



# PRIVATE EQUITY – ENERGY

*Bob Sinnott, President, CEO & CIO, Kayne Anderson Capital Advisors, L.P.*

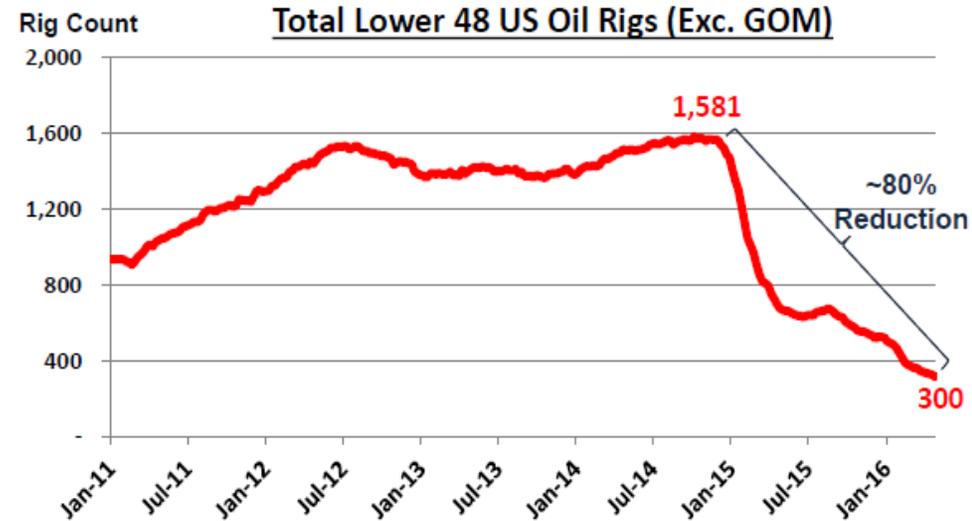
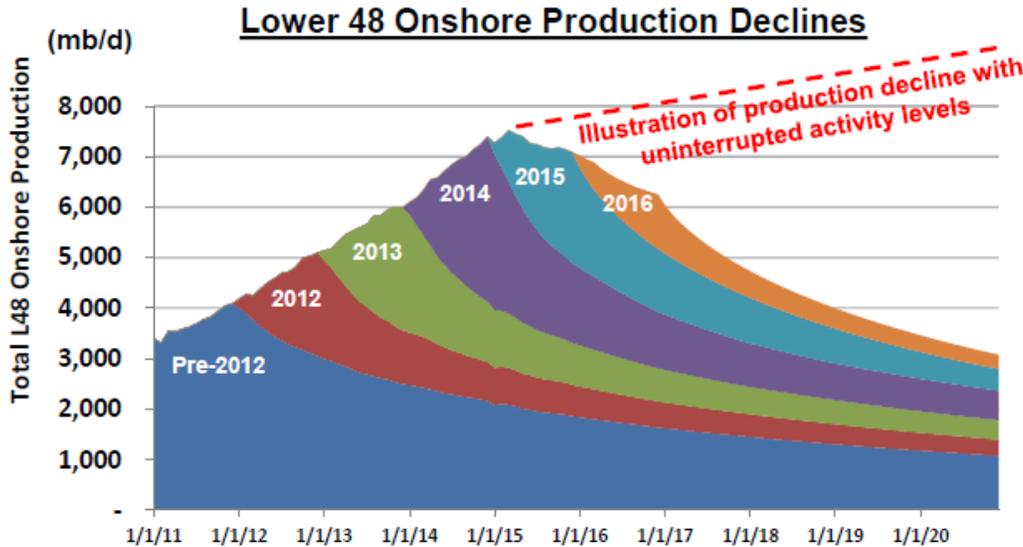
## Too Often Investors Believe They Can Find Stable Prices Over Time



