2012 E&P Sector Outlook

Focus On Oil and Liquids-Rich Plays Intensifies

- **2012 Outlook –** Over the past three years, E&P share performance has consistently been a higher beta reflection of the broader markets. This can be largely attributable to the high correlation between oil prices and the global equity markets during this period. We believe crude oil prices will remain strong into 2012 and expect the recent historic correlation with equity markets to persist, although geopolitical and other events could yield still further relative upside to oil prices. At the same time, we believe the outlook for natural gas prices is quite dismal. Thus, our proclivity is still for the more oil-leveraged names with strong or improving economic returns. Combined with current valuations, our top picks for 2012 are APC, APA and CNQ while we also maintain Buy ratings on CIE, DVN, EOG, NXY, NBL, NFX, and TLM.
- **Adjusting Oil Price Forecasts Slightly Higher… –** Our 2012 Brent oil price forecast is still $110/Bbl but we are raising our 2012 WTI spot oil price projection to $100/Bbl from $90/Bbl given the recent price differential narrowing. Our 2013 Brent and WTI forecasts increase to $120/Bbl and $113/Bbl, respectively, from $105/Bbl and $90/Bbl. For more details on the oil price fundamentals, please see Citi's Commodities Strategy team's December 12th note: Oil in 2012 – A Year of Tail Risks - OPEC may have some work to do in 2012… …but risks to supply loom large.
- **…While Lowering Natural Gas Price Outlook –** Given the extremely warm start to this winter along with continued strong production growth, we are reducing our 2012 composite spot natural gas price forecast to $3.85/MMBtu from $4.35/MMBtu. Our 2013 projection falls to $4.35/MMBtu from $4.50/MMBtu while our longer-term "normalized" price remains $5.25/MMBtu.
- **Liquids Growth To Accelerate Next Year... –** For our E&P coverage group, oil/liquids growth in 2012 is pegged at 23%, on average, vs. 13% this year. At the same time, North America natural gas volumes grow ~6% vs. an uptick of just ~4% this year, although this includes some non-core asset sales, driven primarily by higher growth in the Marcellus shale by RRC, UPL and NBL. Total growth is projected to be ~14% in 2012 (vs. ~7% this year) with oil/liquids representing about two-thirds of this uptick.
- **…Driving Sharp Increase In Cash Flow –** Even with a sharp drop in hedging gains, after-tax operating cash flow for our coverage group is projected to be up nearly 20% next year. At this juncture, E&D budgets equate to 105% of projected cash flow vs. 115% this year. Thus, E&D budgets are set to rise nearly 10% in 2012.
- **Trends To Watch –** We expect that there will be more new oil and liquids-rich resource plays disclosed in 2012 along with more joint venture announcements. Also, activity in the deepwater Gulf of Mexico is expected to continue to slowly ramp back up while many companies have a more active global exploration slate teed up for 2012.
- **Valuations Reflect $85/Bbl & $3.55/MMBtu –** While the upside to price targets for our coverage group is ~25%, on average, based on near-term "normalized" WTI spot oil and composite spot natural gas prices of $90/Bbl and $4.50/MMBtu, respectively.

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See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

Data Summary

	Rating		Target Price		Current Year Earnings Estimates		Next Year Earnings Estimates	
Ticker	**Old**	**New**	**Old**	**New**	**Old**	**New**	**Old**	**New**
APA	1	1	US$150.00	US$150.00	US$12.13	US$12.11	US$14.09	US$14.28
APC	1	1	US$120.00	US$120.00	US$3.28	US$3.22	US$4.19	US$4.37
CHK	1	1	US$32.00	US$32.00	US$2.94	US$2.80	US$2.57	US$2.58
CIE	1H	1H	US$18.00	US$18.00	US$-0.38	US$-0.38	US$-0.77	US$-0.77
CNQ	1	1	US$50.00	US$50.00	C$2.16	C$2.14	C$3.15	C$3.77
CXO	1	1	US$92.00	US$92.00	US$4.21	US$4.17	US$5.28	US$5.40
DNR	2	2	US$18.00	US$18.00	US$1.34	US$1.39	US$1.12	US$1.47
DVN	1	1	US$75.00	US$75.00	US$6.04	US$6.02	US$6.46	US$7.20
ECA	2	2	US$20.00	US$20.00	US$0.70	US$0.54	US$0.74	US$0.56
END	2H	2H	US$9.00	US$9.00	US$-1.23	US$-1.25	US$0.77	US$0.75
EOG	1	1	US$110.00	US$110.00	US$3.38	US$3.48	US$4.75	US$5.92
NBL	1	1	US$110.00	US$110.00	US$5.31	US$5.31	US$6.39	US$6.57
NFX	1	1	US$48.00	US$48.00	US$4.17	US$4.19	US$5.08	US$5.81
NXY	1	1	US$20.00	US$20.00	C$1.58	C$1.64	C$2.45	C$2.66
ROSE	2H	2H	US$50.00	US$50.00	US$2.01	US$2.06	US$3.38	US$3.82
RRC	1	1	US$70.00	US$70.00	US$1.06	US$1.02	US$1.84	US$1.70
SWN	2	2	US$40.00	US$40.00	US$1.95	US$1.86	US$2.59	US$2.31
TLM	1	1	US$18.00	US$18.00	US$0.76	US$0.75	US$1.45	US$1.52
UPL	2	2	US$40.00	US$40.00	US$2.69	US$2.62	US$2.81	US$2.60

