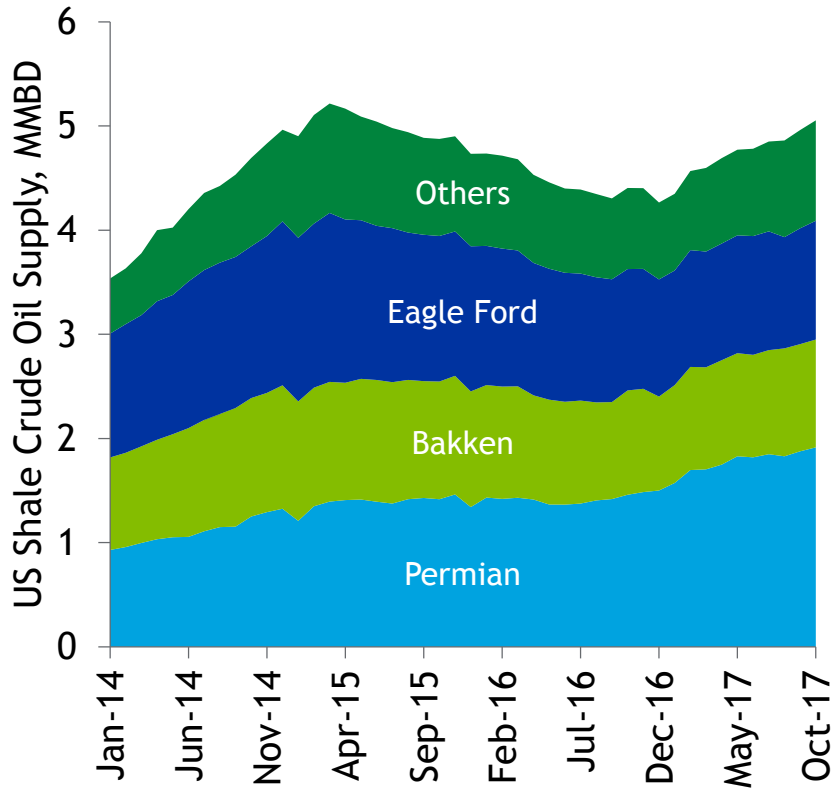


Short-term oil market dynamics

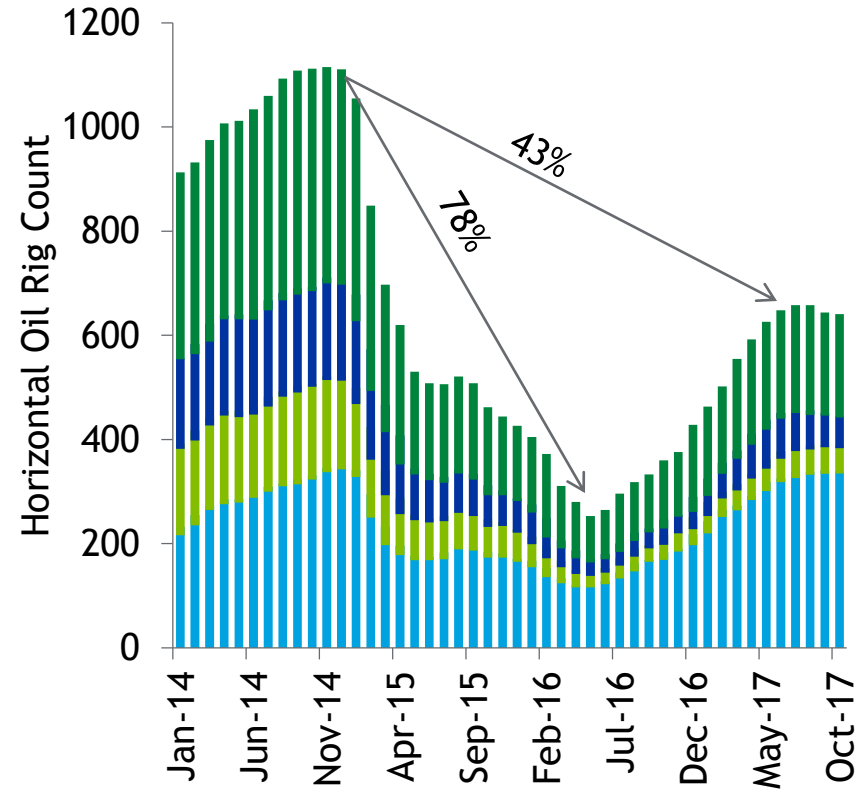
US shale oil production is on a rebound

US Shale Crude Oil Supply, MMBD



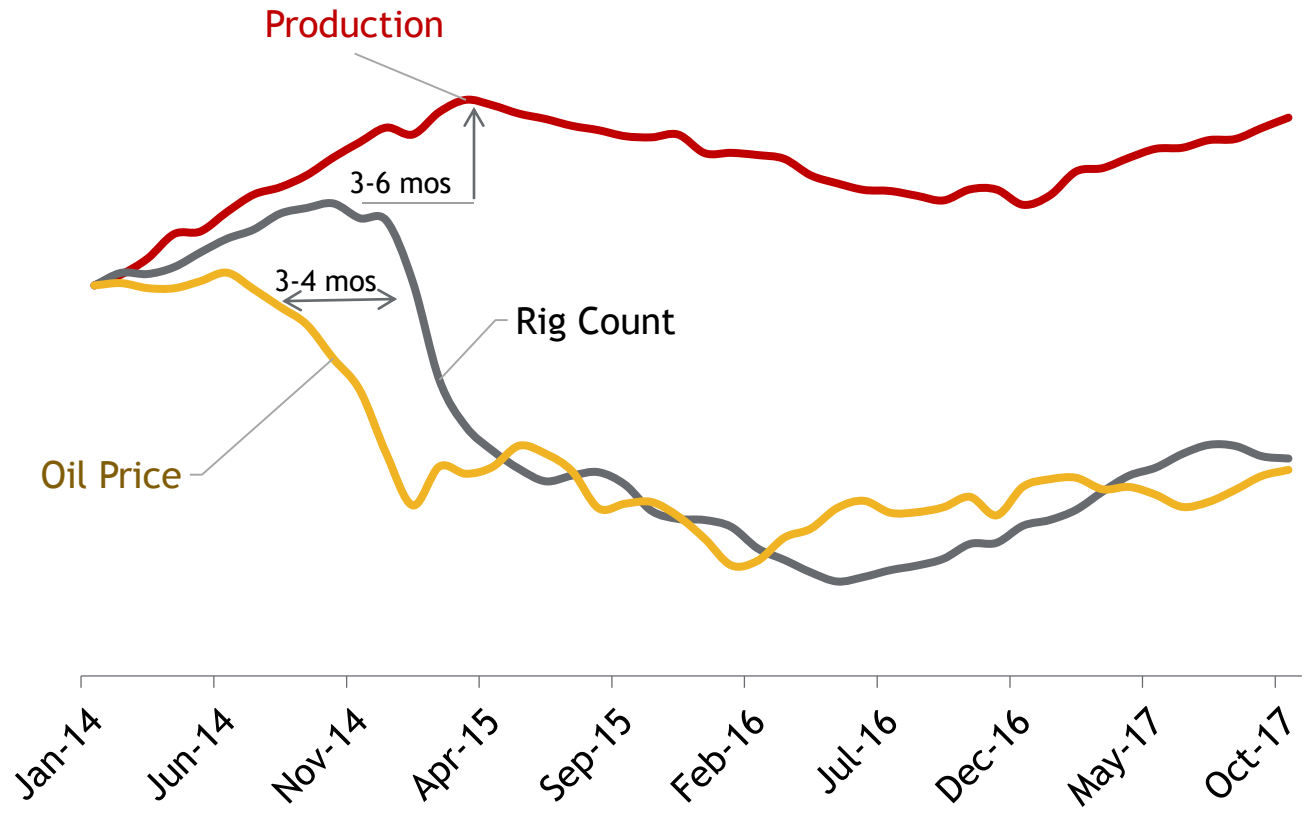
EIA; ND DMR; Texas RRC

Count of Rigs Drilling Horizontal Oil Wells



Baker Hughes

Shale oil supply responds to changes in price signals with a delay of six to ten months



