Key elements of “unconventional revolution” in North America

Tax and fiscal incentives

Under the current US federal income tax rules **no specific special terms or provisions** apply to treat unconventional oil or gas differently from conventional oil or gas for fiscal purposes

But …

Key elements that helped the unconventional revolution to develop

- **Ownership of mineral rights**
- **State and federal policy**
- **Infrastructure**
- **Business environment**
- **Water access and management**
- **Local oil and gas industry**
- **Availability of capital and financial instruments**

Ownership of mineral rights

* Clear system of land ownership and property rights
* Landowners generally own the subsurface mineral
* Generally throughout the rest of the world, mineral rights are held by governments

State and federal policy

* State and federal policy is generally favorable
* States that host shale gas production (e.g. Texas and Louisiana) have a long history of working with the oil and gas industry
* State-level legislation and regulation comfortable for E&P activities

Infrastructure

* Availability of processing plants, pipelines and distribution networks
* Import/export facilities (under construction)
* Generally unconventional oil and gas plays are close to existing infrastructure

Business environment

* Attractive licensing and fiscal terms
* Social stability
* Market liquidity
* Stable legislation
* Business terms are favorable and transparent

Water access and management

* Water is available in the most areas
* Generally no bureaucratic obstacles
* Favorable permitting process

Local oil and gas industry

* Efficient and competitive service industry
* Many oil and gas players
* Skilled labor force

Availability of capital and financial instruments

* Well-informed investment community
* Concentration of a large number of industry players and financial institutes
* Special financial instruments (e.g. price hedging or Volumetric Production Payment Contracts)

Why «Chesapeake Energy»?

TOP 20 US Natural Gas and Liquids Producers

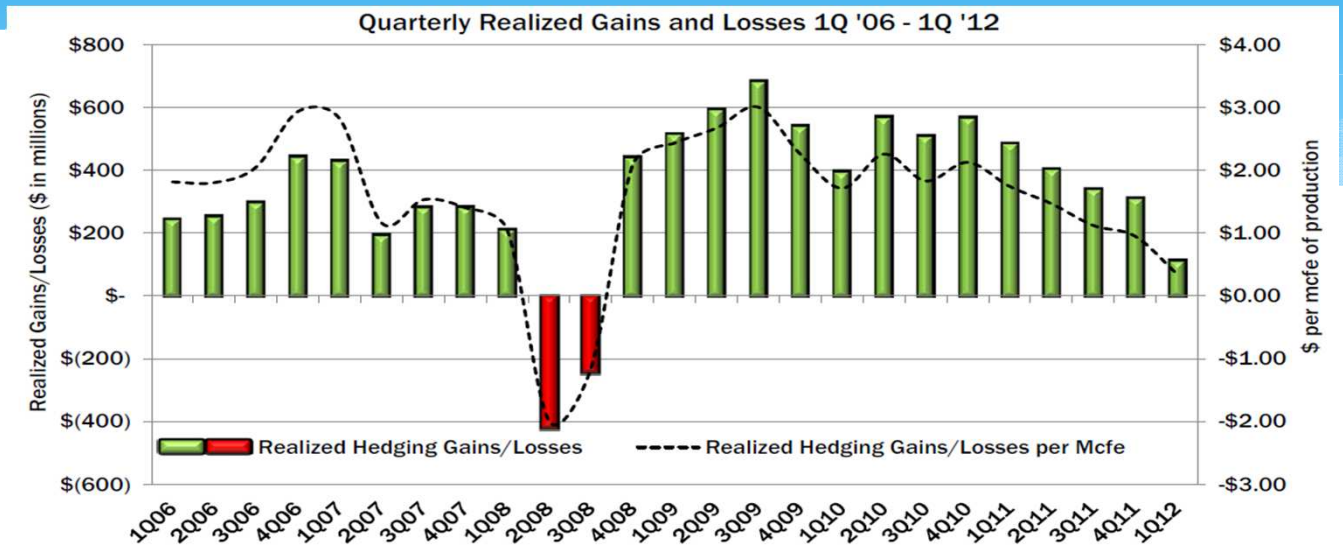
Daily U.S. Natural Gas Production[1][2]

	Company	Ticker	4Q'12	3Q'12	4Q'11
1	ExxonMobil	XOM	3,747	3,712	4,005
2	Chesapeake	CHK	3,043	3,282	2,957
3	Anadarko	APC	2,521	2,499	2,328
4	Devon	DVN	2,029	2,067	2,085
5	Southwestern	SWN	1,628	1,567	1,448
6	BP	BP	1,593	1,545	1,817
7	ConocoPhillips	COP	1,564	1,558	1,606
8	EnCana	ECA	1,540	1,606	1,944
9	BHP	BHP	1,364	1,366	1,346
10	Chevron	CVX	1,273	1,184	1,290
11	Shell	RDS	1,209	1,010	1,032
12	WPX	WPX	1,051	1,078	1,070
13	EOG	EOG	981	1,022	1,085
14	Apache	APA	891	863	863
15	Cabot	COG	813	682	561
16	Occidental	OXY	800	812	833
17	Equitable	EQT	784	703	538
18	QEP	QEP	666	701	702
19	Range Resources	RRC	655	623	491
20	Ultra	UPL	635	665	702
	Totals		28,787	28,546	28,703
	Other Producers				
	Total				

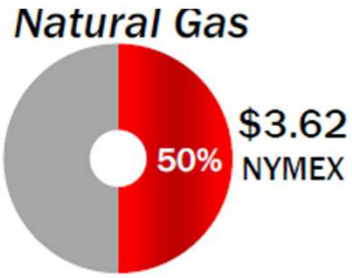
Daily U.S. Liquids Production[1][2]

