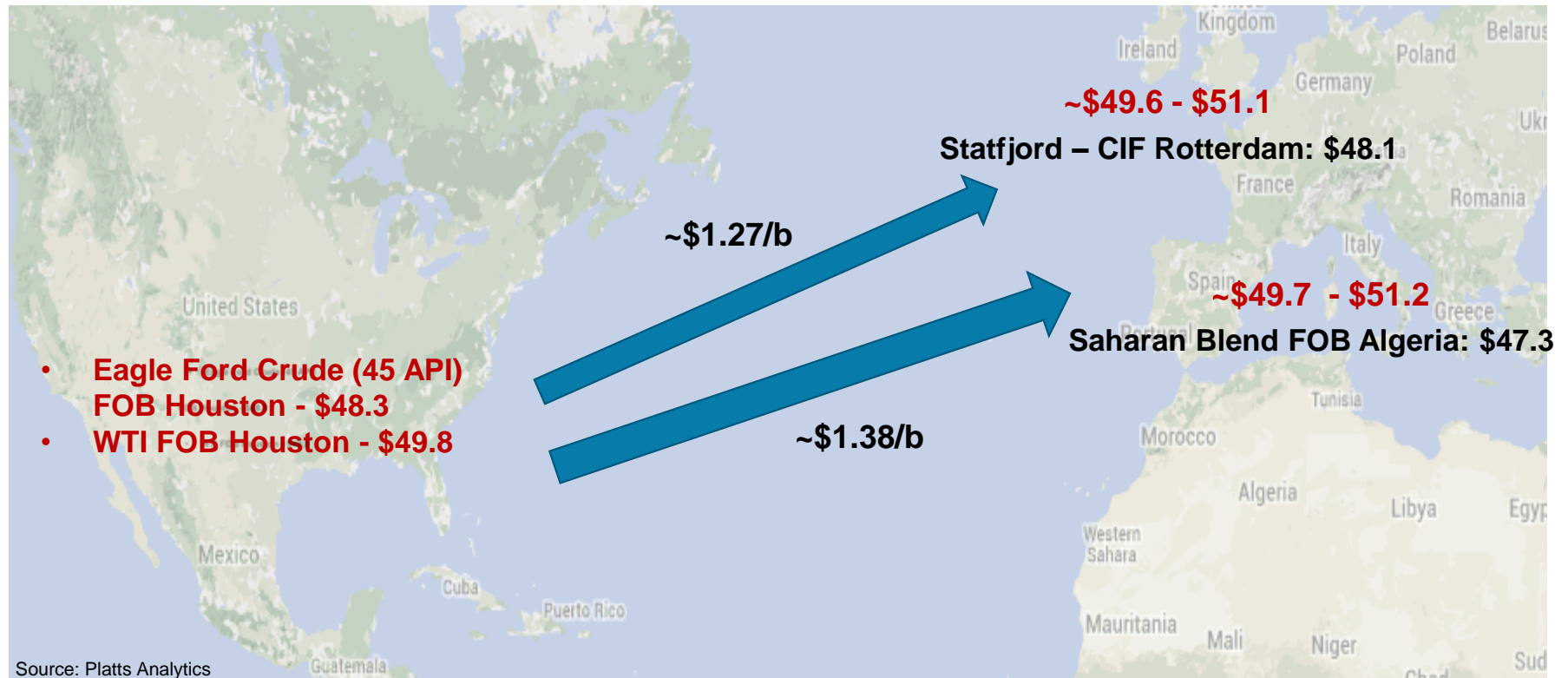
WCS Nederland



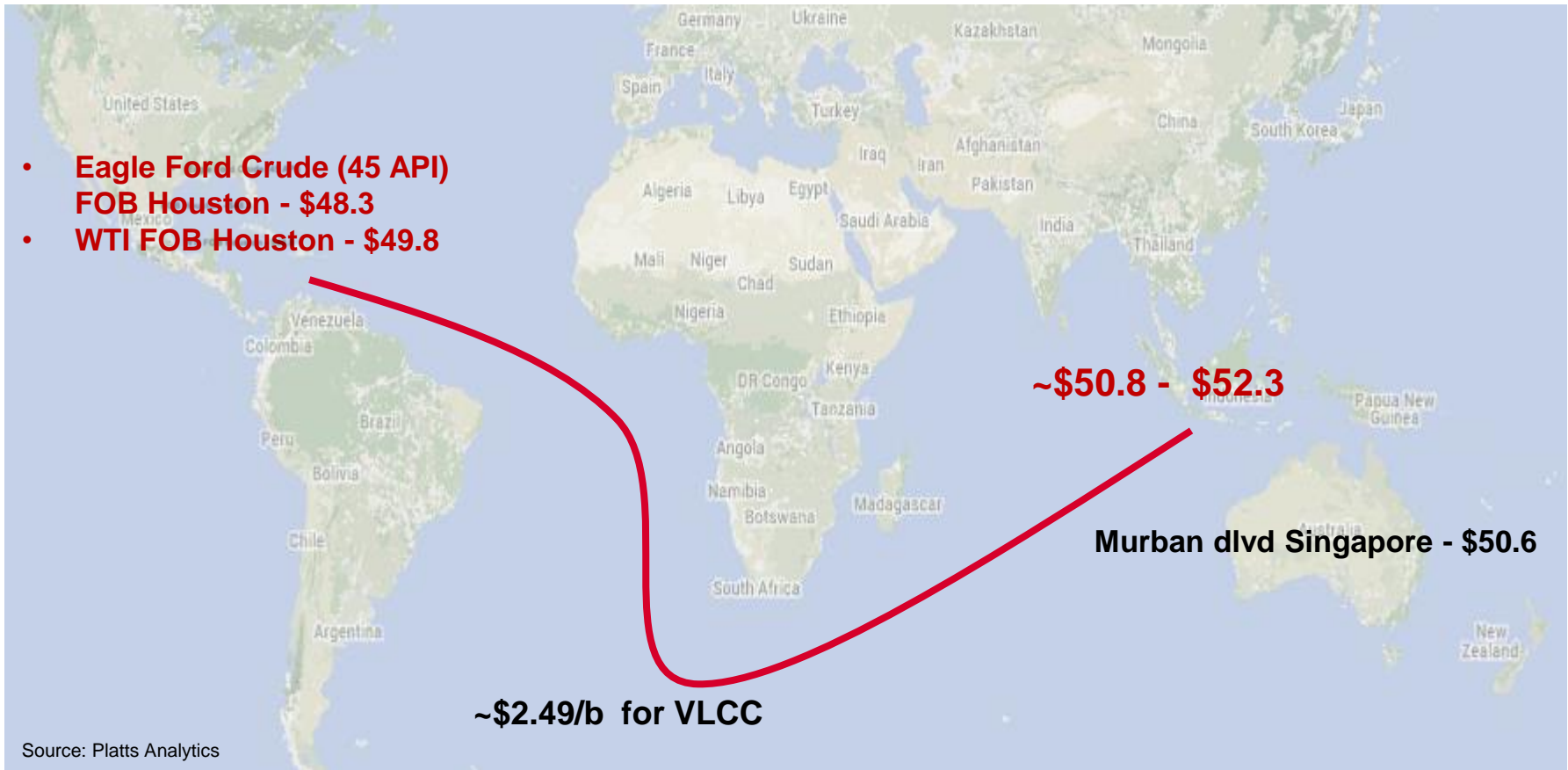