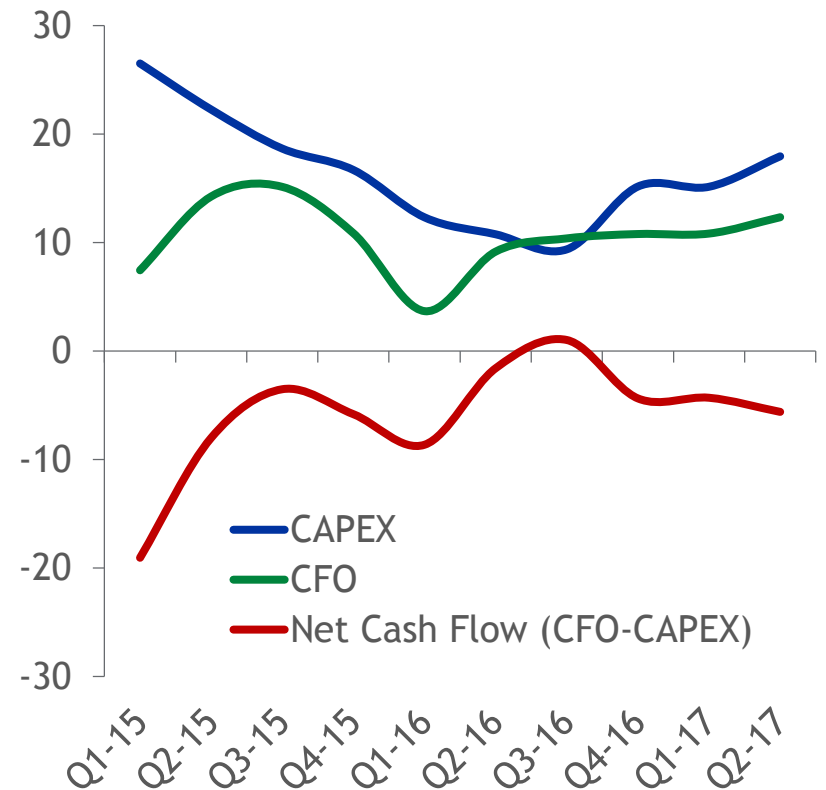
EIA; ND DMR; Texas RRC; Baker Hughes

With increasing costs, shale producers' cash flow will be under stress

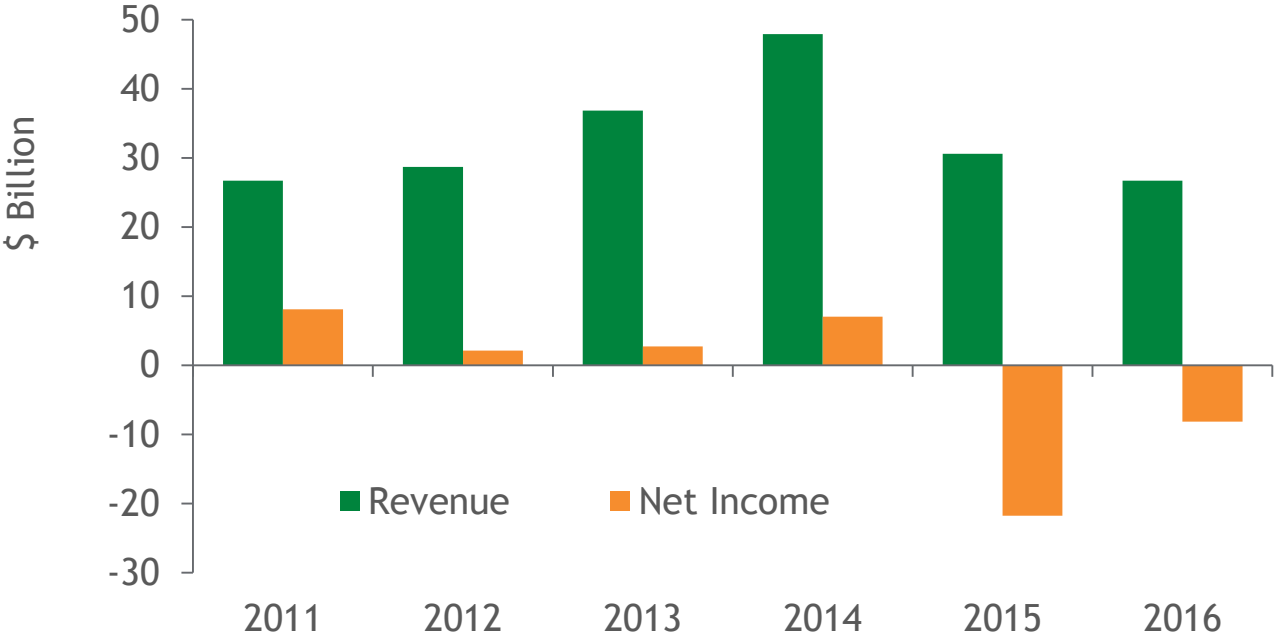
US Shale Cost Index (Q1-2007=100)



Cash Flow from Operations (CFO) and Capital Expenditures (CAPEX) of Representative Group of Shale Producers