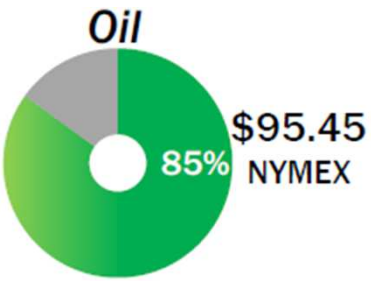
	Company	Ticker	4Q'12	3Q'12	4Q'11
1	Chevron	CVX	462	440	447
2	ConocoPhillips	COP	436	378	413
3	ExxonMobil	XOM	430	397	432
4	BP	BP	402	356	439
5	Occidental	OXY	342	334	310
6	Shell	RDS	249	201	218
7	Anadarko	APC	246	231	204
8	EOG	EOG	211	219	174
9	Apache	APA	193	172	152
10	Devon	DVN	166	159	144
11	Chesapeake	CHK	148	143	106
12	BHP	BHP	138	113	108
13	Hess	HES	136	125	102
14	Marathon	MRO	133	111	83
15	Pioneer	PXD	99	93	76
16	Plains	PXP	93	64	52
17	Continental	CLR	76	72	54
18	Noble	NBL	75	68	55
19	Whiting	WLL	74	71	59
20	Denbury	DNR	65	68	63
	Totals		4,175	3,815	3,692
	Other Producers				
	Total				

Chesapeake Energy
HEDGING PROGRAM



2013





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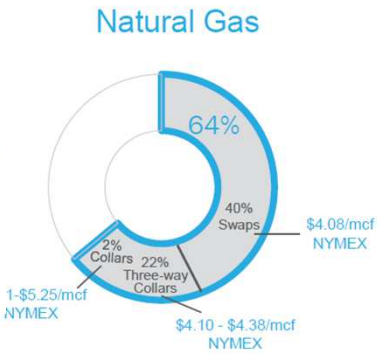

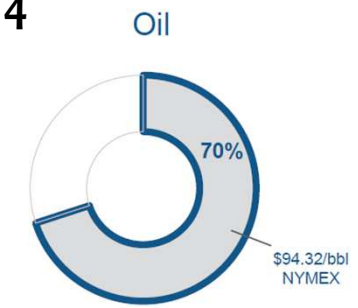

VOLUMETRIC PRODUCTION PAYMENTS (VPP): OVERVIEW

- A VPP is the sale of an royalty interest in oil and natural gas reserves that entitles the buyer to receive scheduled production volumes over a fixed term from producing well bores on such leases
- VPPs allow the seller to sell a portion of the future production stream from highly predictable proved developed producing well bores. Cash received can then be re-deployed to areas with higher potential ROR's, to pay down debt or for other projects of greater strategic importance
- VPP buyers are generally commercial/investment banks or specialized investment funds seeking a predictable cash flow stream and attractive investment yield at relatively low risk
- Seller retains the obligation to operate the wells
- Seller almost always preserves drilling rights for geologic zones above and below the producing zone and the production "tail"

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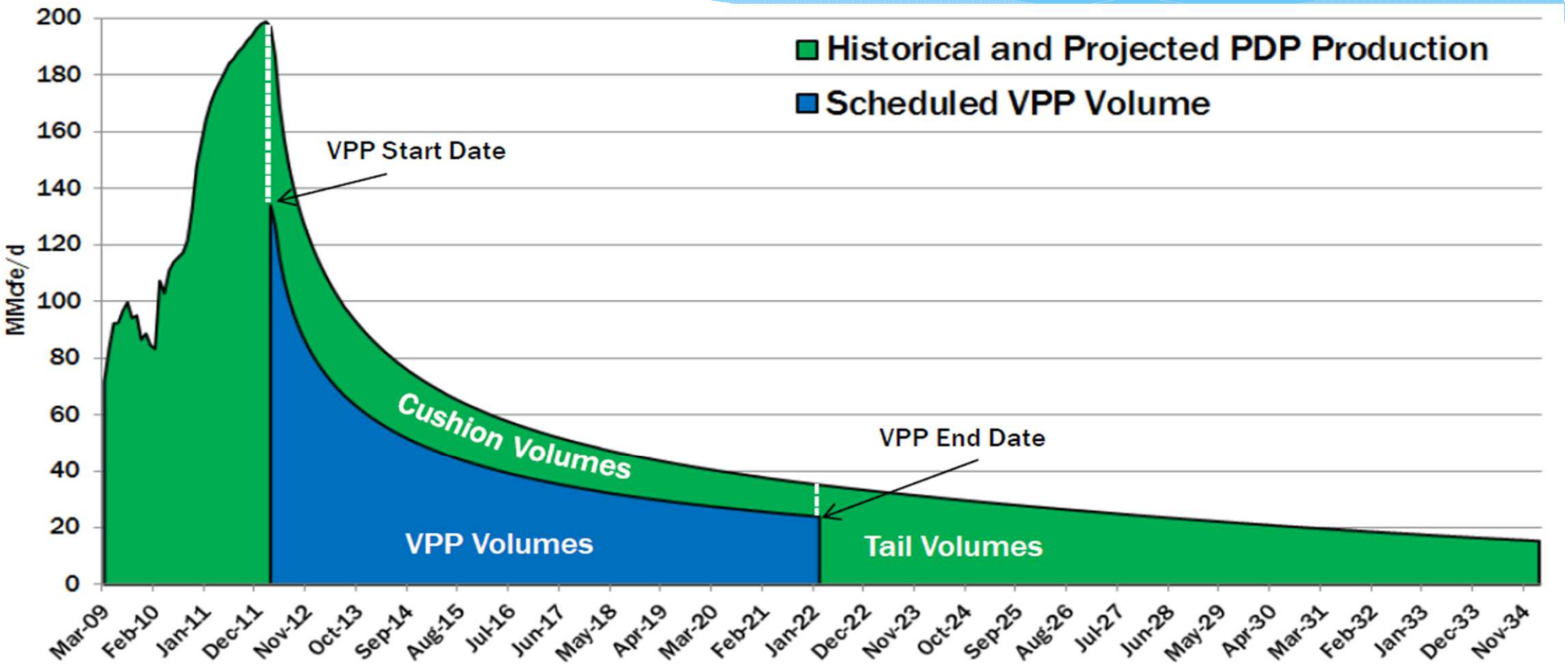
SAMPLE VPP PRODUCTION PROFILE
(Chesapeake Energy example)