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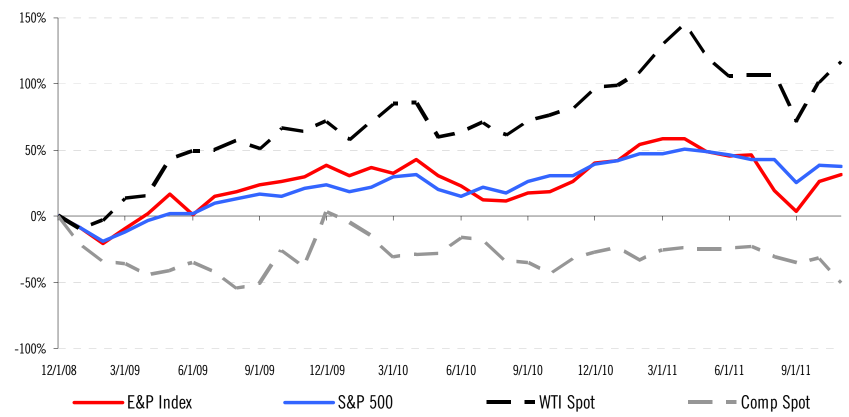
E&P Higher Beta Reflection Of S&P 500 Performance Continues…

Over the past three years, E&P share performance has consistently been a higher beta reflection of the broader markets…

Over the past three years and quite consistently in 2011, E&P share performance has continued to be a higher beta reflection of the broader markets unless overshadowed by a substantial opposite movement in natural gas prices. As illustrated in Figure 1, since the beginning of 2009, when the S&P index has risen the E&P index has most often increased by a greater amount, and likewise when the S&P has declined then the E&P index has dropped by an even greater amount. The only exceptions to this trend have been a few time when natural gas prices moved sharply in the opposite direction driven mostly by weather related factors during the fall "shoulder" period or winter, and most recently during the winter of 2009-10. Year to date through the end of November, our E&P market-weighted index is down 6.2% versus a nearly 1.0% decline in the S&P 500. Interestingly, WTI spot crude oil prices have risen nearly 10% this year while composite spot natural gas prices are down ~20% although this is against a seasonably colder-than-normal start to the year with this winter starting out as one of the warmest over the past decade. Thus, composite spot natural gas prices dropped below $3.00/MMBtu recently, closing at a two-year low of $2.82/MMbtu for the week ended November 25th.

…And year to date through the end of November, our E&P market-weighted index is down 6.2% versus a nearly 1.0% decline in the S&P 500.

Figure 1. Historical Oil & Gas Prices, S&P 500 Index and E&P Composite Spot Relative Performance



Source: Bloomberg, Citi Investment Research and Analysis

This relationship between E&P stocks and the broader markets is partially attributable to the high correlation of crude oil prices to the global equity markets over the past three years…

Notably, the relationship between E&P stocks and the broader markets is partially attributable to the high correlation between crude oil prices and the global equity markets over the past three years as both equity markets and oil prices have taken their cues from the same global economic data points. Illustrating this trend, from the beginning of 2009 through March 2011, the Brent crude oil to Global MSCI index R-squared correlation was 0.90. However, this correlation broke down after March of this year as Brent crude oil prices rallied on geopolitical tensions and output disruptions in key producing regions, while equity markets remained stressed amid fears of a global economic recession. As a result, the year-to-date (through November) MSCI/Brent R-squared correlation is just 0.37. Notably, WTI prices failed to follow Brent prices higher until recently, thus allowing the correlation of WTI crude oil to the Global MSCI index to stay much more consistent with the historical trend. The year-to-date WTI/MSCI R-squared correlation is ~0.60 (through November) and was 0.77 at the end of October prior to WTI's realignment with Brent last month after reaching an historical differential of over $28/Bbl in October (see Figure 2).

…Although since March of this year, oil prices have rallied on geopolitical tensions and output disruptions in key producing regions.

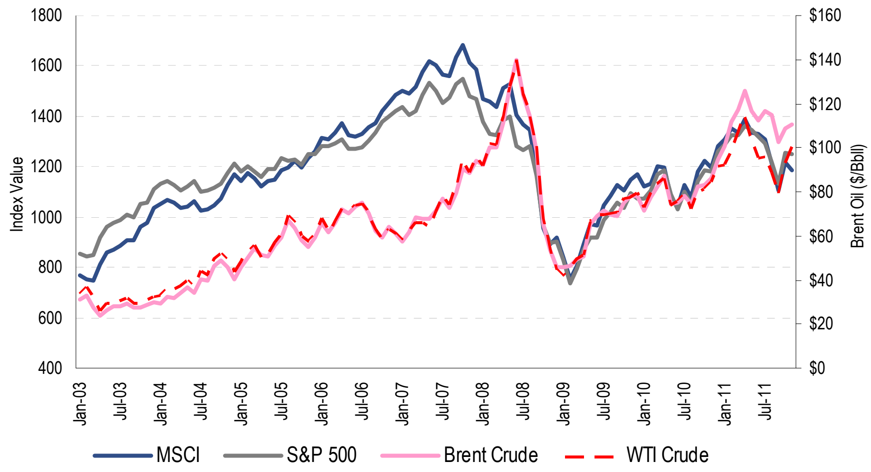
We believe crude oil prices will remain strong into 2012…

We believe that crude oil prices will remain strong into 2012 and expect the recent historic correlation with equity markets to reassert itself although geopolitical events could yield still further relative upside to oil prices. We also expect the higher beta

performance of the E&P sector relative to the S&P index to continue even with any potential sharp deviation in commodity prices as a result of Mother Nature or geopolitical events. As a backdrop for this outlook, we continue to expect the 2012 Street consensus for oil prices to rise and the consensus for natural gas prices to decline at this juncture (see Figure 7).

…And expect the recent historic correlation with equity markets to reassert itself although geopolitical events could yield still further relative upside to oil prices.