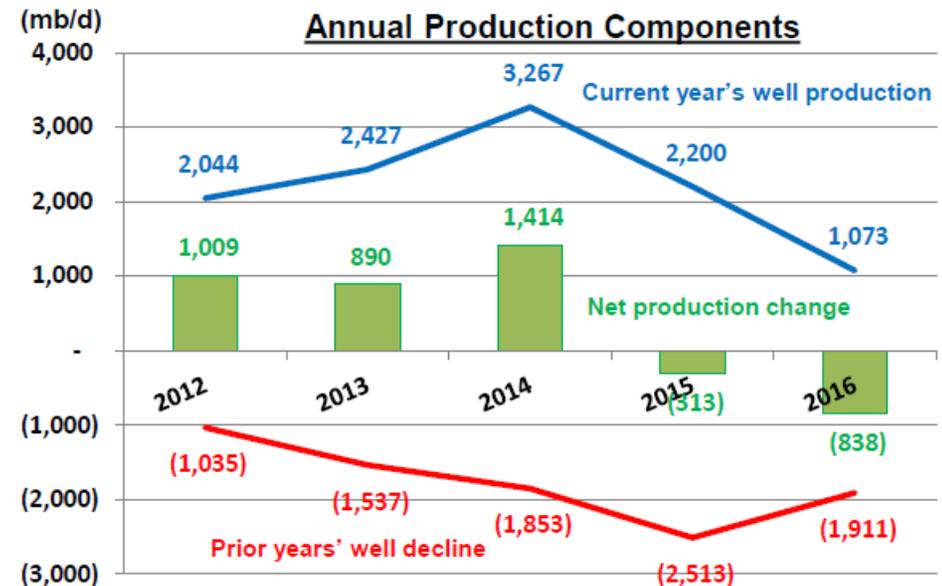
## Great Investors Invest Over the Long Term and Should Not Chase Rainbows



# Sharp Decline Rates & Reduced Activity Impact Production



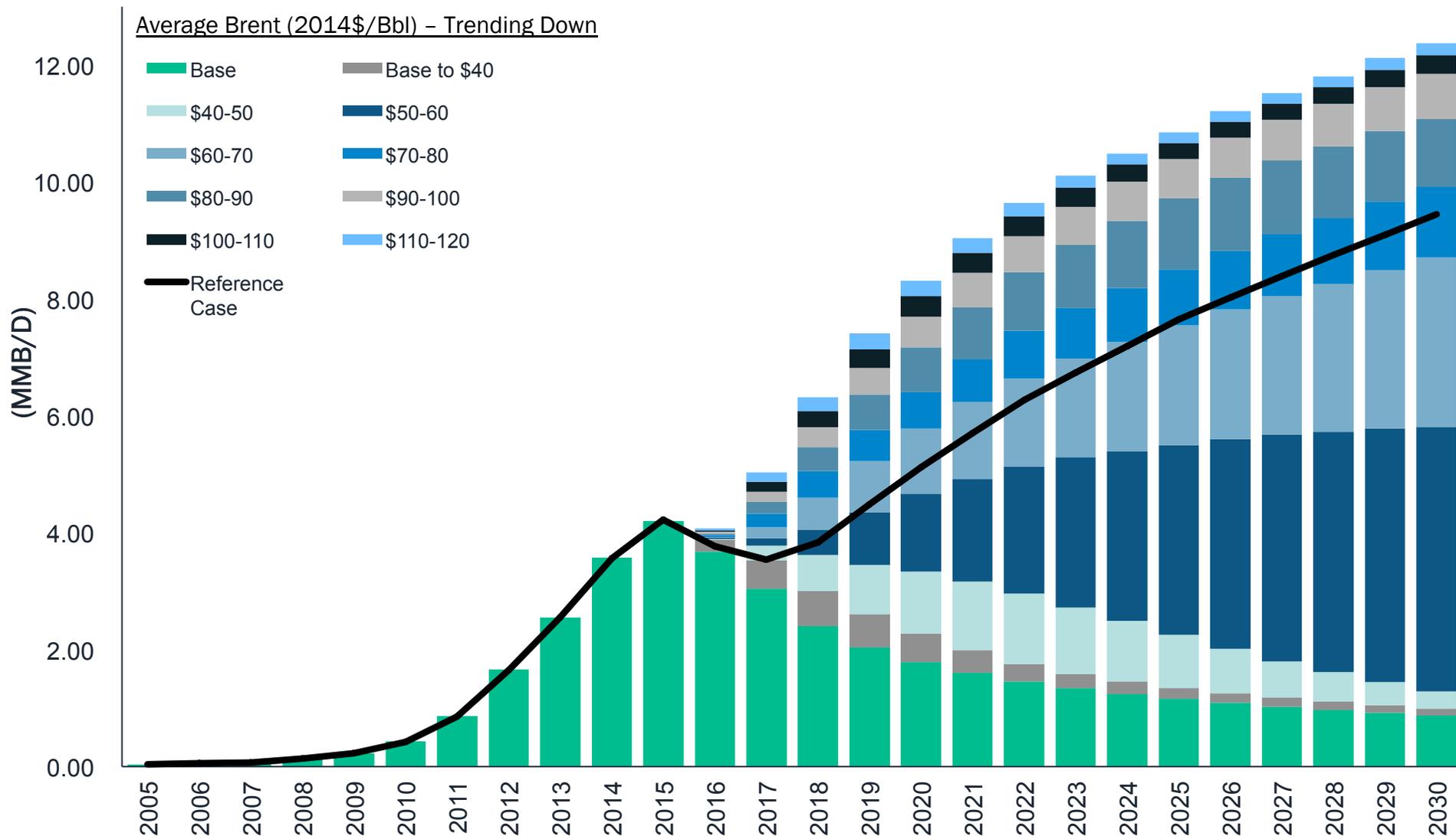
Year	BY Production (mb/d)	Underlying Decline (mb/d)	Underlying Decline %	New Production (mb/d)	Y/Y Production Growth (mb/d)	YE Production (mb/d)	Avg Rigs
2012	4,091	(1,035)	-25%	2,044	1,009	5,100	1,452
2013	5,100	(1,537)	-30%	2,427	890	5,990	1,391
2014	5,990	(1,853)	-31%	3,267	1,414	7,404	1,511
2015	7,404	(2,513)	-34%	2,200	(312)	7,092	734
2016	7,092	(1,911)	-27%	1,073	(838)	6,253	412