Slide 14

Ma1 Microsoft account; 24/09/2014

SAMPLE VPP PRODUCTION PROFILE (Chesapeake Energy example)

- In above example, 160 Bcfe of total reserves are conveyed to VPP buyer over term of agreement, representing ~35% of estimated ultimate recoverable reserves from wells in VPP
- During term of VPP, seller retains a minority interest in the assigned wells (the "cushion volumes") which provides cash flow to cover operating costs and production taxes for the VPP, as well as to cover potential shortfalls in production if a defined group of producing wells do not perform as expected
- Upon completion of the VPP, seller reverts back to its original net revenue interest in the wells and receives "tail" production and reserves
- Unlike an outright sale, VPP's allow us to defer recognition of the tax gain we would otherwise recognize immediately from a sale, as well as retain our basis in the properties

VPPs: BENEFITS TO SELLER/BUYER (Chesapeake Energy example)

Seller

- Accelerates cash flow from producing assets at attractive discount rate (low cost of capital)
- Transfers production risk to buyer – recourse is only to specified lease or well bore and only for specified volumes
- Retains ownership and control of leases and receives post VPP expiration production "tail"
- Typically retains rights to all geologic horizons above and below designated production zone
- Tax efficient – treated as a mortgage loan with proceeds effectively recognized in taxable income over VPP term vs. upfront as with an outright sale
- No financial covenants; buyer can't accelerate "repayment"

Buyer

- Entitled to volumes (revenue) associated with generally low-risk future production stream (PDPs)
- "First priority" on production from specified lease or well bore
- Commodity prices associated with contract volumes can be hedged upfront to generate predictable ROR
- No responsibility for future operating costs, production taxes or capex
- Bears no seller credit risk; in event of VPP seller's insolvency, the bankruptcy code recognizes the VPP as separate from the seller's estate
- Typically seen as an investment grade risk with higher return than an investment grade bond

VPPs: RISKS AND RESPONSIBILITIES (Chesapeake Energy example)

Seller

- Meet prudent operator standard(1)
- Obligated to pay all future operating costs, production taxes and capex for the VPP wells
- Comply with specific schedule of reserves and production reporting requirements to buyer
- Typically responsible for hedging VPP volumes prior to close – hedges novated to buyer upon close

Buyer

- Assumes traditional E&P reserve and production risk
- No recourse to seller's assets/cash outside the VPP
- Commodity price risk (to the extent volumes not initially hedged)

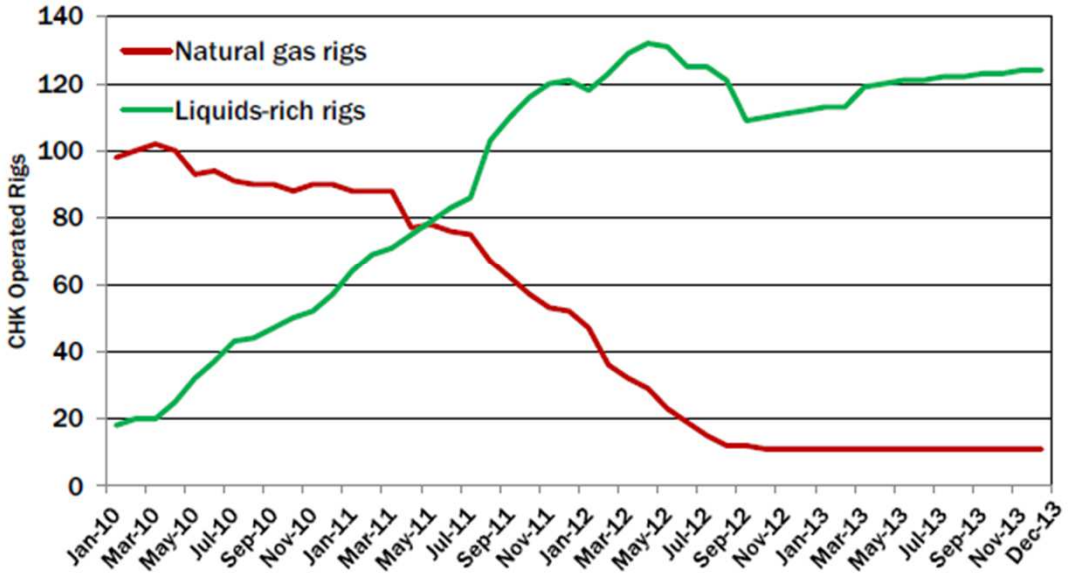
(1) Similar to typical industry-standard JOA language