Figure 2. WTI and Brent Crude Oil Prices vs. Equity Indices



Source: Bloomberg, Citi Investment Research and Analysis

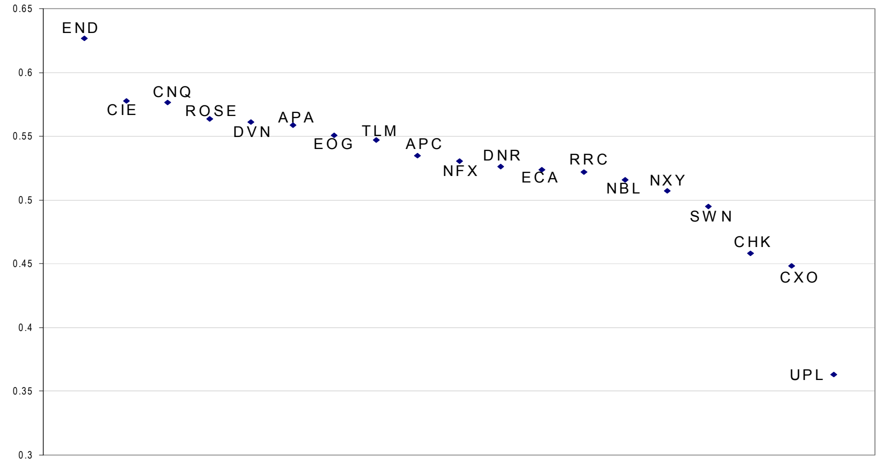
…While Stocks Tend To Be More Correlated to Crude Oil Than To Natural Gas Prices

Share prices for our E&P coverage group tend to be much more highly correlated to crude oil than to natural gas prices…

Although companies in our E&P coverage vary widely in their production breakdown, we would note that their share prices tend to be much more highly correlated to crude oil than to natural gas prices. In fact, every single name in our coverage group has exhibited a higher R-squared correlation to crude oil price movements than to natural gas price movements this year (see Figures 3 and 4). Even the purest natural gas names in the group (SWN, ECA, RRC, UPL, CHK) have a stronger correlation to movements in crude oil than to natural gas prices despite the 20% year to date drop in natural gas prices versus the nearly 10% rise in WTI crude oil prices. This is primarily attributable to the fact that oil prices have more recently largely traded in tandem with broader market movements, as we just outlined.

…With every single name having exhibited a higher R-squared correlation to crude oil price movements this year…

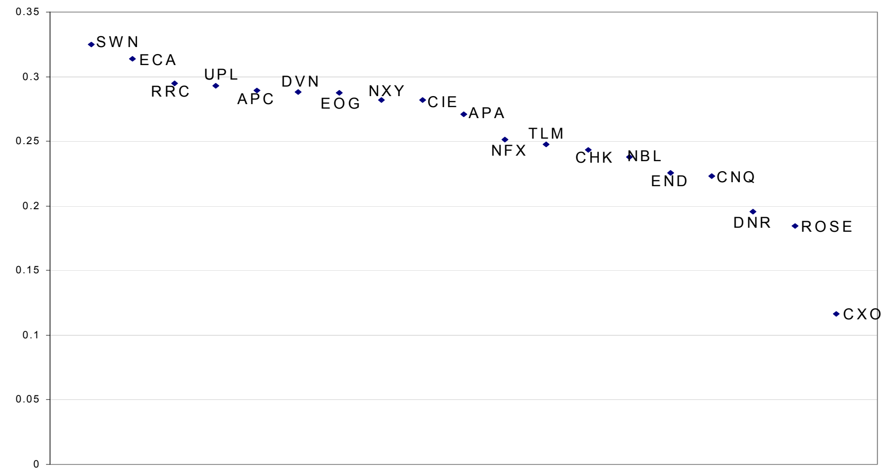
Figure 3. Company Share Correlation to WTI Crude Oil Prices In 2011



Source: Citi Investment Research and Analysis

…Than to natural gas price movements.

Figure 4. Company Share Correlation to Henry Hub Natural Gas Prices in 2011



Source: Citi Investment Research and Analysis

E&P Shares Currently Reflect $85.00/Bbl and $3.55/MMBtu…

Valuations for our E&P coverage group reflect "normalized" crude oil (WTI) and natural gas prices of ~$85/Bbl and ~$3.55MMbtu, per our methodology…

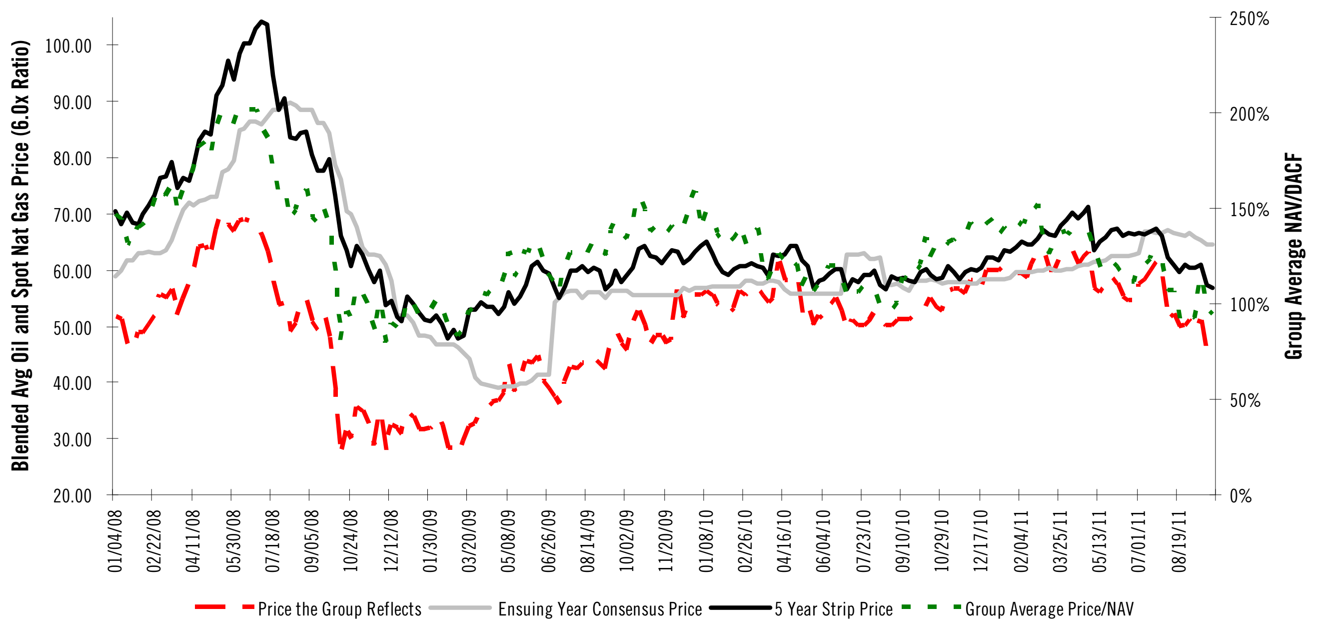
We estimate that valuations for our E&P coverage group currently reflect "normalized" WTI spot oil and composite spot natural gas prices of ~$85/Bbl and ~$3.55/MMBtu, respectively. The normalized commodity prices that the group reflects are determined by the WTI spot oil and composite spot natural gas prices needed to be incorporated in our operating models in order for the group to trade at an average 2012 EV/DACF multiple of 6.7x (historical mid-cycle multiple) and ~126% of NAV based on year-end 2010 proven reserves while noting that year-end 2011 proven reserves are expected, on average, to increase. Also, the NAV figures are based on our revised commodity price forecasts outlined in this report.

