



RIVER
STONE

Current State of the Energy Industry

SPE San Antonio Chapter

March 1, 2016

- Likely Commodity Price Path
- Short and Mid Term Impact on Industry
- Other Implications

- Essentially an island commodity
- Not a pretty picture for producers
- Amount of shale gas is enormous relative to demand
- Marcellus, Utica, and Haynesville will be the low cost basins
- Marcellus current production 13 BCFD (20% of US total)
 - By 2018 Marcellus/Utica production likely 23 BCFD (33% of US total)
 - Recent Utica well test – 70 MMCFD
 - Haynesville is the new supply “sleeper”
 - This will reduce 2018+ wellhead netbacks for Rockies/Canada gas

- Sufficient shale supply for \pm 50 years
- 2018-2020 LNG exports (~ 6 BCFD of 80 BCFD total market) will not fix oversupply situation
- \$2.50 - \$3.25 HH likely long term price

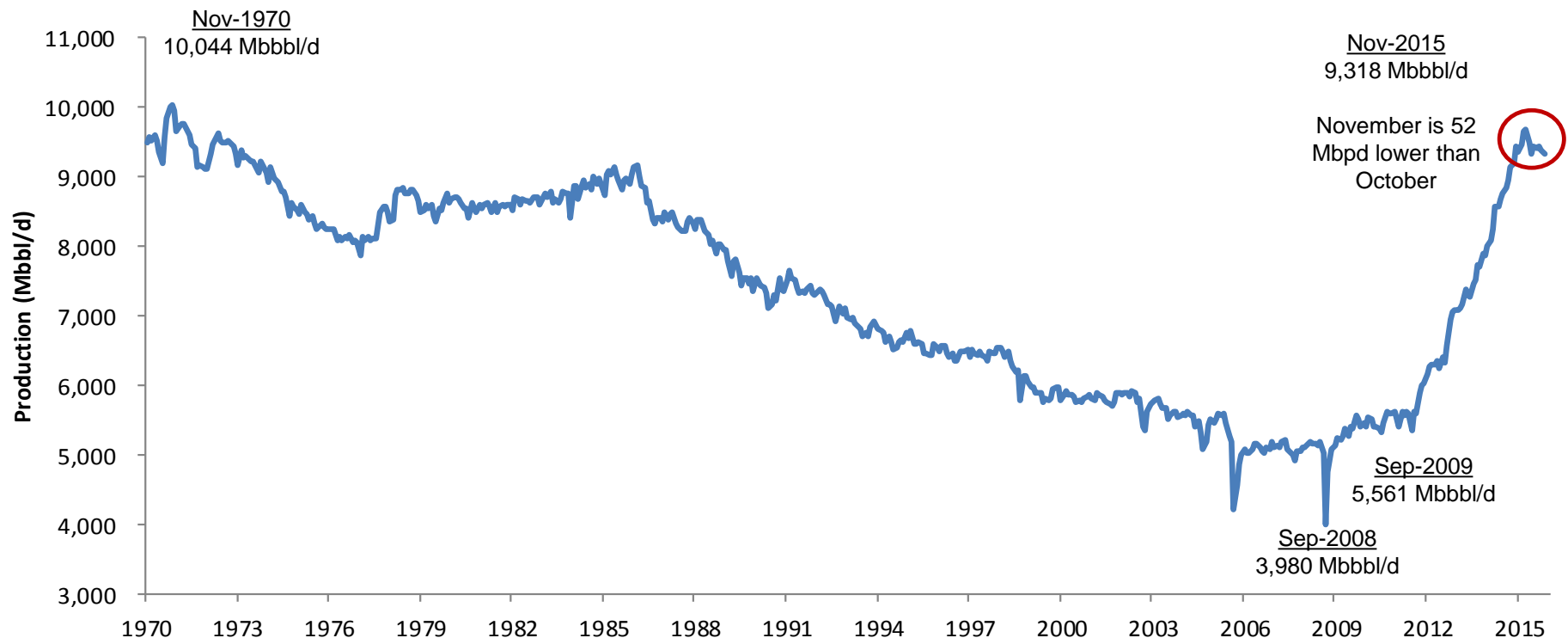
- Likely similar situation to gas – long term supply exceeds demand

- Totally different macro picture – not an island commodity
- Current global demand – 95 million BPD; grew 1.8 million BPD in 2015, likely 1.2 MBD in 2016
- At \$30 WTI, it's uneconomic to develop new oil almost anywhere in the world except in the Middle East
- At \$30 WTI, all global offshore development uneconomic except in Arabian Gulf
- US is the only significant place where global supply (was) growing