Finding a home in a global market



US Crude to Europe

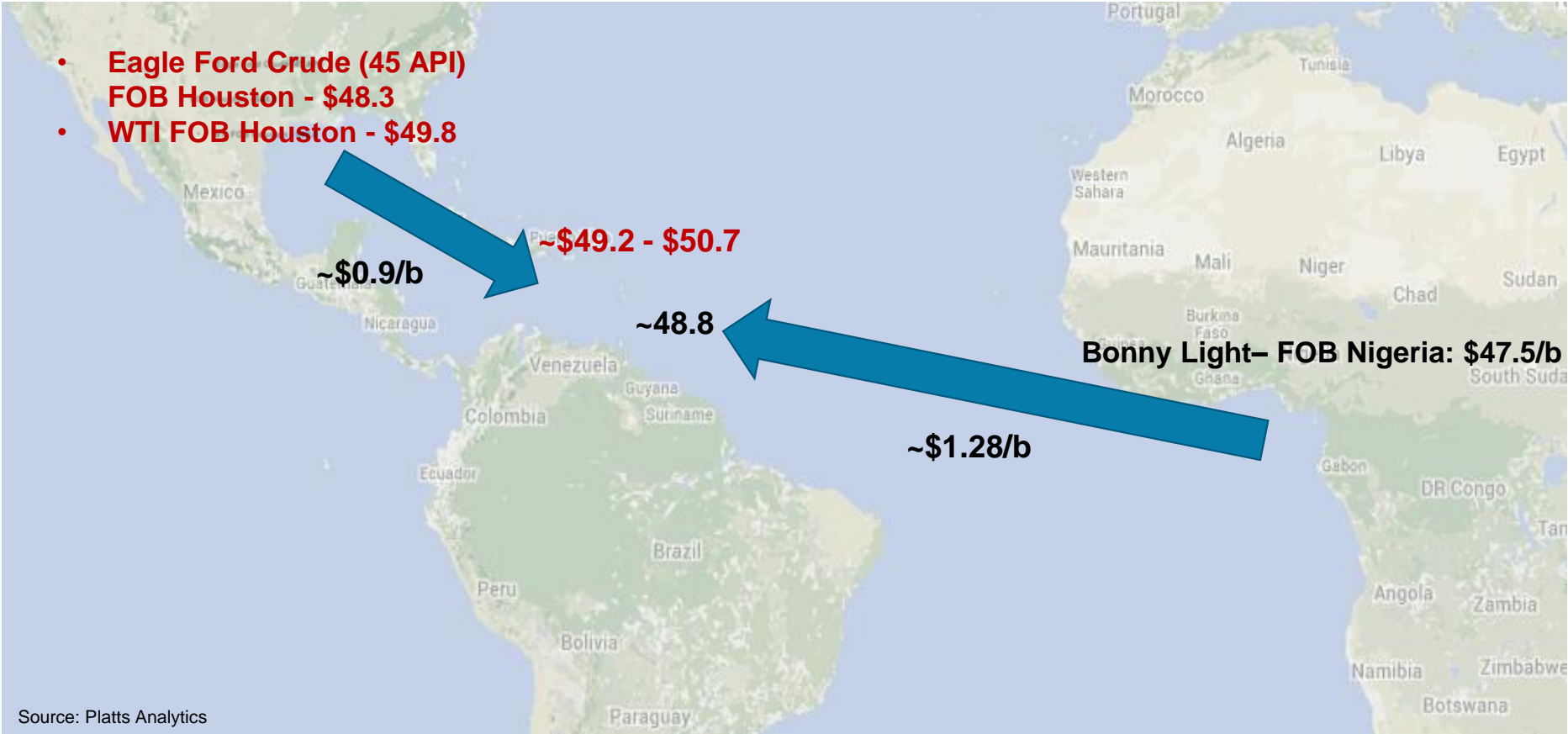


US Crude to Asia