Interestingly, in our 2011 E&P Sector Outlook report dated January 13, 2011, we stated that our coverage group reflected normalized prices of $87/Bbl and $5.25/MMBtu with the full-year Street consensus then at ~$82/Bbl and nearly $5.00/MMBtu for WTI spot and composite spot natural gas prices, respectively. However, our forecasts then were for 2011 prices to average $90/Bbl and $4.25/MMBtu, respectively, but we tied what the stocks reflected more closely to what actual spot prices were at that time (~$94/Bbl and ~$4.40/MMBtu) and consensus expectations. We would note that every ~$1.00/Bbl and every $0.10/MMBtu that we state the stocks reflect equates to about 1% in stock price movement. Thus, the current $85/Bbl and $3.55/MMBtu that we estimate the group reflects does match with the ~6.5% decline in our E&P index year to date with most companies, on average, having beat production expectations so far for the year and with our coverage group having expanded (and having lost one premium valuation name – HK) since then with the mid-cycle multiple one year ago at 6.9x versus 6.7x for our current coverage list.

…Which reflect a substantial discount to both the ensuring year consensus price and the 5-year strip price (6:1 ratio).

As illustrated in Figure 5, valuations for our coverage group are currently at a substantial discount to both the ensuring year consensus price and the 5-year strip price (natural gas prices are converted using a 6:1 ratio) and are also trading below 100% of proven-only NAV based on year-end 2010 reported reserves.

Figure 5. Implied Stock Valuations (based on EV/DACF multiple) and P1-NAV vs. Consensus and NYMEX Commodity Prices



Source: Bloomberg, Citi Investment Research and Analysis

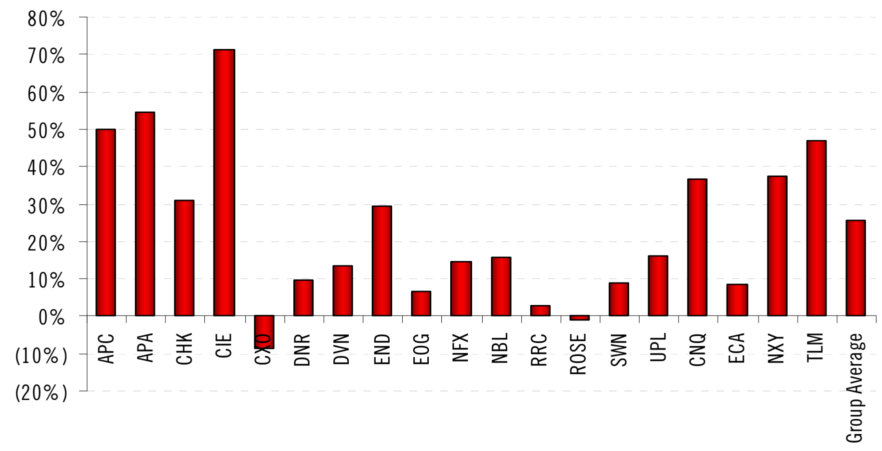
…With The Upside To Our Price Targets at ~25%

Price targets for our coverage group are derived by incorporating our normalized prices of $90.00/Bbl and $4.50/MMBtu…

Meanwhile, price targets for our coverage group are derived by incorporating our near-term "normalized" WTI spot crude oil and composite spot natural gas of $90.00/Bbl and $4.50/MMBtu, respectively. This yields an average total return potential of roughly 25% based on the upside to price targets and an average premium of 26% relative to 2010 proven-only NAV (see Figures 6). For details on each individual company's price target derivation, see the company specific summaries beginning on page 37.

…Which yields an average total return potential of roughly 25%.

Figure 6. Upside to Our Current Price Targets for E&P Coverage Group



Source: Citi Investment Research and Analysis

Adjusting EPS/CFPS Estimates Based On New Commodity Price Forecasts

As we outline in the subsequent commodity price sections, we are adjusting our full-year 2011 Brent and WTI oil price forecasts to $110.30/Bbl and $95.00/Bbl, respectively, from $110.65/Bbl and $93.50/Bbl, and for composite spot natural gas prices to $4.00/MMBtu from $4.25/MMBtu. For 2012, our Brent oil price forecast is still $110/Bbl but we are raising our 2012 WTI spot oil price projection to $100/Bbl from $90/Bbl given the recent price differential narrowing. Our 2013 forecasts increase to $120/Bbl and $113/Bbl, respectively, from $105/Bbl and $90/Bbl. Our longer-term "normalized" price remains $90/Bbl. Given the extremely warm start to this winter along with continued strong production growth, we are reducing our 2012 composite spot natural gas price forecast to $3.85/MMBtu from $4.35/MMBtu. Our 2013 projection falls to $4.35/MMBtu from $4.50/MMBtu while our longer-term "normalized" price remains $5.25/MMBtu. See Figure 7.