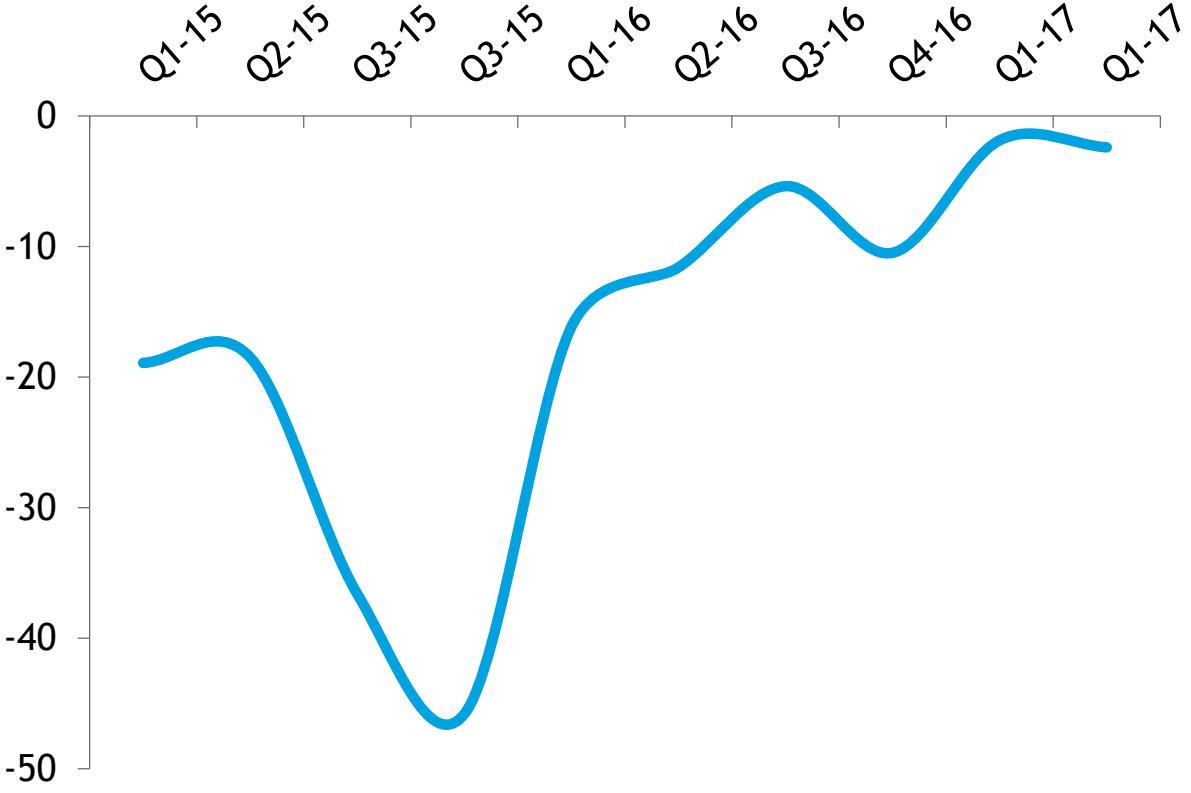


Total revenues and net income for key shale oil producers



*companies include Pioneer Natural Resources, Continental Resources, EOG, Devon Energy, Whiting Petroleum, and Concho Resources

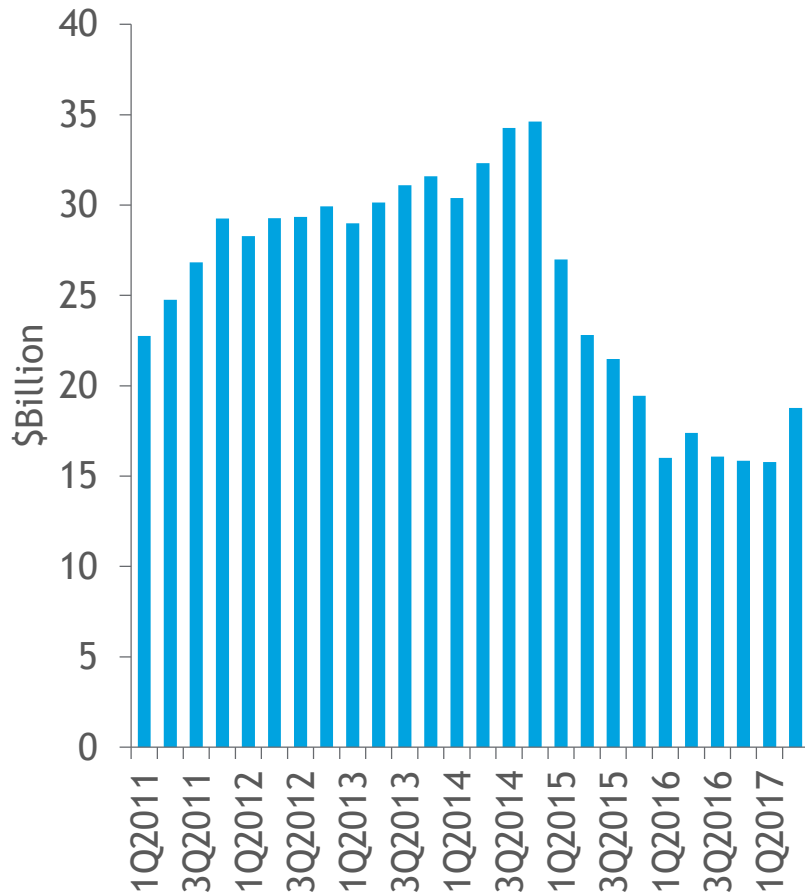
Total net income of select group of shale producers



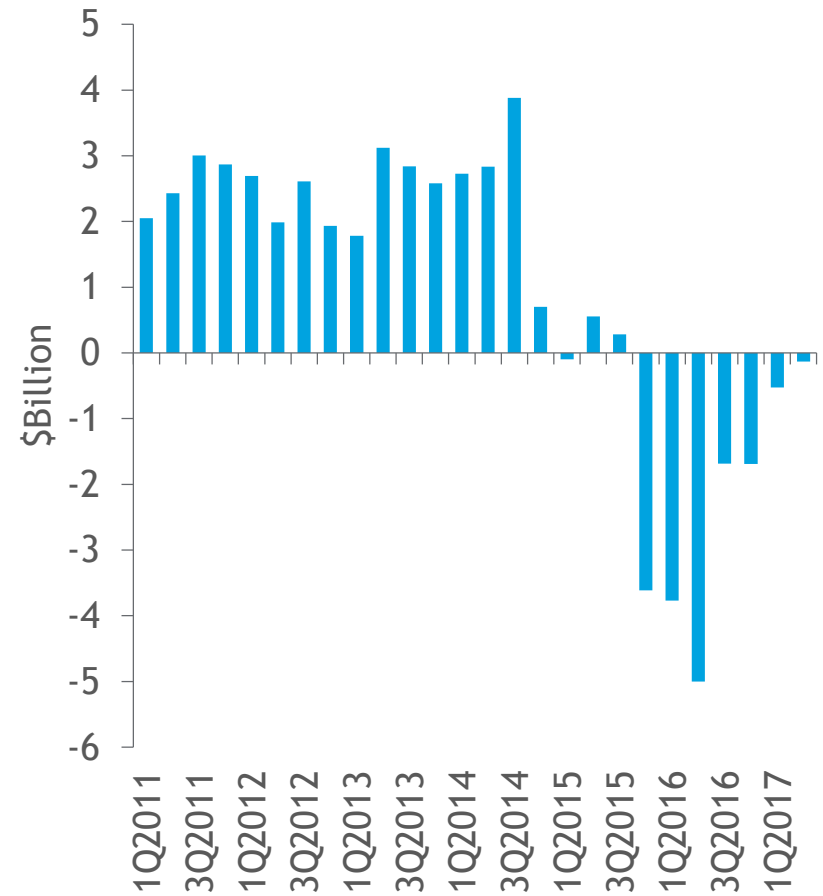
Includes 11 large, 14 mid-sized, and 15 small shale producers