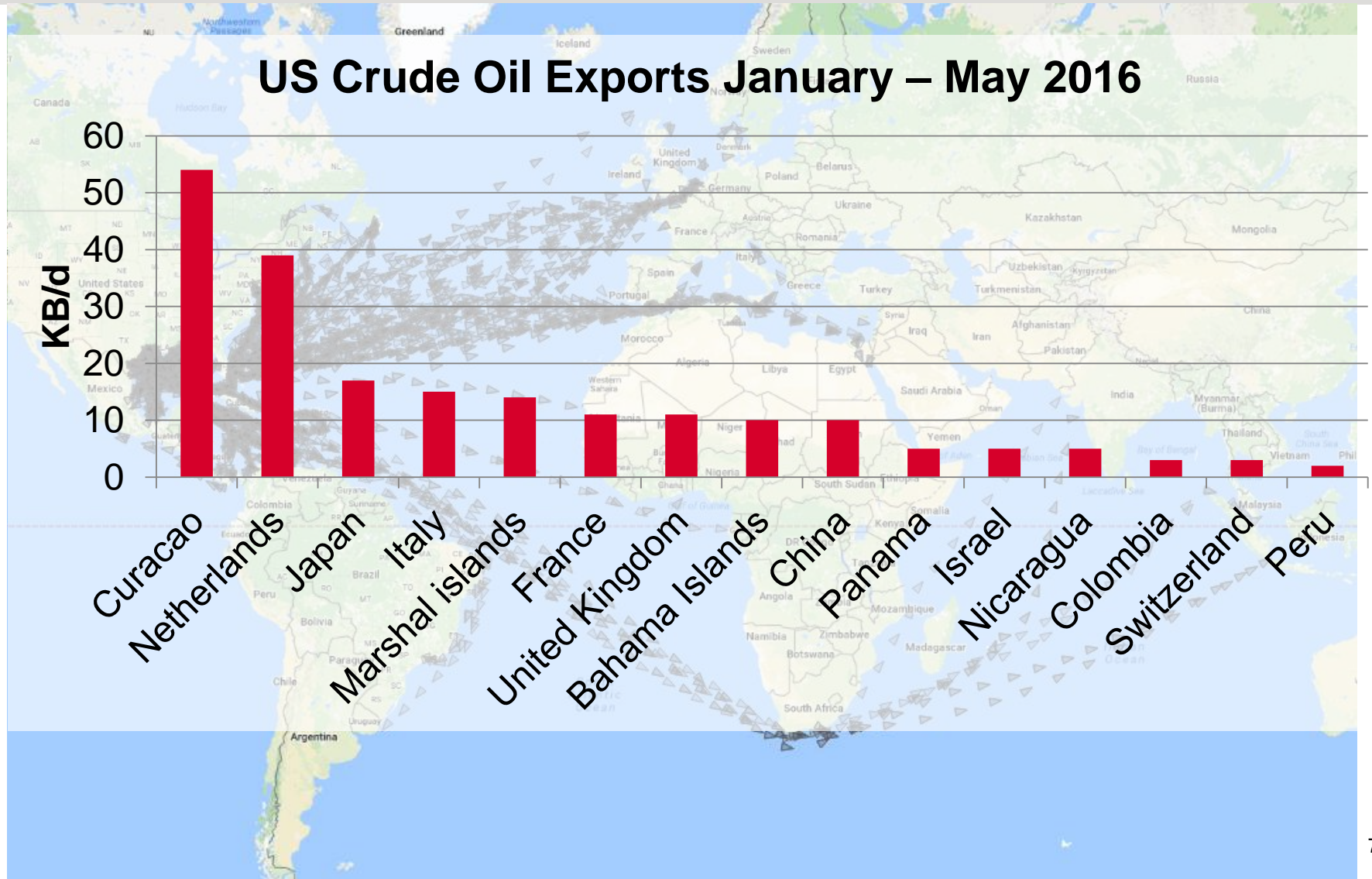
US Crude to Latin America

- Eagle Ford Crude (45 API)
FOB Houston - \$48.3