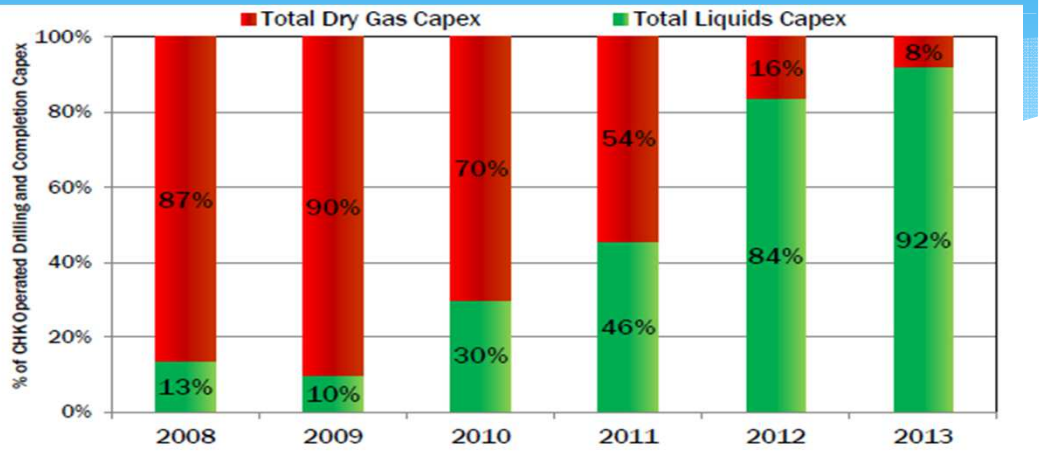
REVIEW OF Chesapeake Energy VPPs

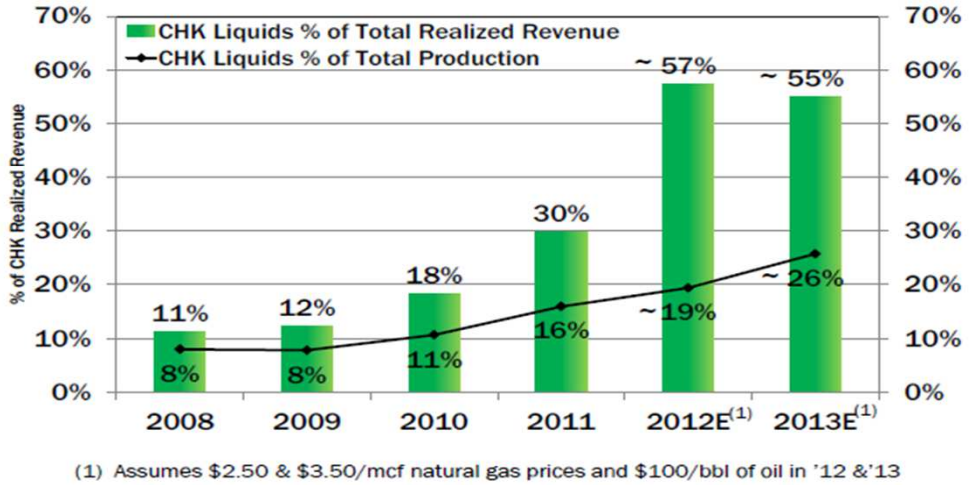
- **In last 5 years, CHK has completed 10 VPPs raising $6.4 billion at an average implied price of $4.64/mcfe**
- **CHK has never had a production shortfall on any of its 10 VPPs**

Chesapeake Energy AGGRESSIVELY SHIFTING CAPITAL TO LIQUIDS-RICH PLAYS

- During 2011, CHK substantially reduced drilling on dry gas plays and is further reducing in 2012
- CHK's drilling capex is ~15/85% between natural gas plays and liquids-rich plays
- Improving drilling rates of return and unit profitability
- Liquids expected to be ~25% of total production and ~55% of total revenues in 2013