*Increasingly higher new production volumes required to offset higher annual declines*

Note: Historical rig data per Baker Hughes and includes both horizontal and vertical rigs.  
Source: Plains All American Pipeline.

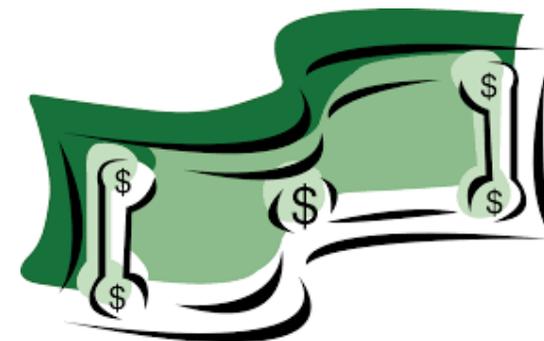
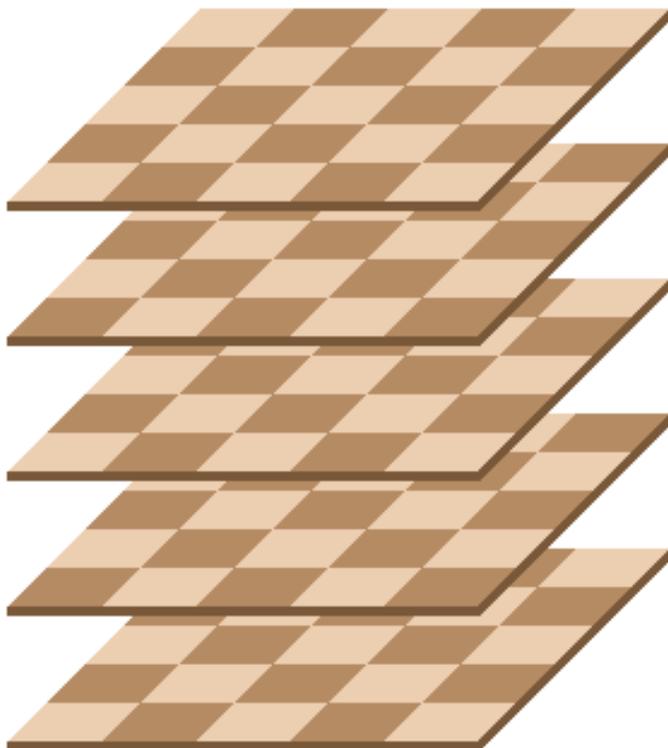
## U.S. Shale Crude and Condensate Production