- WTI FOB Houston - \$49.8



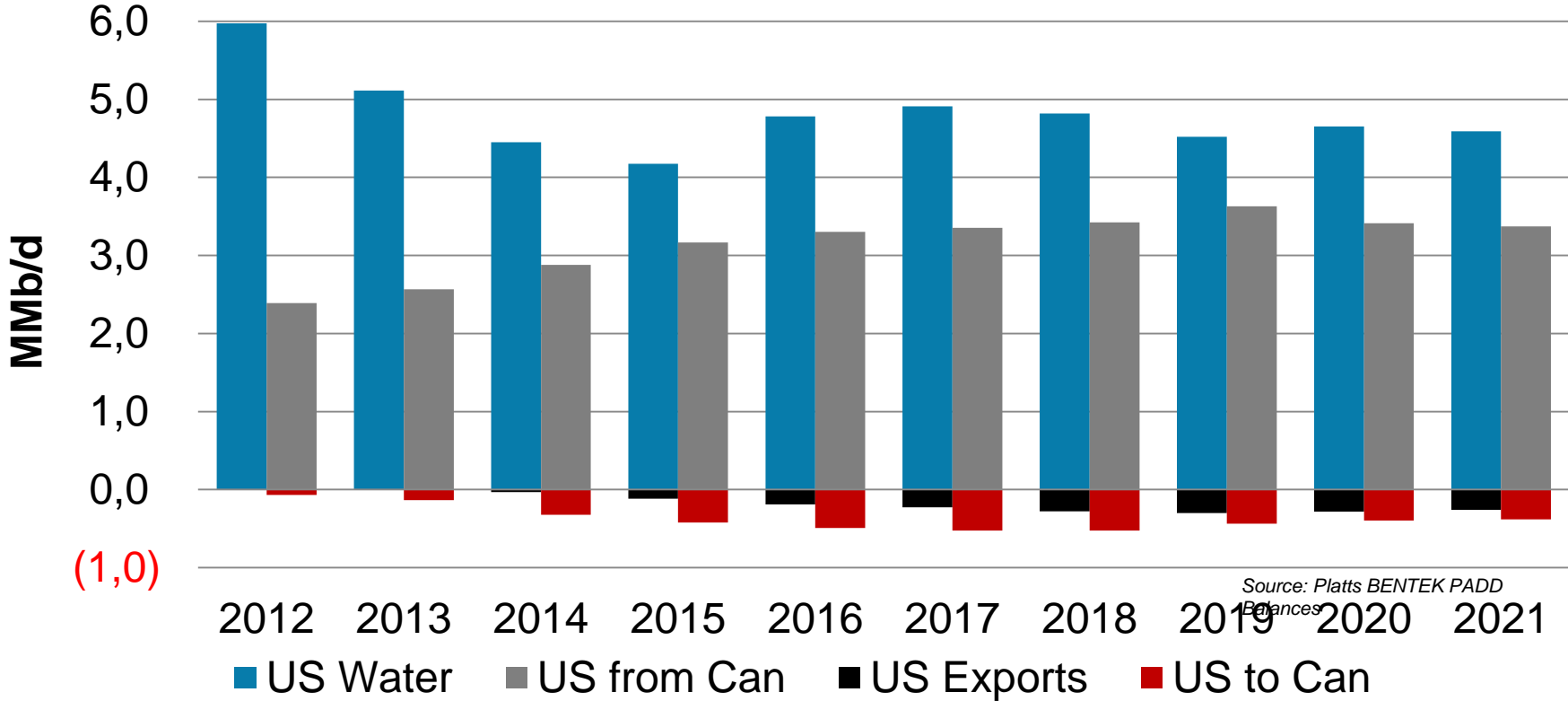
Source: Platts Analytics

US Crude Oil Exports