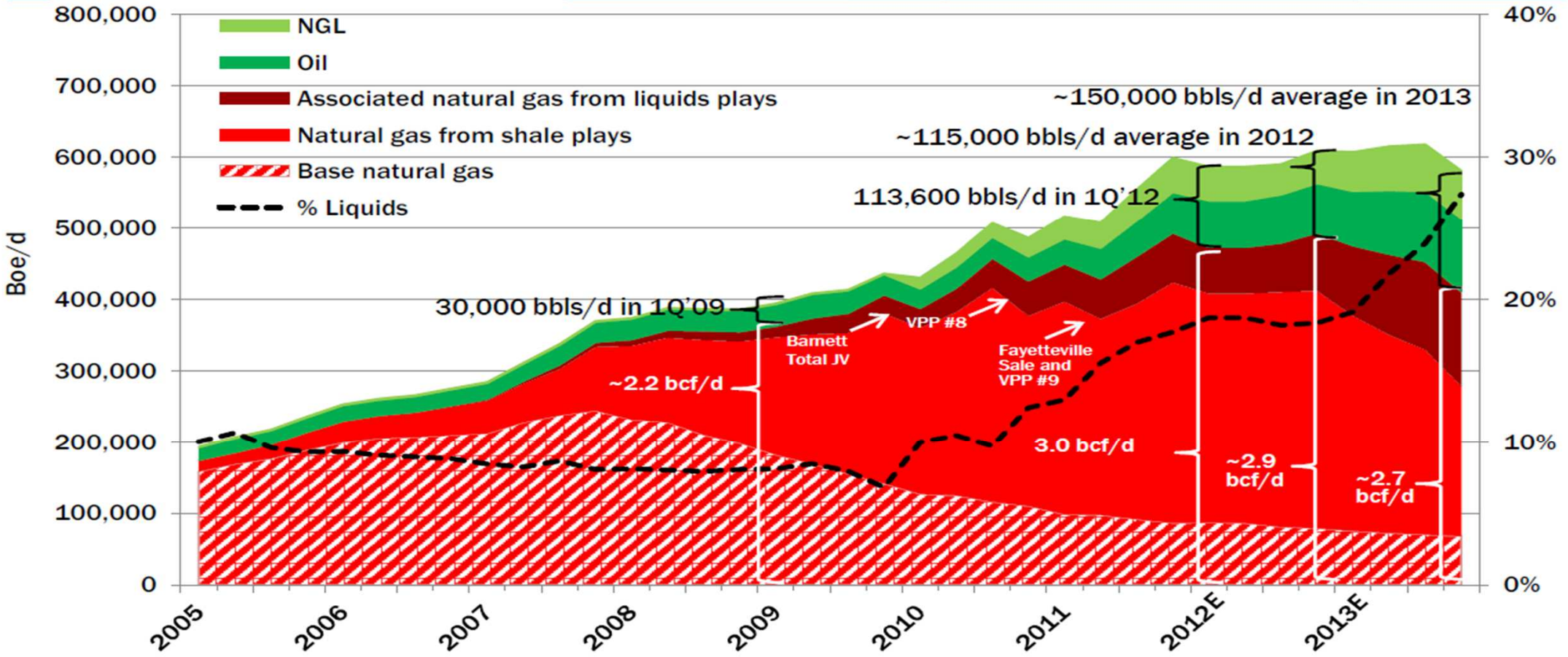




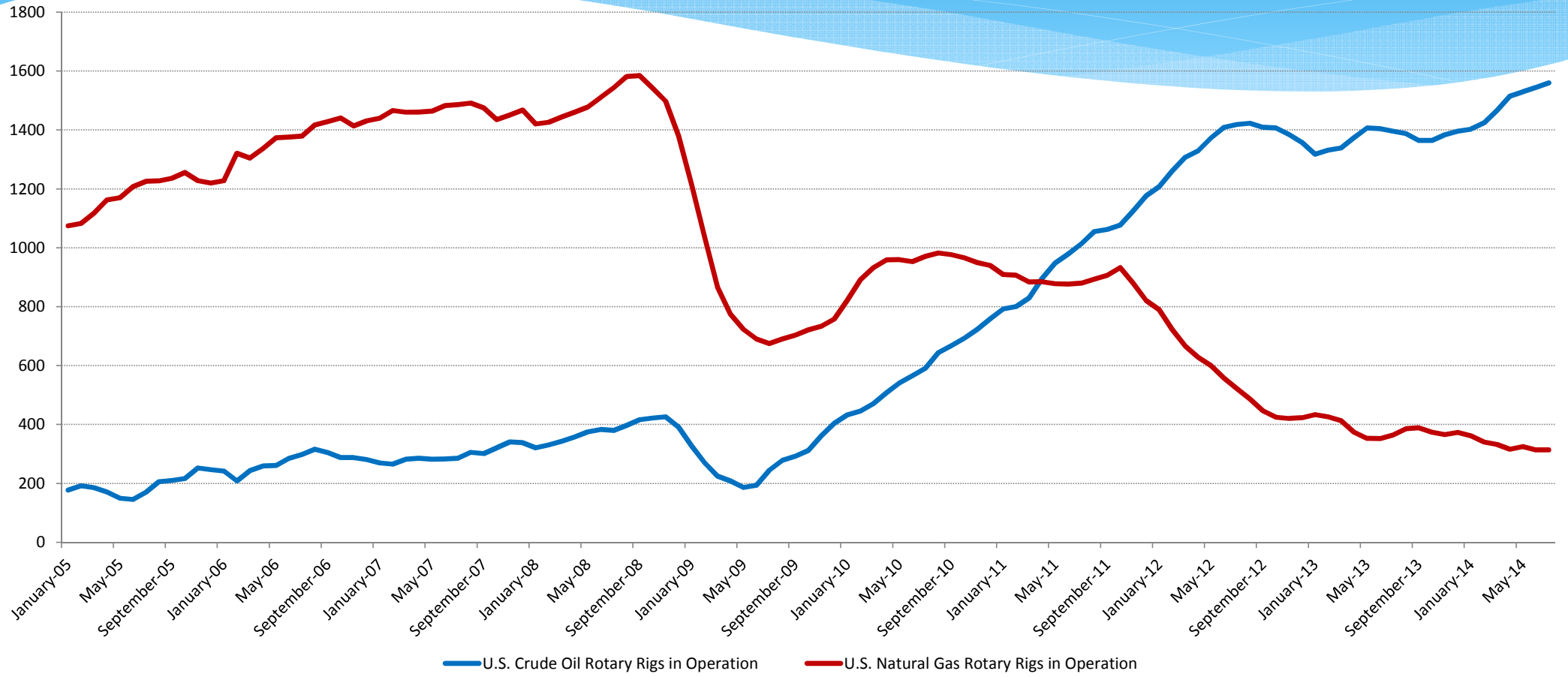
(1) Assumes $2.50 & $3.50/mcf natural gas prices and $100/bbl of oil in '12 &'13

Chesapeake Energy PROJECTED FUTURE GROWTH IS 100% LIQUIDS

CHK's goal remains to deliver an average of 250,000 bbls/day of liquids production in 2015