Source: PIRA Energy Group – not for further distribution. Slides are for the sole purpose of this presentation and are not for use in any further capacity.

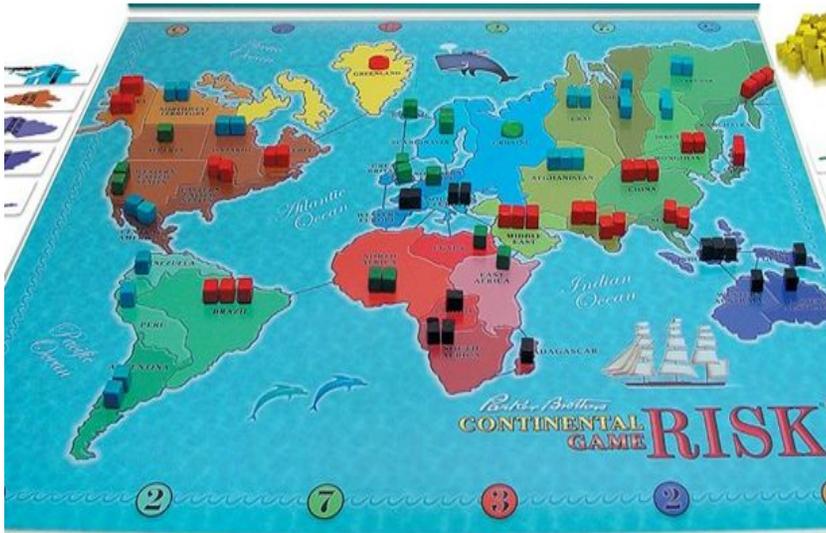


*PE funds have a huge respect  
for the cost of time*

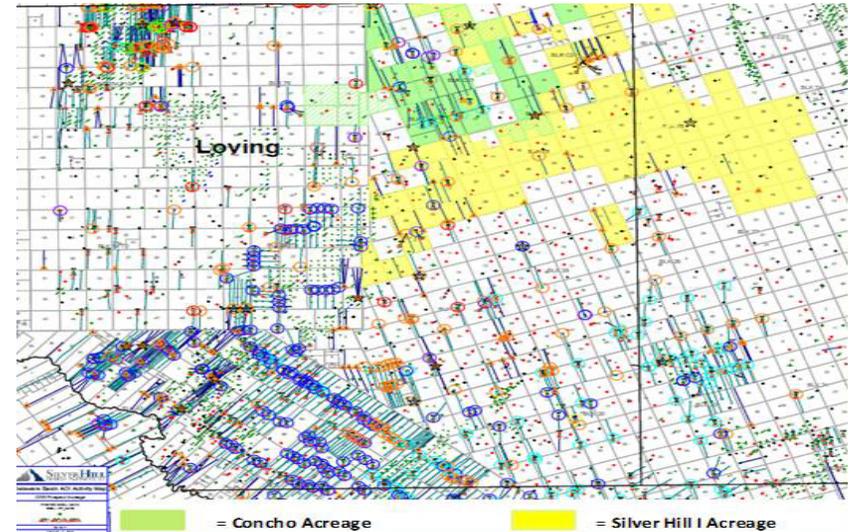