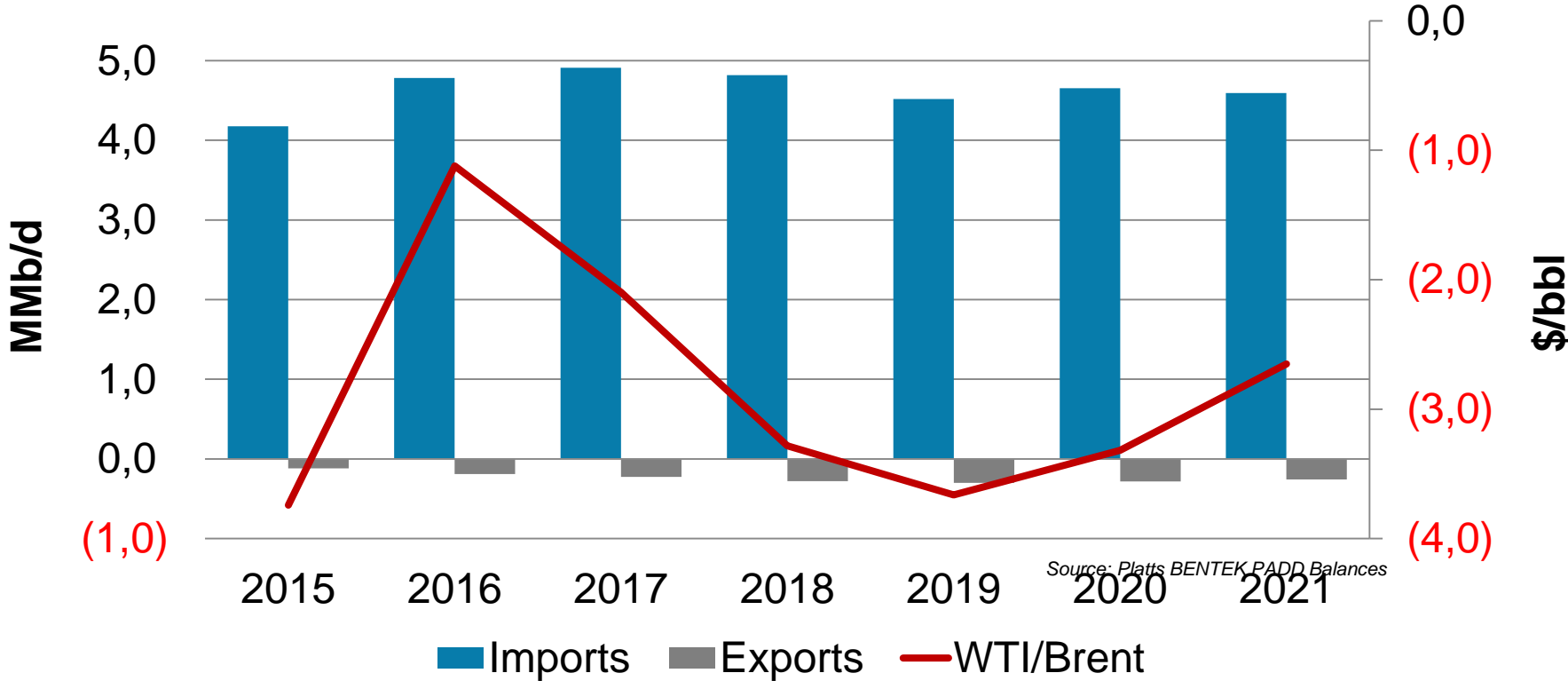
Rebound in imports will stick, and exports will gain a little traction