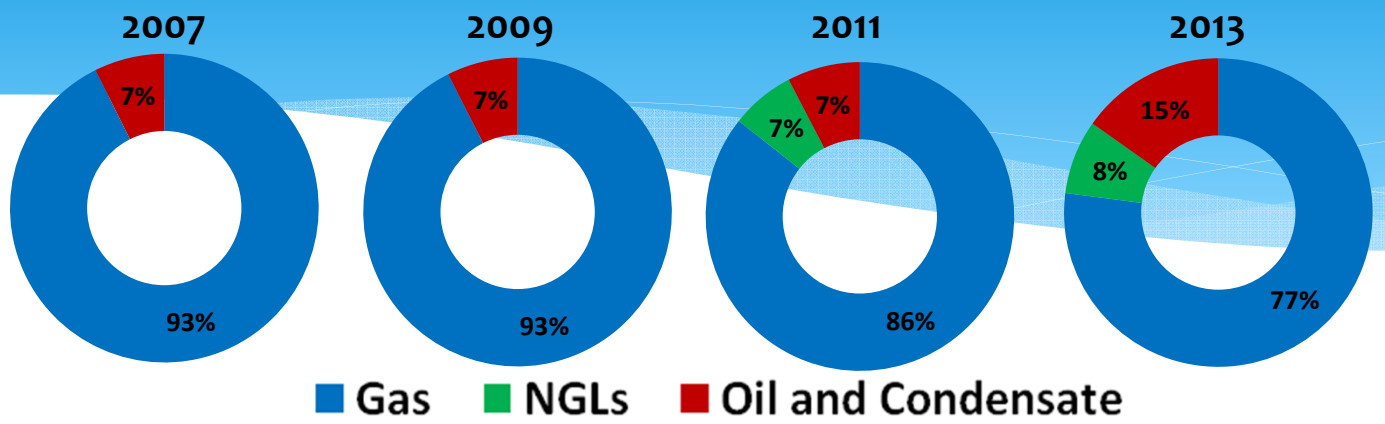


US Crude Oil and Natural Gas Drilling Activity

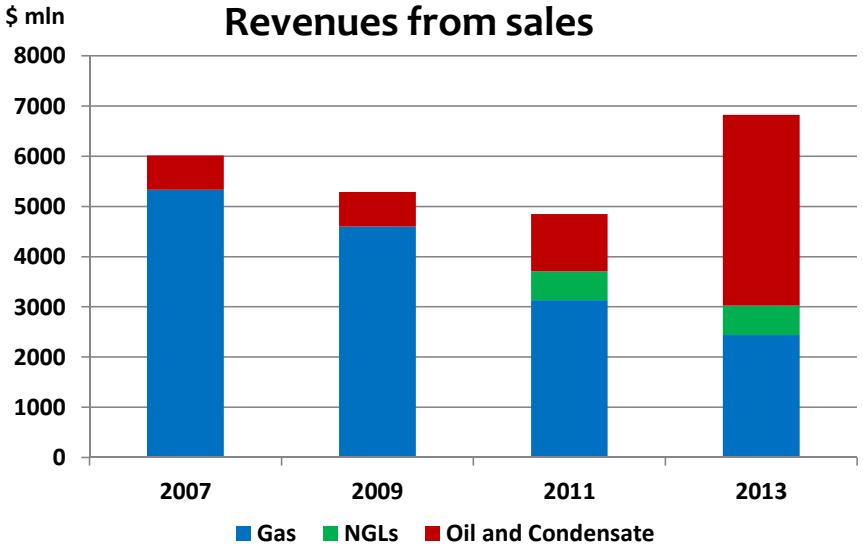


CHESAPEAKE ENERGY

Sales structure



Revenues from sales

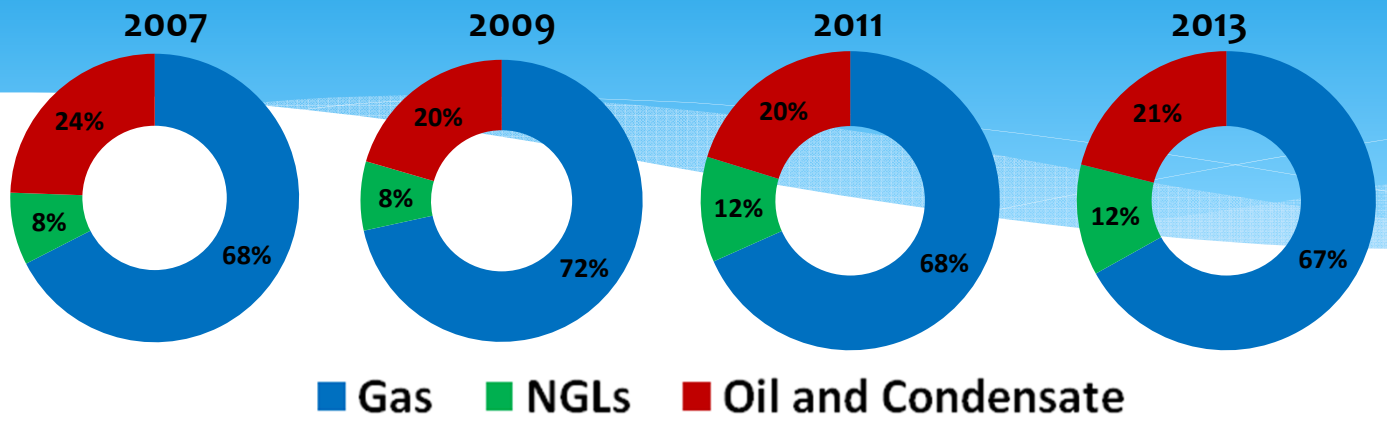


Average sales price

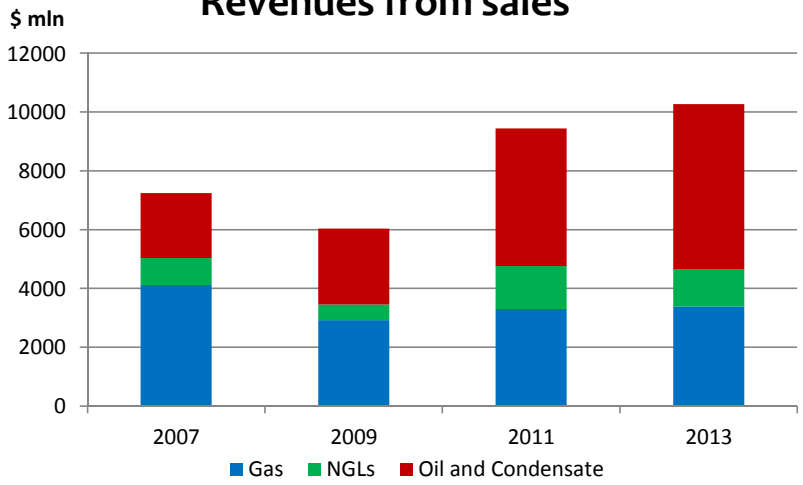
	2007	2009	2011	2013
Gas (per Mcf)	8,1	5,9	3,1	2,2
NGLs (per barrel)			38,1	27,9
Oil and Condensate (per barrel)	68,6	58,4	67,1	92,5