Profitability of oilfield service sector declined

Total Revenues of Key OFS Companies



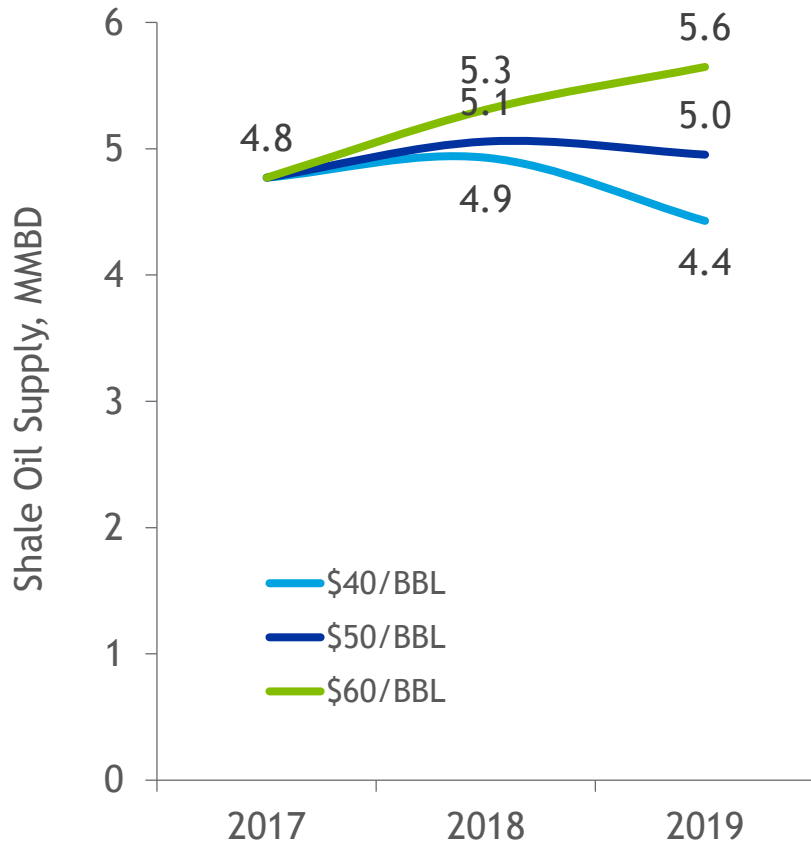
Net Income of Key OFS Companies



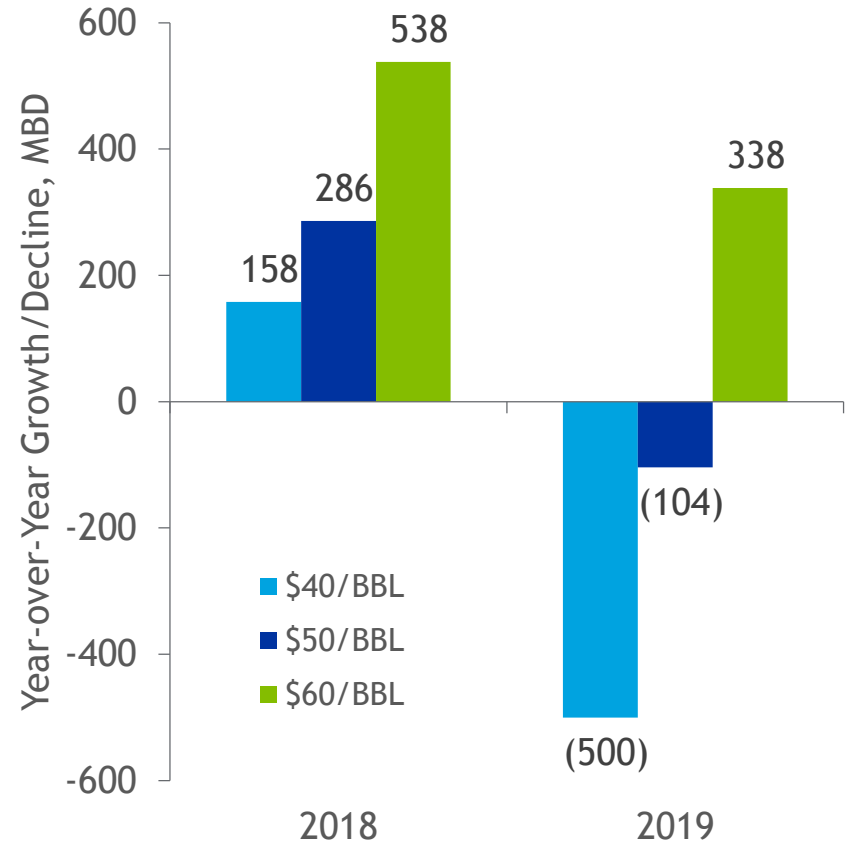
Oilfield service (OFS) companies include Schlumberger, Baker Hughes, Halliburton, Weatherford, Nabors, and Helmerich & Payne