Figure 7. Historical, Projected and Consensus Commodity Prices

	Citi Investment Research			Street Consensus**		
	WTI Oil ($/Bbl.)	Brent Oil ($/Bbl.)	Natural gas ($/MMBtu)	WTI Oil ($/Bbl.)	Brent Oil ($/Bbl.)	Natural Gas ($/MMBtu)
2005	$56.44	$54.36	$8.35			
2006	$66.11	$65.52	$6.42			
2007	$72.35	$73.17	$6.64			
2008	$99.69	$98.07	$8.36			
2009	$61.77	$61.76	$3.78			
Q1	$78.84	$76.07	$5.15			
Q2	$77.88	$78.76	$4.22			
Q3	$76.09	$77.46	$4.18			
Q4	$85.16	$87.70	$3.77			
2010	$79.39	$80.00	$4.33			
Q1	$93.79	$105.63	$4.19			
Q2	$102.28	$116.99	$4.30			
Q3	$89.54	$109.89	$4.08			
Q4E	$94.50	$108.65	$3.43	$90.00	$108.50	$4.25
2011E	**$95.00**	**$110.30**	**$4.00**	**$93.90**	**$110.25**	**$4.21**
Q1E	$95.00	$105.00	$3.80	$92.50	$108.15	$4.50
Q2E	$100.00	$110.00	$3.75	$96.50	$110.00	$4.25
Q3E	$100.00	$110.00	$4.00	$100.00	$112.00	$4.45
Q4E	$105.00	$115.00	$3.85	NA	NA	NA
2012E	**$100.00**	**$110.00**	**$3.85**	**$96.00**	**$109.50**	**$4.54**
2013E	**$113.00**	**$120.00**	**$4.35**	**$109.00**	**$115.00**	**$5.00**
2014E	**$90.00**	**$95.00**	**$4.65**	**$113.00**	**$115.00**	**$5.38**
2015E	**$95.00**	**$98.00**	**$5.00**	**$126.50**	**$126.00**	**NA**
2016E+	**$98.00**	**$100.00**	**$5.25**	**NA**	**NA**	**NA**

*Quarterly consensus figures may not equate to the full-year average due to a fewer number of analysts providing quarterly estimates.
** Bloomberg Commodity Price consensus forecasts as of 12/11/11
Crude oil: WTI Cushing spot wellhead price average.

Source: Bloomberg, Citi Investment Research and Analysis

On average, our 2012 EPS/CFPS estimates increase by ~4%/2%, and for 2013 by ~31%/14%.

Consequently, our 2011 EPS/CPFS estimates, on average, decline just slightly. For 2012, EPS/CPFS estimates, on average, increase 3.9%/2.2%, as an increase in our WTI price assumption is slightly offset by our lower natural gas price forecast. While for 2013, EPS/CFPS estimates increase by ~31%/14% as a result of the higher Brent and WTI oil price forecasts (see Figures 8 and 9).

Figure 8. 4Q'11 EPS and CFPS Estimates

	Recurring Fully-Diluted EPS							Recurring Fully-Diluted CFPS						
					Variance							Variance		
	Q4'11 Estimate	Q4'11 Consensus	Q3'11 Actual	Q4'10 Actual	Citi vs. Consensus	Q4'11 vs Q3'11	Q4'11 vs Q4'10	Q4'11 Estimate	Q4'11 Consensus	Q3'11 Actual	Q4'10 Actual	Citi vs. Consensus	Q4'11 vs Q3'11	Q4'11 vs Q4'10
Anadarko Petroleum (APC)	$ 0.69	$ 0.60	$ 0.65	$ 0.29	15%	7%	139%	$ 3.29	$ 3.11	$ 3.77	$ 2.61	6%	-13%	26%
Apache Corporation (APA)	$ 2.95	$ 2.78	$ 2.95	$ 2.19	6%	0%	35%	$ 6.54	$ 6.18	$ 6.77	$ 5.11	6%	-3%	28%
Canadian Natural Res. (CNQ)[1]	$ 0.72	$ 0.79	$ 0.65	$ 0.57	-9%	10%	27%	$ 1.71	$ 1.71	$ 1.60	$ 1.49	0%	7%	15%
Chesapeake Energy (CHK)	$ 0.58	$ 0.63	$ 0.72	$ 0.70	-7%	-19%	-17%	$ 1.32	$ 1.62	$ 1.81	$ 2.14	-18%	-27%	-38%
Concho Resources (CXO)	$ 1.15	$ 1.17	$ 1.14	$ 0.75	-1%	1%	54%	$ 2.93	$ 3.02	$ 3.04	$ 2.17	-3%	-3%	35%
Cobalt International Energy (CI	$ (0.15)	$ (0.08)	$ (0.12)	$ (0.09)	NM	NM	NM	$ (0.15)	$ (0.03)	$ (0.10)	$ (0.08)	NM	NM	NM
Denbury Resources (DNR)	$ 0.38	$ 0.29	$ 0.37	$ 0.22	29%	3%	73%	$ 0.92	$ 0.72	$ 0.93	$ 0.62	29%	-1%	50%
Devon Energy (DVN)[2]	$ 1.49	$ 1.47	$ 1.54	$ 1.46	1%	-3%	2%	$ 3.43	$ 3.57	$ 4.06	$ 3.35	-4%	-16%	2%
Endeavour International (END)	$ (0.22)	$ (0.25)	$ (0.58)	$ 1.19	NM	NM	NM	$ (0.14)	$ (0.03)	$ (0.25)	$ 1.35	NM	NM	NM
EnCana Corp. (ECA)	$ 0.06	$ 0.18	$ 0.23	$ 0.09	-65%	-74%	-34%	$ 1.37	$ 1.36	$ 1.57	$ 1.25	1%	-13%	10%
EOG Resources (EOG)	$ 0.84	$ 0.80	$ 0.83	$ 0.36	5%	2%	134%	$ 4.54	$ 4.26	$ 4.87	$ 3.26	7%	-7%	39%
Newfield Exploration (NFX)	$ 1.14	$ 1.02	$ 1.04	$ 1.16	12%	10%	-2%	$ 2.83	$ 2.92	$ 3.16	$ 2.31	-3%	-11%	23%
Nexen, Inc. (NXY)[1]	$ 0.44	$ 0.39	$ 0.36	$ 0.42	13%	22%	6%	$ 0.91	$ 1.02	$ 1.08	$ 0.89	-11%	-16%	2%
Noble Energy (NBL)	$ 1.27	$ 1.05	$ 1.24	$ 1.22	22%	3%	4%	$ 3.43	$ 3.03	$ 3.21	$ 3.08	13%	7%	11%
Range Resources (RRC)	$ 0.34	$ 0.30	$ 0.28	$ 0.19	13%	20%	78%	$ 1.25	$ 1.26	$ 1.17	$ 1.00	-1%	6%	25%
Rosetta Resources (ROSE)	$ 0.76	$ 0.66	$ 0.61	$ 0.17	15%	25%	351%	$ 1.78	$ 1.65	$ 1.41	$ 1.01	8%	26%	76%
Southwestern Energy (SWN)	$ 0.49	$ 0.51	$ 0.50	$ 0.43	-3%	-2%	14%	$ 1.31	$ 1.33	$ 1.31	$ 1.12	-2%	0%	17%
Talisman Energy (TLM)	$ 0.28	$ 0.21	$ 0.16	$ 0.08	29%	73%	236%	$ 0.93	$ 0.88	$ 0.87	$ 0.66	6%	7%	42%
Ultra Petroleum (UPL)	$ 0.65	$ 0.66	$ 0.72	$ 0.50	-1%	-9%	32%	$ 1.61	$ 1.61	$ 1.62	$ 1.17	0%	-1%	37%
Average (Ex High/Low)					**5%**	**4%**	**48%**					**2%**	**-4%**	**21%**