ANADARKO PETROLEUM CORPORATION

Sales structure



Revenues from sales

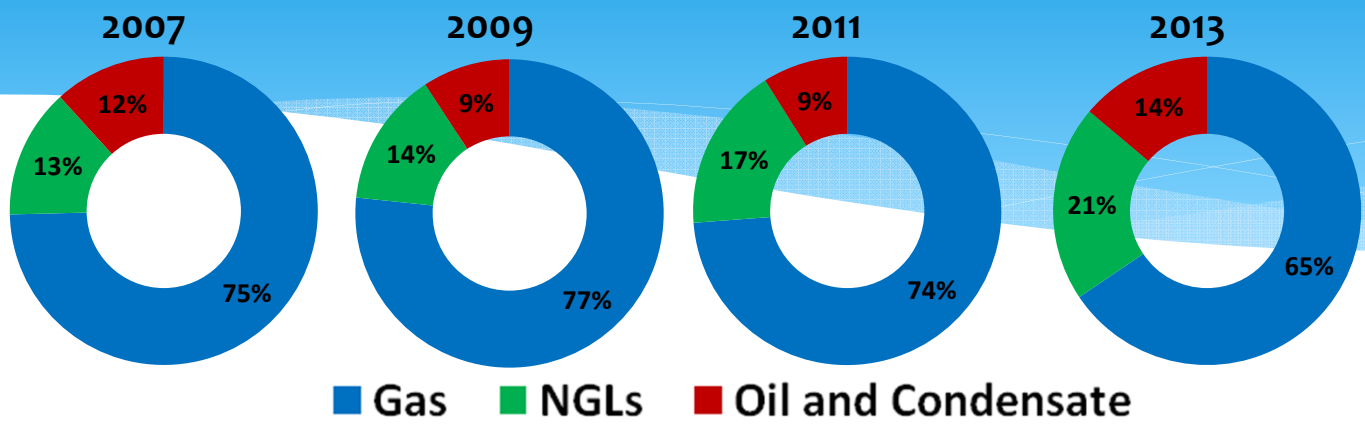


Average sales price

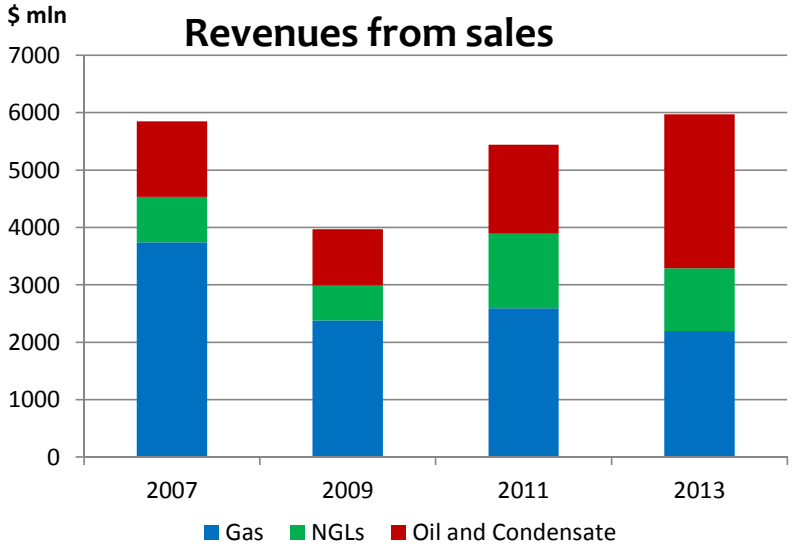
	2007	2009	2011	2013
Gas (per Mcf)	5,9	3,6	3,9	3,5
NGLs (per barrel)	57,2	31,4	53,9	38,0
Oil and Condensate (per barrel)	45,9	58,6	97,7	97,0