Limited upside on US shale oil supply in 2018

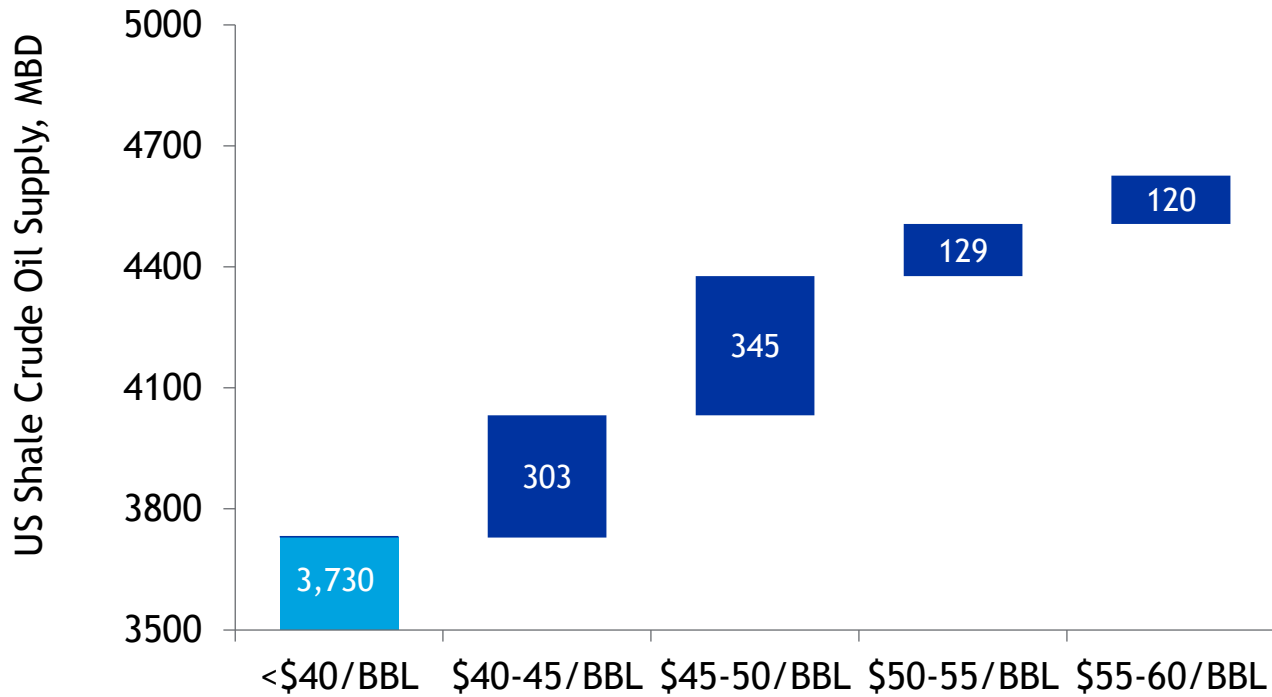
US Shale Oil Production Scenarios for Different Price Levels