US Imports and Exports



Global dynamics will keep the WTI/Brent spread relatively tight

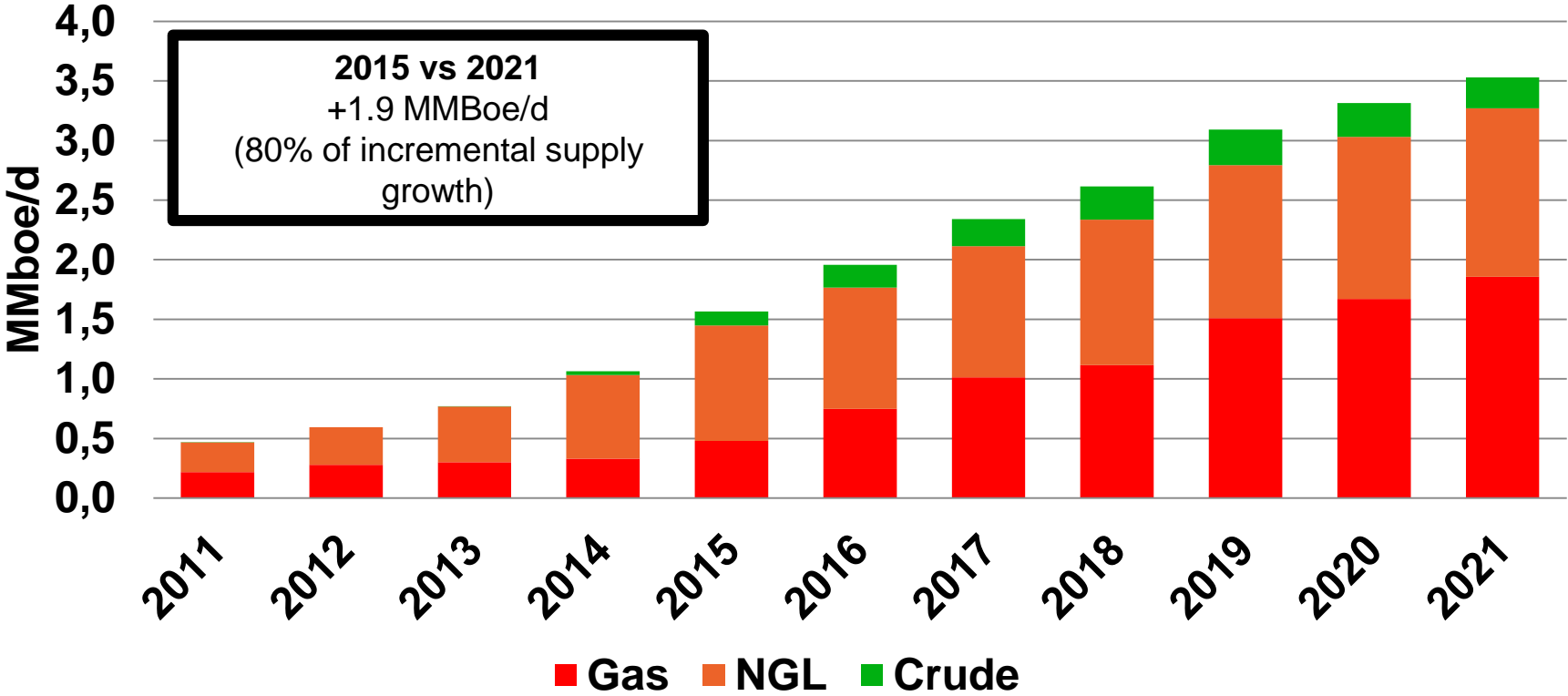
US Waterborne Imports and Exports



Source: Platts BENTEK PADD Balances

US still affecting global energy balance, dependent on the rest of the world to consume incremental supply

US Exports to the World



THANK YOU!



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