[1] Amounts in CAD$

[2] Citi estimates include recurring, continuing operations only while consensus estimates vary.

Source: Citi Investment Research and Analysis, First Call Consensus

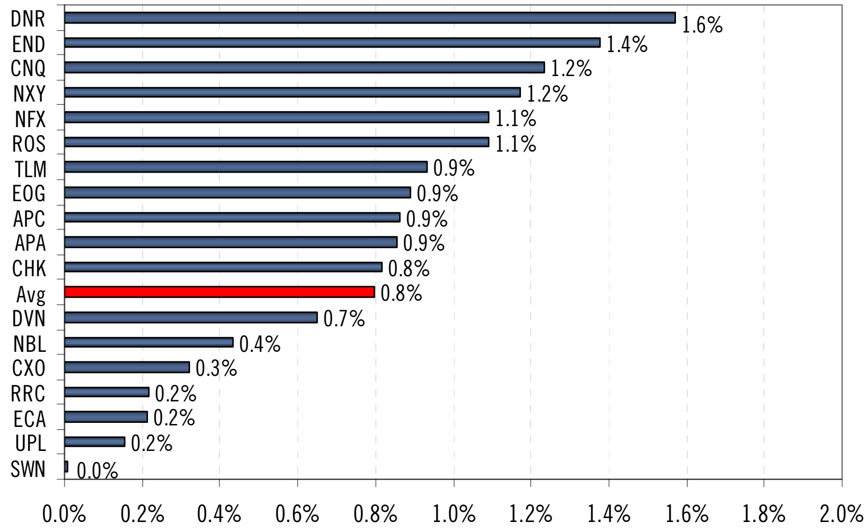
Figure 9. 2011, 2012, 2013 Full Year EPS and CFPS Estimates