Incremental Growth/Decline for Different Price Levels

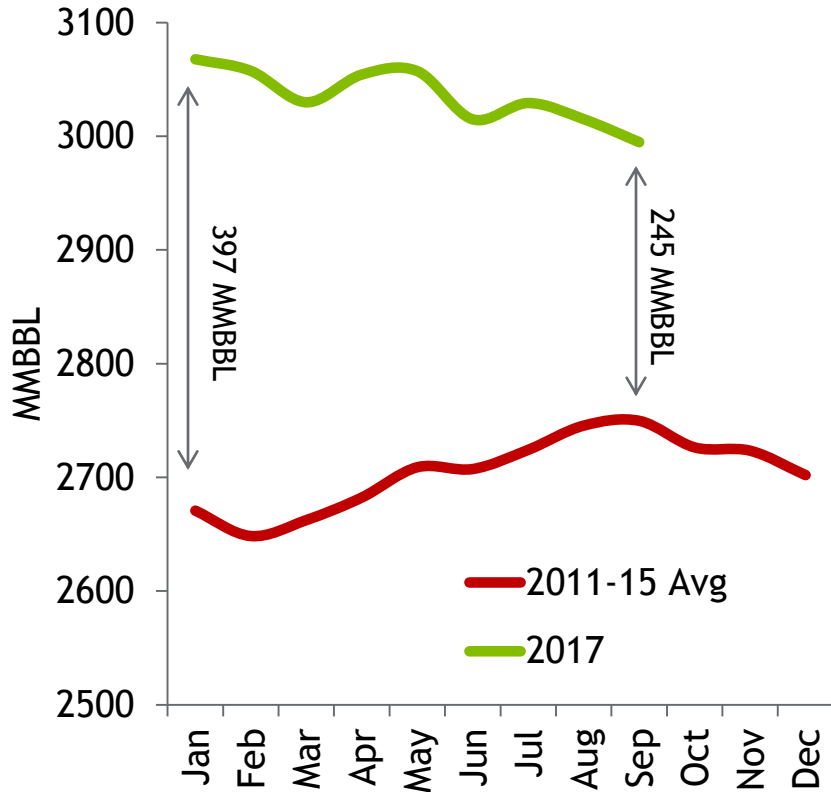


Rystad Energy's shale oil forecast for 2018 by breakeven prices

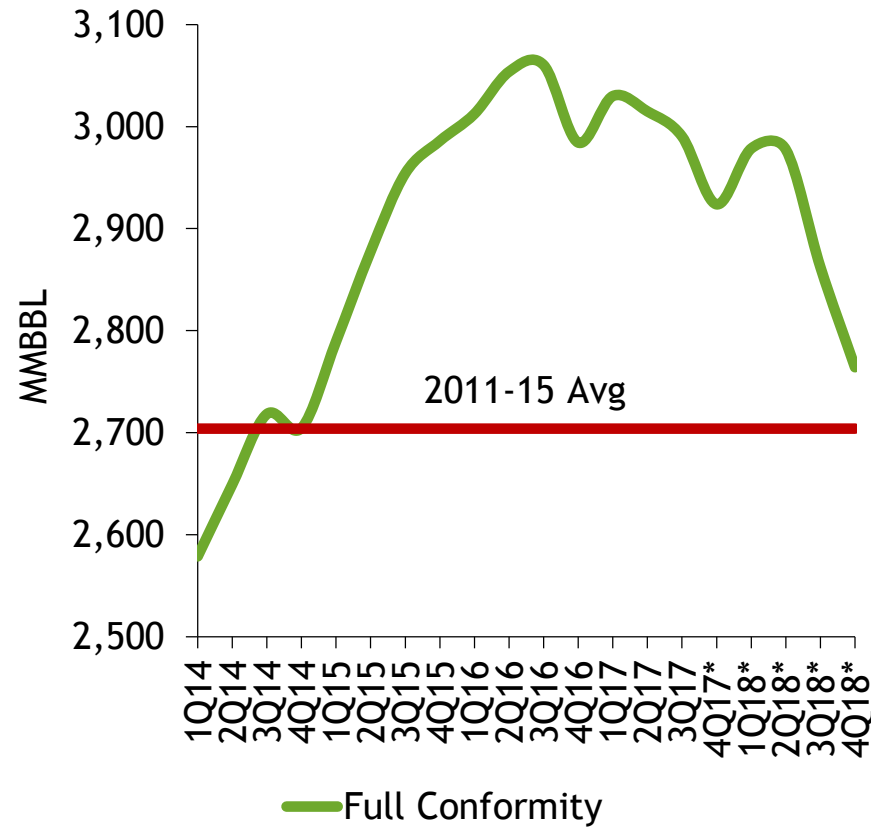


Continuation of agreement

OECD Commercial Inventory Level



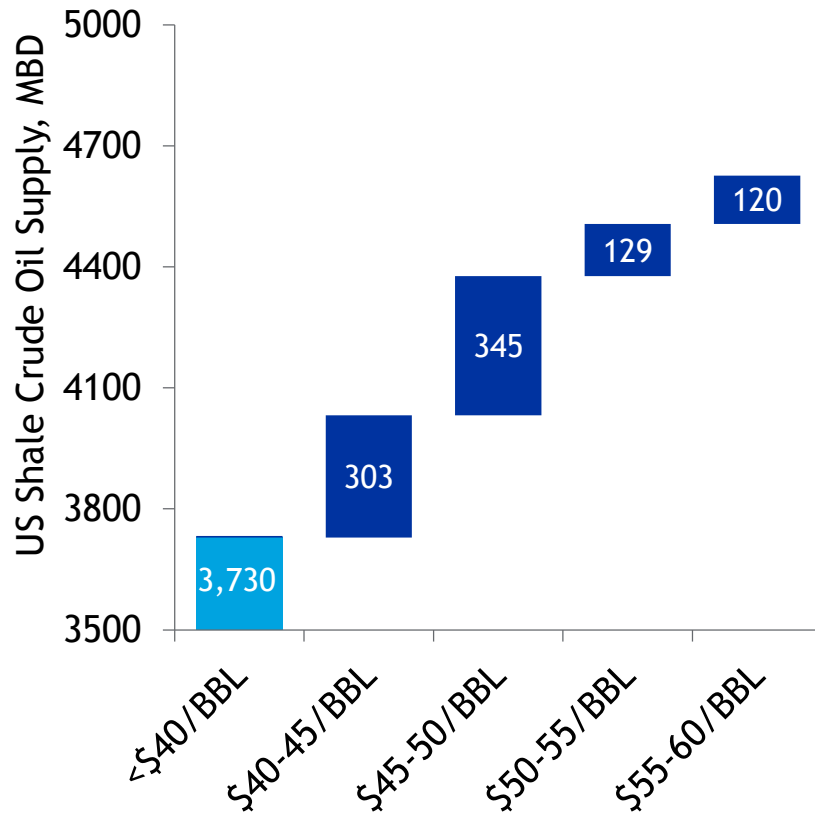
OECD Commercial Inventory Level



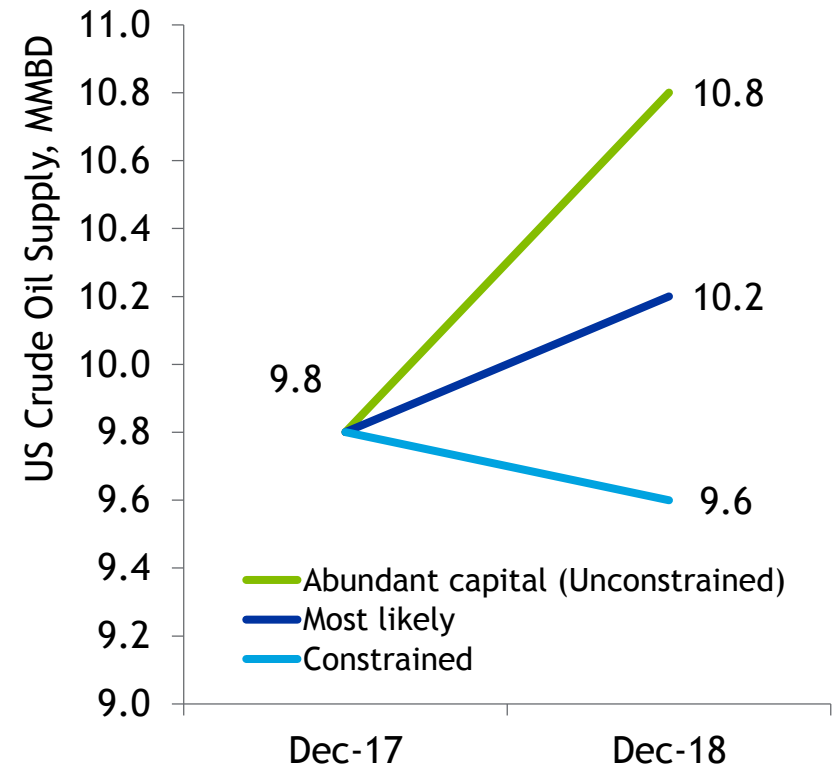
Thank you

Most forecasters see US crude oil production within narrow range in 2018