DEVON ENERGY CORPORATION

Sales structure



Revenues from sales

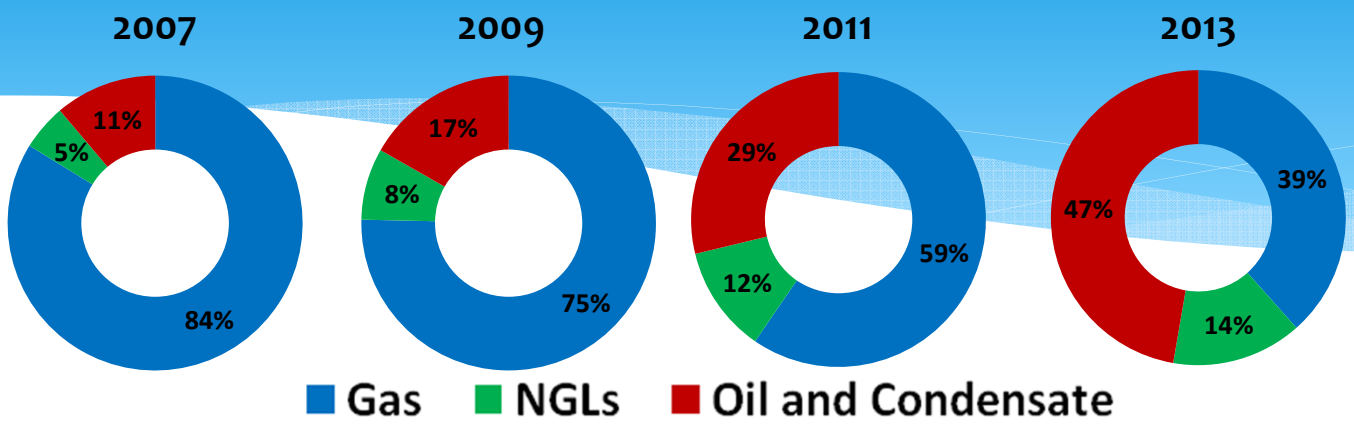


Average sales price

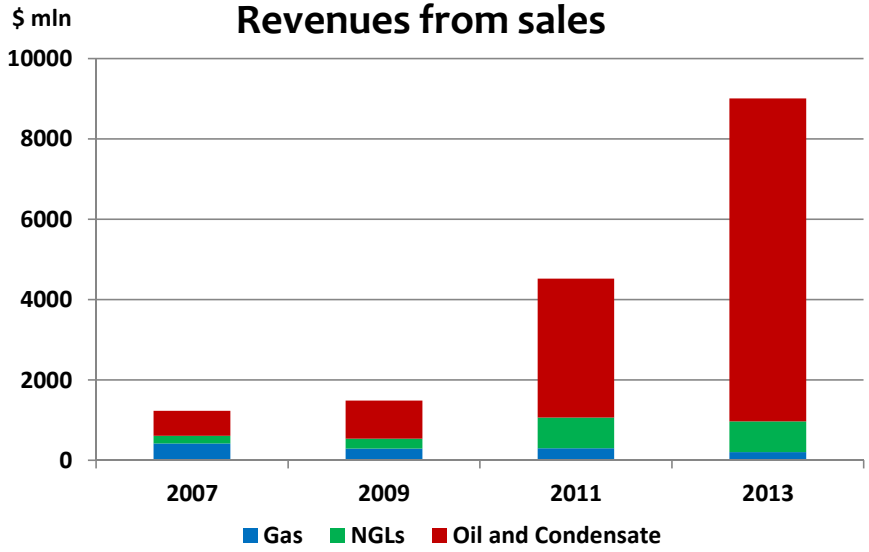
	2007	2009	2011	2013
Gas (per Mcf)	5,9	3,2	3,5	3,1
NGLs (per barrel)	36,1	23,5	39,5	25,8
Oil and Condensate (per barrel)	69,2	57,6	91,2	94,5

EOG Resources

Sales structure



Revenues from sales



Average sales price

	2007	2009	2011	2013
Gas (per Mcf)	6,3	3,7	3,9	3,3
NGLs (per barrel)	47,6	30,0	50,4	32,5
Oil and Condensate (per barrel)	68,9	54,4	92,9	103,8

Thank you!

Back up slides

Aboveground factors on a five-increment scale

Rolled-up risk category	Individual risk category	US	Australia	Poland	Indonesia	China	France	Argentina	India	Ukraine
Policy and public opinion	Government policy	4	4	4	4	3	1	1	3	1
Policy and public opinion	Public opinion	3	3	3	4	4	0	3	4	2
Land access	Ease of permitting	4	4	3	2	3	1	3	2	1
Land access	Ownership terms	4	3	4	2	3	1	2	2	1
Business terms	Political and macroeconomic stability	4	4	4	3	3	3	2	3	1
Business terms	Licensing and fiscal terms	4	4	4	3	3	4	2	2	2
Business terms	Social stability/security	4	4	4	4	4	4	2	2	1
Business terms	Industry structure/liquidity deal flow	4	4	4	4	1	4	3	3	1
Business terms	Domestic demand growth	2	4	4	4	4	4	4	3	4
Upstream service sector	Existing drilling industry	4	3	2	3	3	3	2	2	1
Upstream service sector	Existing unconventionals drilling industry	4	2	2	2	2	2	2	2	2
Midstream infrastructure in place	Existing midstream infrastructure	4	3	3	2	3	4	4	3	4
Water availability and management	Water availability	4	2	2	4	1	2	2	2	2
Water availability and management	Water management	4	3	4	4	3	2	3	3	3
Other regulatory	Licensing and bureaucracy	4	4	3	2	3	4	3	1	1
Other regulatory	Level and timing of EIS	4	4	4	3	3	1	4	3	1
Other regulatory	Coordination among government bodies	3	4	4	1	4	3	2	1	1
Other regulatory	Gas market regulation and pricing	1	4	4	1	1	4	1	1	1
Other regulatory	Regulatory framework for access to pipelines	4	4	4	3	1	4	4	3	1
Total score		**69**	**67**	**66**	**55**	**52**	**51**	**49**	**45**	**31**

Chesapeake Energy financial statements

bln $

	2013	2012	2011	2010	2009	2008	2007
Revenues:							
Natural gas and oil	7,052	6,278	6,024	5,647	5,049	7,858	5,624
Marketing, gathering and compression	9,559	5,431	5,09	3,479	2,463	3,598	2,04
Oilfield services	0,895	0,607	0,521	0,24	0,19	0,173	0,136
Total revenues	17,506	12,316	11,635	9,366	7,702	11,629	7,8
Operating expenses:							
Natural gas and oil production	1,159	1,304	1,073	0,893	0,876	0,889	0,64
Production taxes	0,229	0,188	0,192	0,157	0,107	0,284	0,216
Marketing, gathering and compression	9,461	5,312	4,967	3,352	2,316	3,505	1,969
Oilfield services	0,736	0,465	0,402	0,208	0,182	0,143	0,094
General and administrative	0,457	0,535	0,548	0,453	0,349	0,377	0,243
Depreciation, depletion and amortization	2,903	2,811	1,923	1,614	1,615	2,144	1,988
Impairments and other	0,546	3,655	0,391	0,116	11,202	2,83	-
Total operating expenses :	15,437	14,01	8,714	6,561	16,647	10,172	5,15
Income (loss) from operations	2,069	-1,694	2,921	2,805	-8,945	1,457	2,65
Income (loss) before income taxes and cumulative effect of accounting change	1,442	-0,974	2,88	2,884	-9,288	0,991	2,347
Net income (loss)	0,894	-0,594	1,742	1,774	-5,83	0,604	1,455
Total assets	41,782	41,611	41,835	37,179	29,914	38,593	30,764
Long-term debt, net of current maturities	12,886	12,157	10,626	12,64	12,295	13,175	10,178
Natural gas production (bcf)	**1095**	**1129**	**1004**	**925**	**835**	**775**	**655**
Natural gas production (mmbbl)	**208,1**	**214,5**	**190,8**	**175,8**	**158,7**	**147,3**	**124,5**
Oil production (mmbbl)	**41**	**31**	**31,7**	**18,4**	**11,8**	**11,2**	**9,9**
NGL (mmbbl)	**21**	**18**	**15**				