*PE funds have a huge respect  
for the cost of capital*

Risk



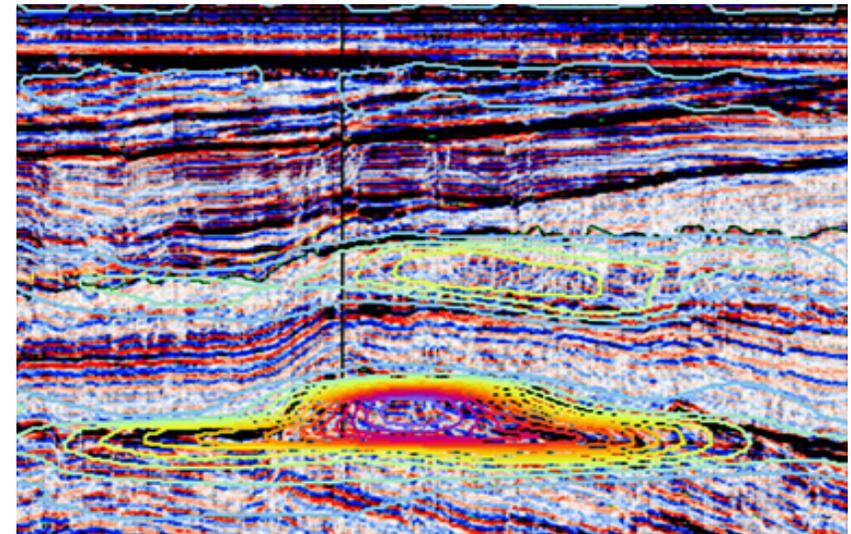
Acreage Map

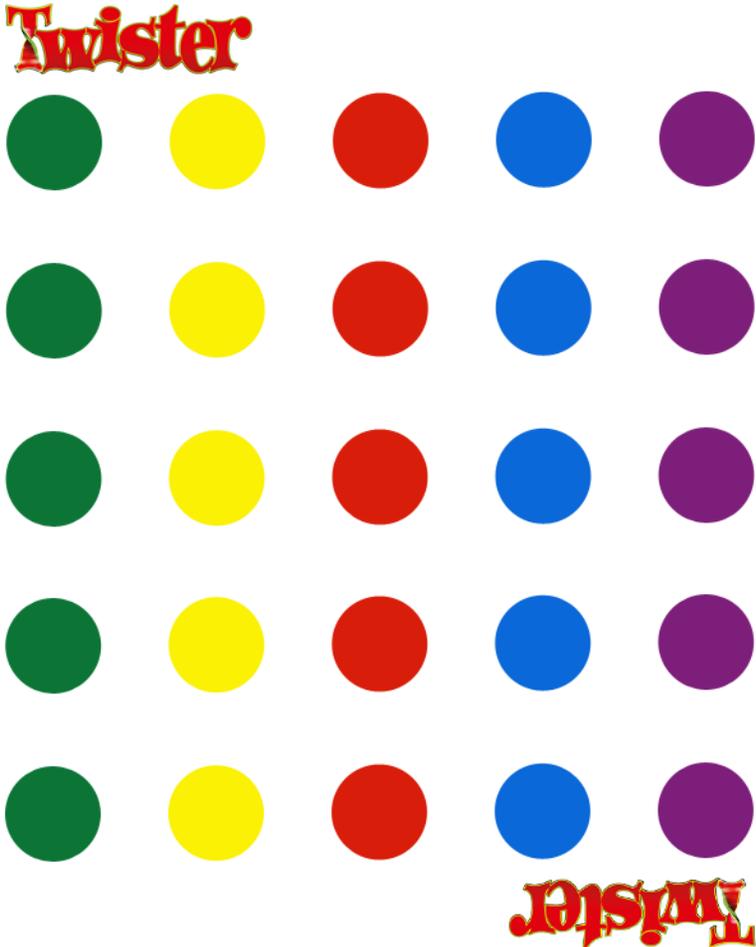


Battleship



Seismic Bright Spot





# 25% to 30% Cost Reductions

Kayne Anderson Energy Funds

Kayne Anderson

Capital Advisors, L.P.