Rystad Energy's 2018 US Shale Oil Supply Forecast

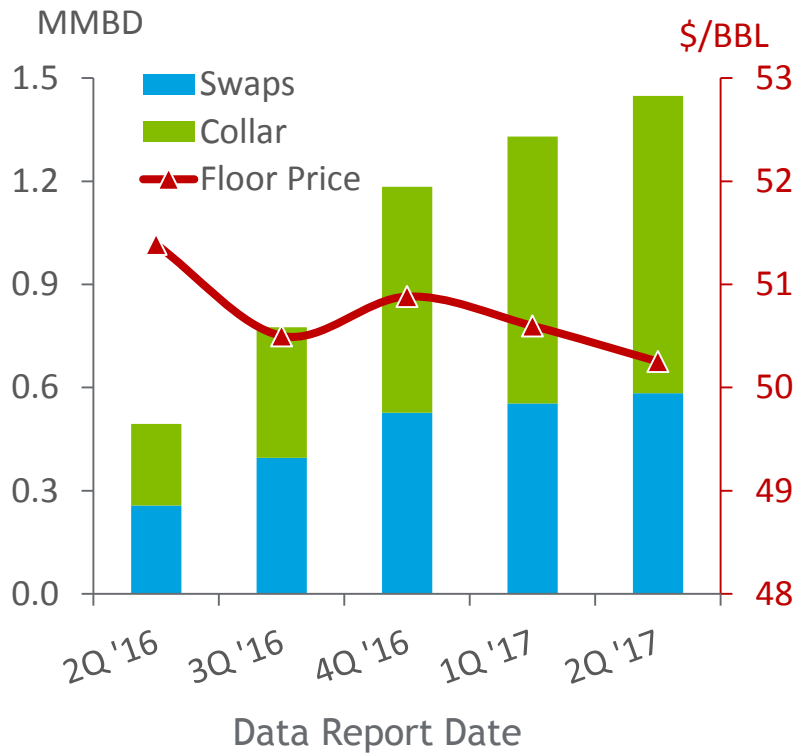


IHS View on US Crude Oil Supply for Different Levels of Investment

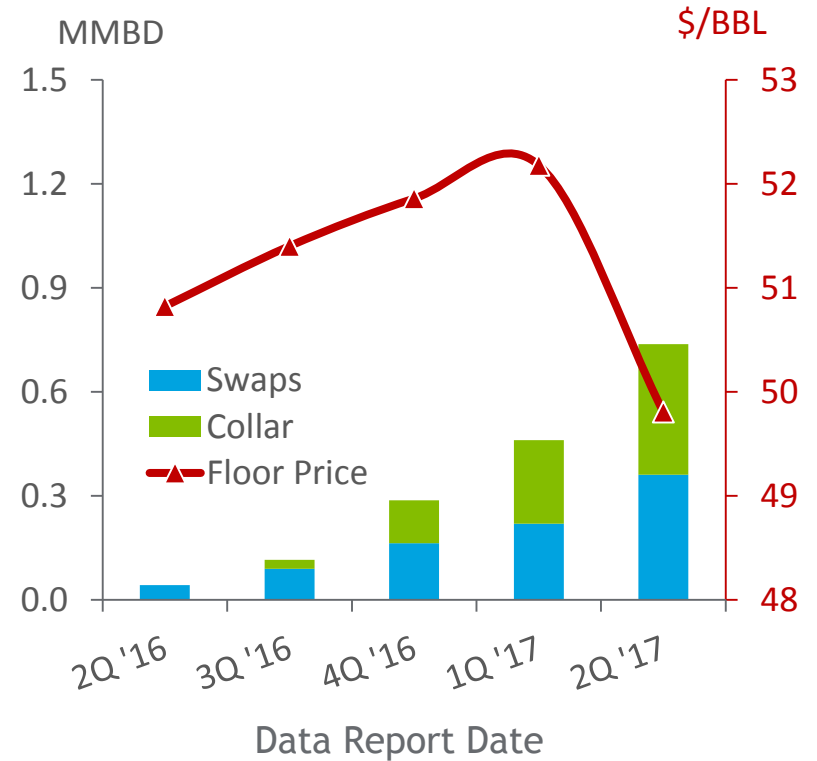


US shale producers' hedging

2017 Hedges and Floor Price

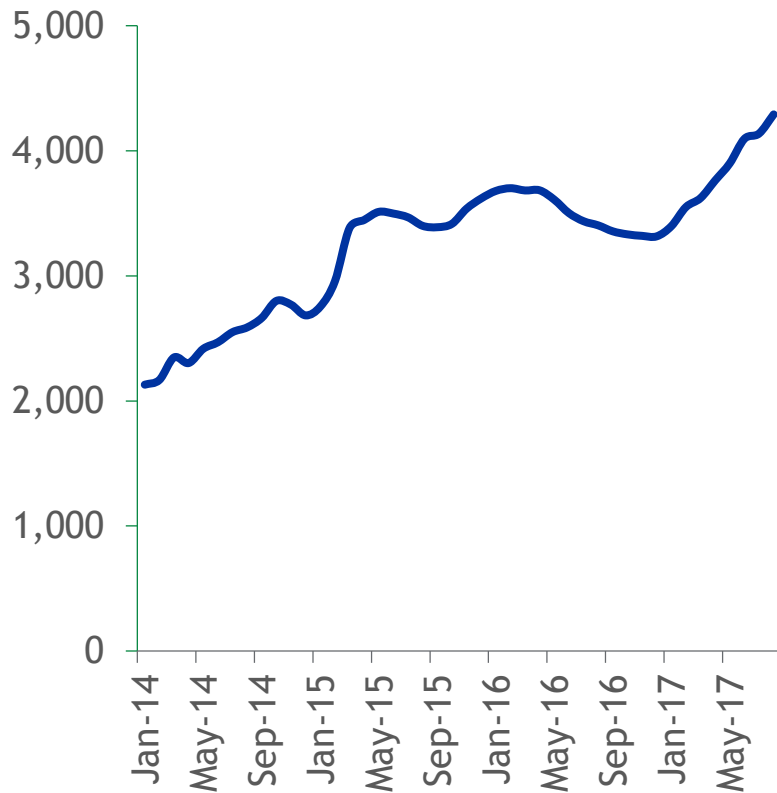


2018 Hedges and Floor Price

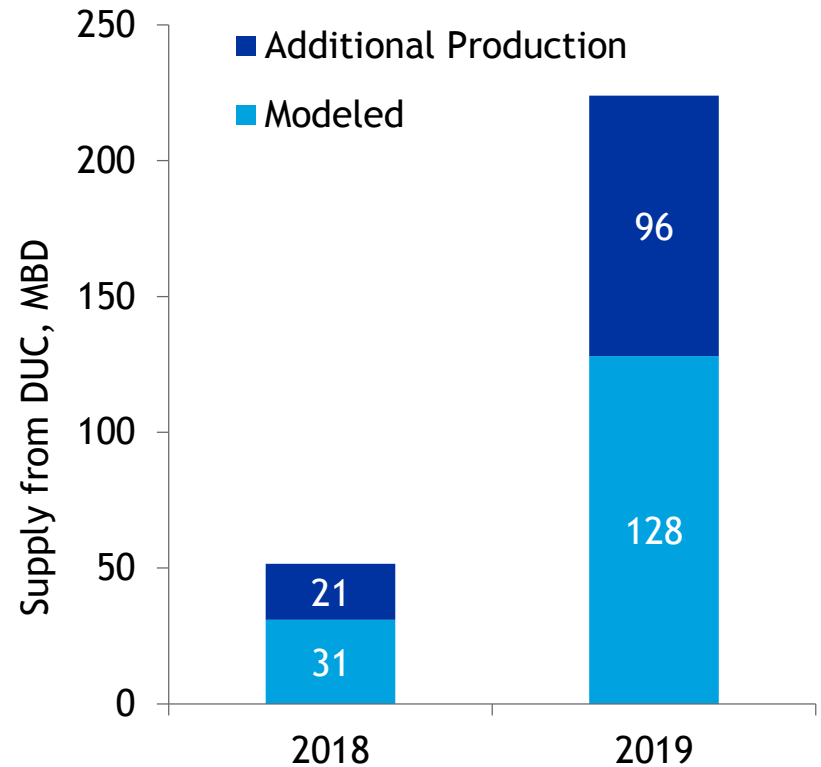


Supply from uncompleted wells are marginal to expected growth from shale resources