	2011 Recurring Diluted EPS			2011 Recurring CFPS			2012 Recurring Diluted EPS			2012 Recurring CFPS			2013 Recurring Diluted EPS			2013 Recurring CFPS		
	Citi Previous	Citi Current	% Change	Citi Previous	Citi Current	% Change	Citi Previous	Citi Current	% Change	Citi Previous	Citi Current	% Change	Citi Previous	Citi Current	% Change	Citi Previous	Citi Current	% Change
Anadarko Petroleum (APC)	$ 3.28	$ 3.22	-2%	14.18	$ 14.10	-1%	$ 4.19	$ 4.37	4%	15.44	$ 15.44	0%	$ 4.47	$ 7.03	57%	16.65	$ 19.74	19%
Apache Corporation (APA)	$ 12.13	$ 12.11	0%	25.53	$ 25.50	0%	$ 14.09	$ 14.28	1%	29.56	$ 29.67	0%	$ 13.90	$ 17.78	28%	29.70	$ 34.63	17%
Canadian Natural Res. (CNQ)[1]	$ 2.16	$ 2.14	-1%	5.72	$ 5.69	-1%	$ 3.15	$ 3.77	20%	7.40	$ 8.11	10%	$ 3.46	$ 5.52	60%	8.05	$ 10.42	29%
Chesapeake Energy (CHK)	$ 2.94	$ 2.80	-5%	5.70	$ 5.48	-4%	$ 2.57	$ 2.58	1%	5.80	$ 5.82	0%	$ 3.37	$ 4.24	26%	7.33	$ 8.76	20%
Concho Resources (CXO)	$ 4.21	$ 4.17	-1%	11.05	$ 10.98	-1%	$ 5.28	$ 5.40	2%	13.07	$ 13.25	1%	$ 6.22	$ 7.72	24%	15.41	$ 17.70	15%
Cobalt International Energy (CI	$ (0.38)	$ (0.38)	0%	(0.33)	$ (0.33)	0%	$ (0.77)	$ (0.77)	0%	(0.74)	$ (0.74)	0%	$ (0.90)	$ (0.90)	0%	(0.87)	$ (0.87)	0%
Denbury Resources (DNR)	$ 1.34	$ 1.39	4%	3.38	$ 3.47	3%	$ 1.12	$ 1.47	32%	3.05	$ 3.62	19%	$ 1.25	$ 2.17	73%	3.37	$ 4.84	44%
Devon Energy (DVN)[2]	$ 6.04	$ 6.02	0%	14.16	$ 14.12	0%	$ 6.46	$ 7.20	11%	13.47	$ 14.44	7%	$ 7.07	$ 9.16	30%	14.57	$ 17.31	19%
Endeavour International (END)	$ (1.23)	$ (1.25)	1%	(0.64)	$ (0.67)	5%	$ 0.77	$ 0.75	-2%	2.91	$ 2.88	-1%	$ 1.82	$ 2.23	22%	6.52	$ 7.26	11%
EnCana Corp. (ECA)	$ 0.70	$ 0.54	-23%	5.87	$ 5.71	-3%	$ 0.74	$ 0.56	-24%	5.65	$ 5.43	-4%	$ 0.10	$ 0.15	59%	5.01	$ 5.08	1%
EOG Resources (EOG)	$ 3.38	$ 3.48	3%	17.88	$ 18.02	1%	$ 4.75	$ 5.92	25%	20.89	$ 22.53	8%	$ 5.44	$ 9.22	69%	23.62	$ 28.92	22%
Newfield Exploration (NFX)	$ 4.17	$ 4.19	0%	10.60	$ 10.62	0%	$ 5.08	$ 5.81	14%	12.46	$ 13.54	9%	$ 5.46	$ 7.85	44%	13.34	$ 16.85	26%
Nexen, Inc. (NXY)[1]	$ 1.58	$ 1.64	4%	4.11	$ 4.17	1%	$ 2.45	$ 2.66	8%	5.43	$ 5.89	9%	$ 2.35	$ 3.69	57%	6.05	$ 7.91	31%
Noble Energy (NBL)	$ 5.31	$ 5.31	0%	13.50	$ 13.49	0%	$ 6.39	$ 6.57	3%	16.70	$ 16.92	1%	$ 6.95	$ 8.52	23%	17.95	$ 19.84	11%
Range Resources (RRC)	$ 1.06	$ 1.02	-3%	4.46	$ 4.40	-1%	$ 1.84	$ 1.70	-7%	6.40	$ 6.18	-3%	$ 2.54	$ 3.16	24%	8.38	$ 9.41	12%
Rosetta Resources (ROSE)	$ 2.01	$ 2.06	2%	5.67	$ 5.74	1%	$ 3.38	$ 3.82	13%	8.34	$ 9.02	8%	$ 4.36	$ 6.09	40%	10.57	$ 13.26	25%
Southwestern Energy (SWN)	$ 1.95	$ 1.86	-4%	5.09	$ 4.95	-3%	$ 2.59	$ 2.31	-11%	6.42	$ 5.97	-7%	$ 2.79	$ 2.67	-4%	7.07	$ 6.88	-3%
Talisman Energy (TLM)[1]	$ 0.76	$ 0.75	-1%	3.47	$ 3.46	0%	$ 1.45	$ 1.52	4%	4.36	$ 4.43	1%	$ 1.46	$ 2.22	52%	4.57	$ 5.33	17%
Ultra Petroleum (UPL)	$ 2.69	$ 2.62	-3%	6.22	$ 6.11	-2%	$ 2.81	$ 2.60	-8%	6.91	$ 6.57	-5%	$ 3.17	$ 3.15	0%	7.87	$ 7.84	0%
Average (Ex High/Low)			**-0.5%**			**-0.3%**			**3.9%**			**2.2%**			**30.7%**			**14.4%**

Source: Citi Investment Research and Analysis

DNR, END and CNQ have the highest 2012 cash flow sensitivity (including hedges) to changes in our oil price forecast…

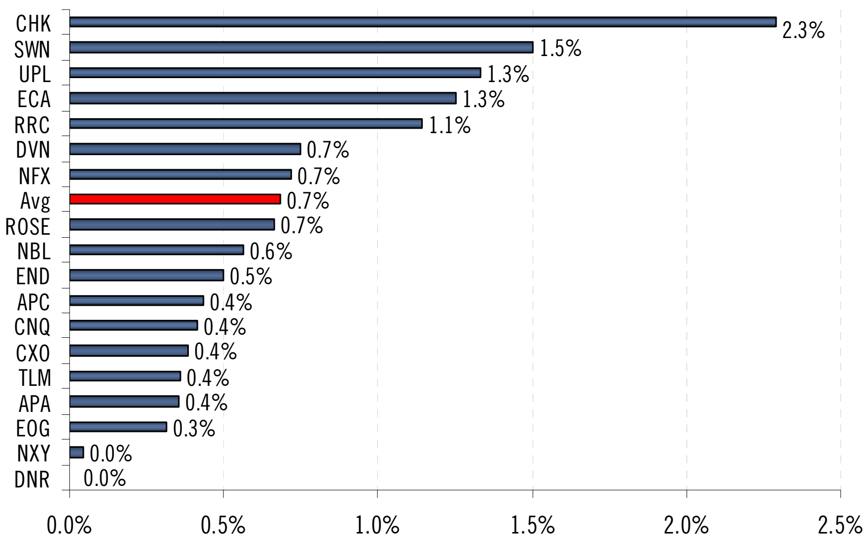
Figure 10. 2012 CF Sensitivity Per $1.00/Bbl Change in Crude Oil Price Forecast



Source: Citi Investment Research and Analysis

...While CHK, SWN and UPL have the highest sensitivity (including hedges) to changes in our natural gas price outlook.

Figure 11. 2012 CF Sensitivity Per $0.10/MMbtu Change in Natural Gas Price Forecast



Source: Citi Investment Research and Analysis

Our top picks in the E&P sector for 2012 are APC, APA and CNQ.