## Early 2014 Example Shale Well AFE

Drilling Costs:	%	\$MM
Drilling Rig	15.0%	\$1.1
Casing and Tubing	8.0%	0.6
Fluids	3.0%	0.2
Cementing	3.0%	0.2
Bits	1.0%	0.1
<b>Total Drilling</b>	<b>30.0%</b>	<b>\$2.1</b>

Completion Costs:		
Stimulation	40.0%	\$2.8
Technical Services	9.0%	0.6
Fluids	3.0%	0.2
Completion Rig	1.0%	0.1
<b>Total Completion</b>	<b>53.0%</b>	<b>\$3.8</b>

Other:		
Production Equipment	7.0%	\$0.5
Misc	4.0%	0.3
Site Development	3.0%	0.2
Site Acquisition	2.0%	0.1
Logistics	1.0%	0.1
<b>Total Other</b>	<b>17.0%</b>	<b>\$1.2</b>

<b>Total Drilling and Completion Cost</b>	<b>\$7.1</b>
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## Late 2015 Example Shale Well AFE

Drilling Costs:	%	\$MM	
Drilling Rig	16.0%	\$0.8	(20.4%)
Casing and Tubing	10.0%	0.5	
Fluids	4.0%	0.2	
Cementing	3.0%	0.2	
Bits	1.0%	0.1	
<b>Total Drilling</b>	<b>34.0%</b>	<b>\$1.8</b>	

Completion Costs:			
Stimulation	34.0%	\$1.8	(36.5%)
Technical Services	9.0%	0.5	
Fluids	3.0%	0.2	
Completion Rig	2.0%	0.1	
<b>Total Completion</b>	<b>48.0%</b>	<b>\$2.5</b>	

Other:		
Production Equipment	7.0%	\$0.4
Misc	4.0%	0.2
Site Development	4.0%	0.2
Site Acquisition	2.0%	0.1
Logistics	1.0%	0.1
<b>Total Other</b>	<b>18.0%</b>	<b>\$1.0</b>

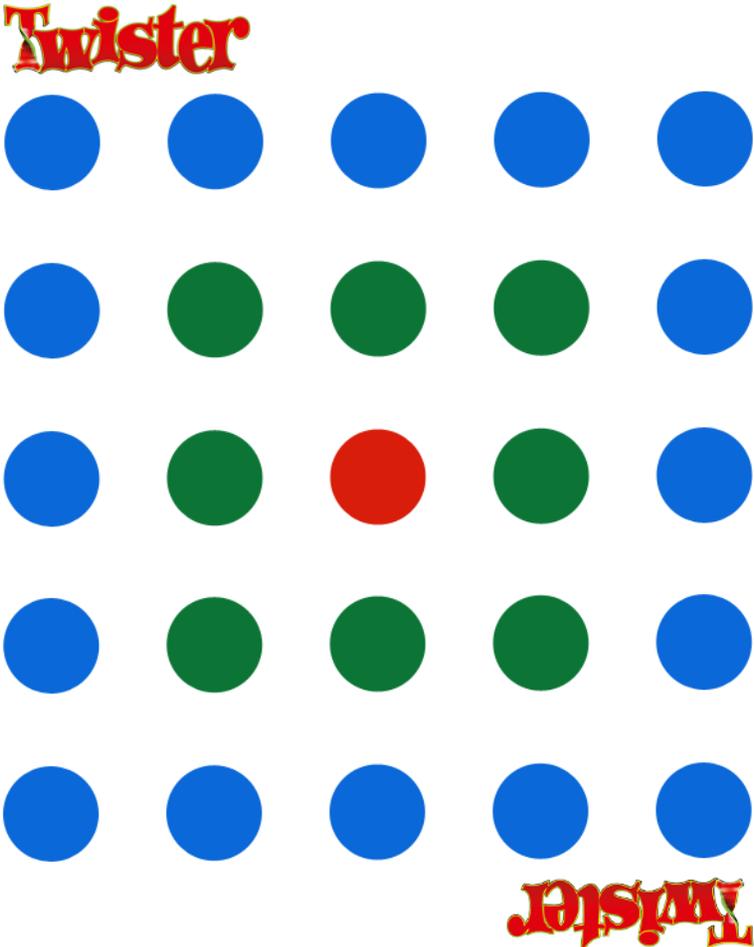
<b>Total Drilling and Completion Cost</b>	<b>\$5.3</b>	(25.4%)
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Source: Citi Research.