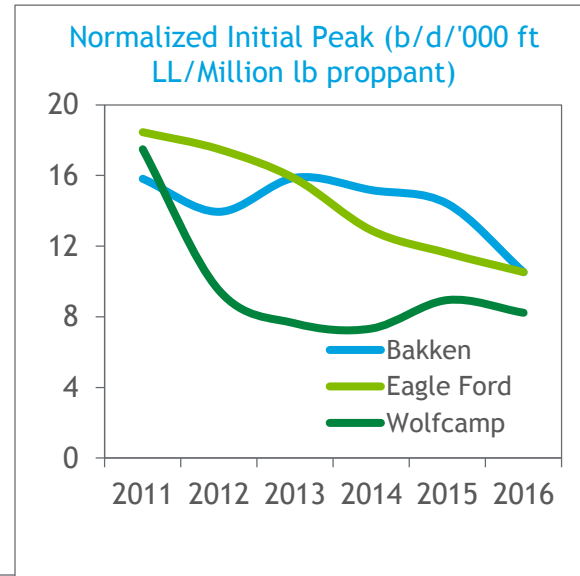
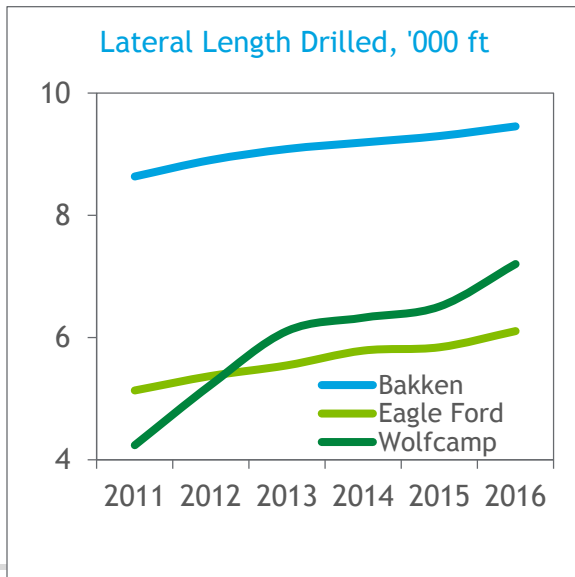
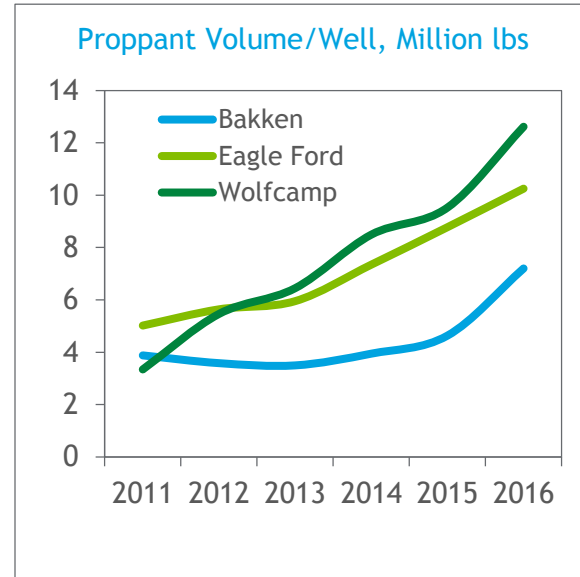
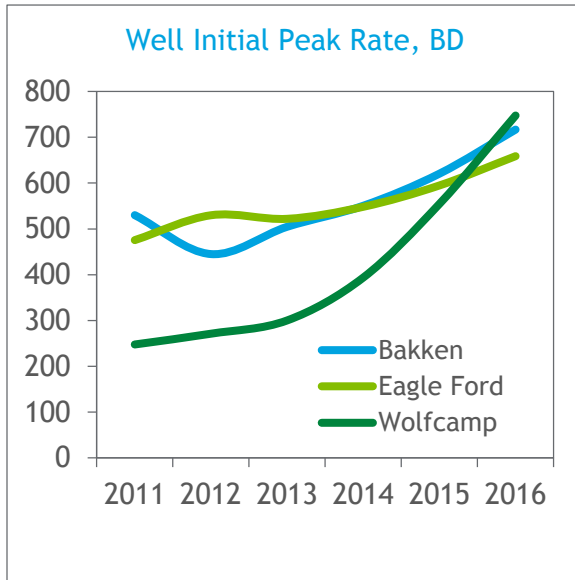
DUC Count in Major Shale Plays in the US



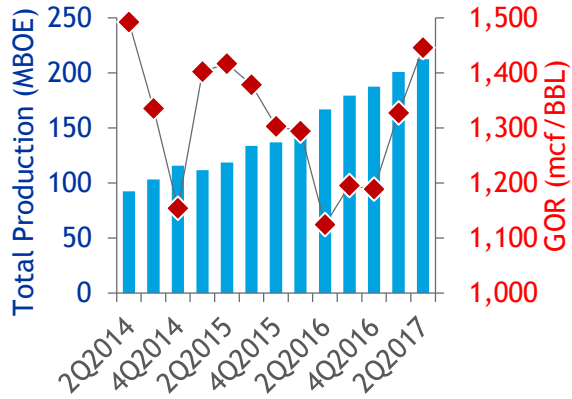
Expected growth from DUCs



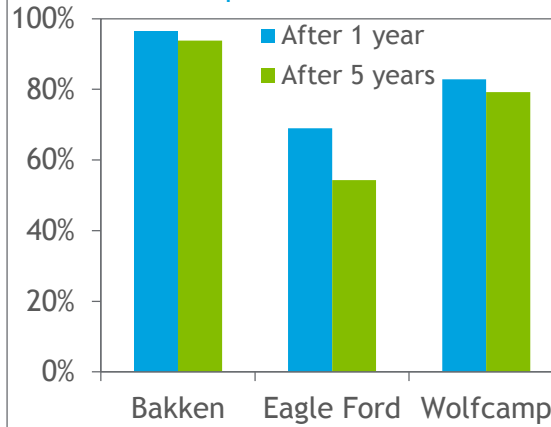
Shale well productivity



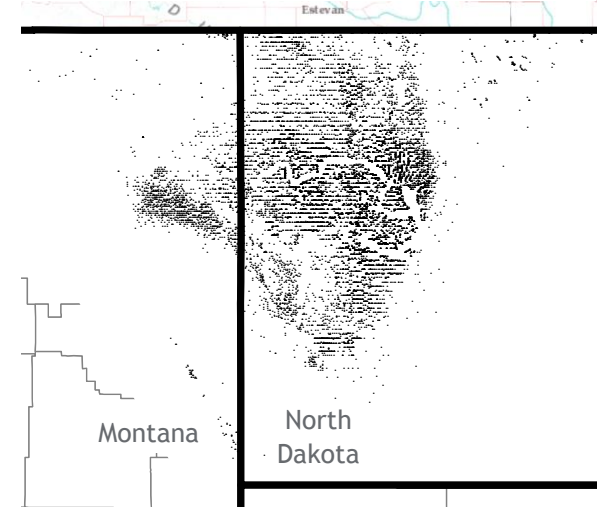
Pioneer Natural Resources Permian Production and GOR



% wells producing after years of first production



Bakken play drilling locations



Breakeven prices for key shale resources