US Crude Production Summary

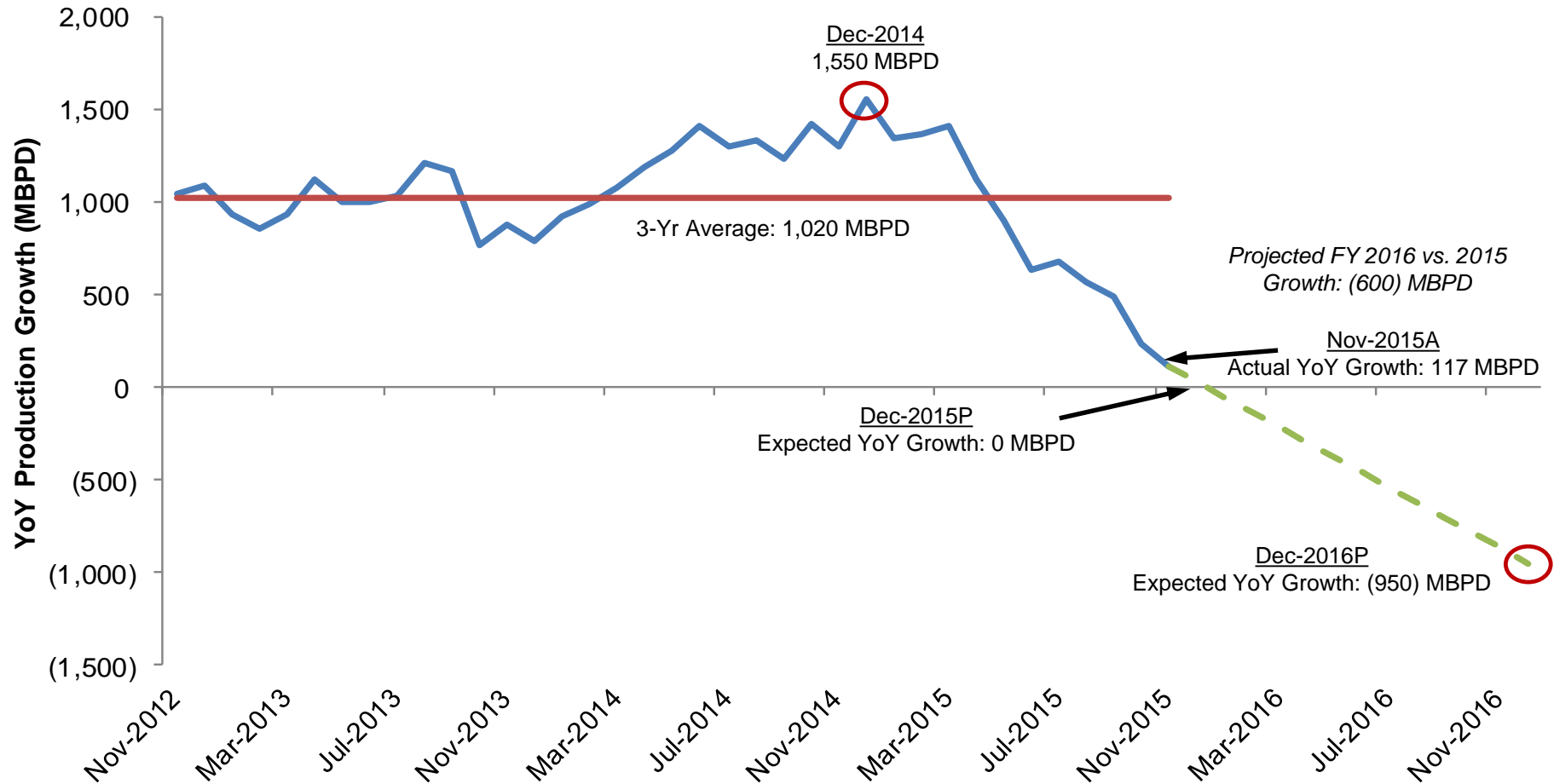
- Current Production: 9.3 MMbpd (November 2015)
- Year over Year Change: **+0.1 MMbpd** (November '15 vs. November '14)
- Data Release Date: January 2016

US Crude Production by Month (Mbbbl/d)



US Crude Year Over Year Production Growth: Nov. 2012 – Dec. 2016 (Projected)

US Oil YoY Production Growth (MBPD)



Projected FY 2016 vs. 2015
Growth: (600) MBPD

Nov-2015A
Actual YoY Growth: 117 MBPD

Dec-2015P
Expected YoY Growth: 0 MBPD

Dec-2016P
Expected YoY Growth: (950) MBPD

Likely 2016 Oil Balance

- Global demand growing at 1.2 million BPD
 - US oil growth ~(0.6) million BPD
 - Other non-OPEC ~(0.3) million BPD
 - Rest of world oil growth ~ 0.5 million BPD (Iran)
- Net 1.6 million BPD tighter market

- US – Production will grow again if prices >\$60
- Likely no shale oil outside North America for 5 – 10 years

- Prices will likely rise within 10 – 24 months
- Stable price is likely \$60-\$75
- Long Term \$90-\$100 prices unlikely
- Long Term below \$45 price unlikely

Short and Mid Term Impact on Industry

- Biggest industry restructuring since 1986
- Every company is selling properties – who is buying?
- Highly leveraged E&P's will likely disappear
- Not sure how majors will react
- Service industry will become more concentrated

- Biggest boost to overall economy in ± 40 years
 - Reindustrialization of parts of US
- US will be a long term major oil producer
 - Could reach 12 MMBOPD in 5 years
 - Foreign policy impact
 - Trade deficit benefits
- Long term domestic natural gas prices will be $\sim 1/3$ of similar prices in Europe or Asia
 - Major uplift for chemicals industry and others