 \$8 million, 300 MB EUR,  
30% IRR, 3 yrs

 \$7 million, 400 MB EUR,  
60% IRR, 2 yrs

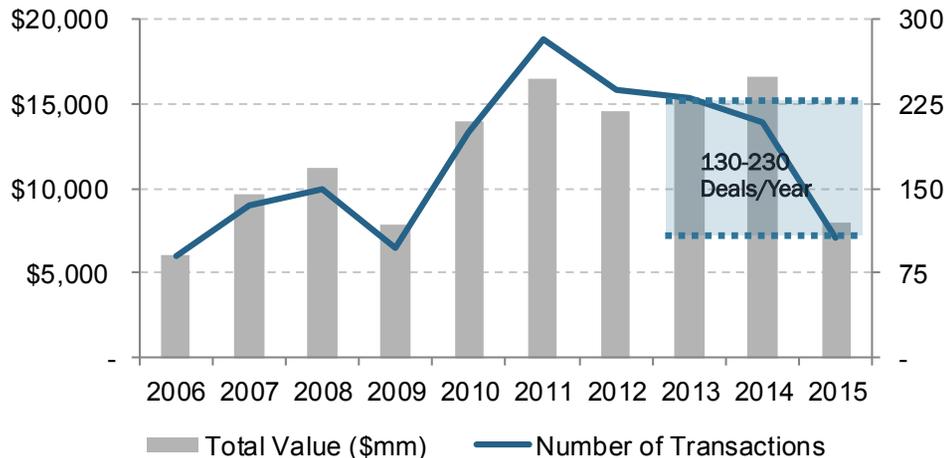
 \$6 million, 500 MB EUR,  
100% IRR, 1 yr



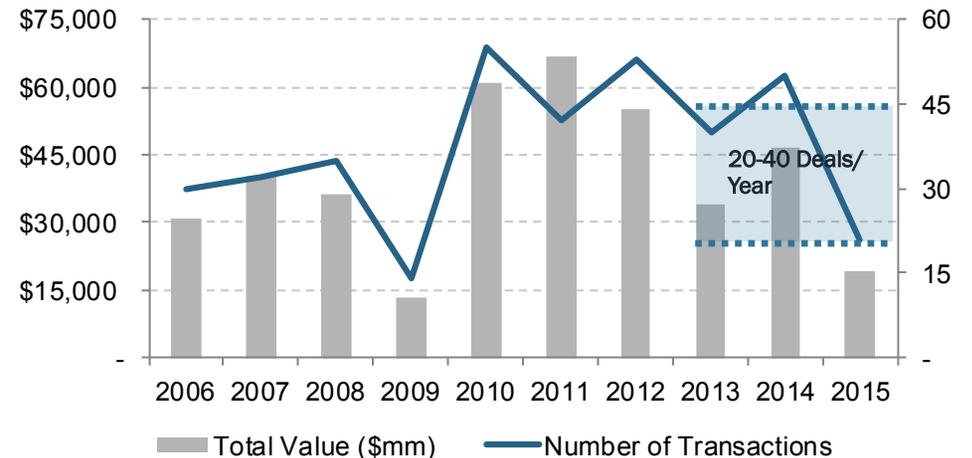
## Middle Market Transactions (<\$300 million) Offer Most Attractive Opportunities – Both in Terms of Total Number of Transactions and Market Efficiency

- 84% of oil and gas transactions, based on total number of deals, announced in 2015 were below \$300 million in size
- 130-230 middle-market transactions per year as compared to 20-40 larger transactions per year
- Middle market transactions getting done at attractive prices; liquidity and certainty of closing is now higher priority than price to most sellers
- Transactions often negotiated off-market or through limited processes

Middle-Market U.S. E&P Transactions (<\$300 million)



Large U.S. E&P Transactions (>\$300 million)



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