Given our current outlook for commodity prices and valuation assessments, we maintain Buy ratings on APC, APC, CHK, CIE, CXO, DVN, EOG, NFX, NBL, RRC, CNQ, NXY and TLM and Neutral ratings on DNR, END, ROSE, SWN, UPL and ECA. Overall, positive stock price performance will continue to hinge on rising broader markets and crude oil prices, in our view. Under this scenario, the more oil-levered names should generally exhibit better relative performance. Thus, combined with current valuations, our top picks are APA, APC and CNQ.

Figure 12. E&P Comp Table

Company	Share Price 12/9/2011	Citi Rating	Citi Risk Rating	Target Price	EV/(DACF) 2011E	EV/(DACF) 2012E	EV/(DACF) 2013E	Price/ NAV	MEV/Mcfe	Reserve/ Prod	Production Growth 10/11E	Production Growth 11/12E	Production Growth 12/13E	% Prod N.American Nat Gas 2011	EBITDA/ Fixed Charges 2011	Net Debt/Cap. 2011E	Net Debt/Cap. 2012E	Reserve Replace. Eff. (1) 2010 (3 yr avg.)
Anadarko Petroleum (APC)	80.25	Buy	-	120.00	6.6x	5.9x	4.4x	83%	3.65	10.1	6.0%	8.2%	8.8%	57%	3.9x	38%	33%	1.4x
Apache Corporation (APA)	97.48	Buy	-	150.00	4.5x	3.6x	2.9x	57%	2.63	12.3	14.0%	11.4%	7.6%	33%	55.6x	24%	16%	1.5x
Chesapeake Energy (CHK)	24.66	Buy	-	32.00	7.0x	7.4x	5.6x	73%	2.03	16.5	15.0%	15.9%	9.7%	84%	5.0x	47%	53%	1.8x
Cobalt International Energy (CIE)	10.51	Buy	H	18.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/A	N/A	NA
Concho Resources (CXO)	100.58	Buy	-	92.00	10.2x	8.5x	6.3x	144%	6.75	20.0	50.5%	17.7%	17.4%	38%	14.3x	42%	38%	3.2x
Denbury Resources (DNR)	16.44	Neutral	-	18.00	6.2x	6.0x	4.3x	59%	3.72	14.9	(9.8%)	8.5%	9.3%	7%	14.1x	35%	32%	2.4x
Devon Energy (DVN)	66.56	Buy	-	75.00	4.7x	4.9x	4.1x	64%	1.57	12.2	1.5%	7.7%	6.1%	66%	16.8x	0%	15%	1.3x
Endeavour International (END)	6.96	Neutral	H	9.00	NA	5.2x	2.1x	44%	6.42	10.7	(23.3%)	115.2%	118.4%	66%	0.4x	66%	63%	3.5x
EOG Resources (EOG)	103.75	Buy	-	110.00	6.3x	5.3x	4.2x	100%	2.72	13.8	9.4%	11.4%	9.3%	49%	25.7x	25%	28%	1.9x
Newfield Exploration (NFX)	41.88	Buy	-	48.00	5.6x	4.4x	3.3x	61%	2.15	13.1	4.3%	10.1%	5.6%	61%	9.0x	45%	39%	1.6x
Noble Energy (NBL)	95.53	Buy	-	110.00	8.0x	6.8x	6.1x	82%	3.01	13.8	2.5%	15.9%	7.6%	29%	14.5x	33%	37%	1.9x
Range Resources (RRC)	68.13	Buy	-	70.00	15.7x	12.4x	8.6x	191%	2.97	24.6	11.8%	36.0%	27.3%	77%	5.1x	48%	53%	2.5x
Rosetta Resources (ROSE)	50.55	Neutral	H	50.00	9.3x	6.2x	4.0x	239%	6.38	9.5	20.0%	41.1%	24.3%	54%	14.1x	34%	32%	1.2x
Southwestern Energy (SWN)	36.79	Neutral	-	40.00	8.0x	6.7x	5.8x	213%	2.80	12.2	24.6%	19.6%	13.2%	100%	25.6x	26%	24%	3.3x
Ultra Petroleum (UPL)	34.42	Neutral	-	40.00	7.1x	6.7x	5.7x	147%	1.69	20.3	16.2%	20.0%	14.4%	97%	8.8x	50%	46%	2.4x
U.S. Group Average (Ex Hi-Lo)					7.4x	6.3x	4.8x	109%	$4.20	14.2	10.9%	13.2%	9.9%	55%	13.1x	37%	36%	2.1x
Canadian Natural Res. (CNQ)	37.00	Buy	-	50.00	7.7x	5.3x	3.9x	95%	2.35	15.5	(4.3%)	18.9%	7.9%	34%	19.1x	32%	27%	6.7x
EnCana Corp. (ECA)	19.17	Neutral	-	20.00	4.4x	4.6x	5.0x	207%	1.40	11.4	5.0%	4.1%	4.9%	96%	9.3x	29%	29%	1.5x
Nexen, Inc. (NXY)	14.71	Buy	-	20.00	4.1x	2.8x	1.9x	38%	3.31	6.2	(16.1%)	(1.6%)	14.6%	17%	12.7x	25%	17%	0.5x
Talisman Energy (TLM)	12.41	Buy	-	18.00	4.5x	3.7x	3.0x	67%	2.44	7.6	1.8%	8.3%	6.2%	35%	28.9x	30%	28%	0.7x
Canadian E&P Average					5.2x	4.1x	3.5x	102%	$2.37	10.2	(1.7%)	9.4%	7.3%	45%	17.5x	29%	25%	2.4x
$					6.9x	5.8x	4.5x	107%	$3.33	13.6	6.8%	12.2%	9.3%	53%	14.2x	35%	34%	2.2x

* Based on WTI/Brent spot crude oil and composite spot natural gas prices of $95.00/110.30/Bbl and $4.00/MMBtu in 2011, $100.00/110.00/Bbl and $3.85/MMBtu in 2012 and $113.00/120.00/Bbl and $4.35/MM

(1) Reserve Replacement Efficiency = (2010 Cash Flow per BOE produced)/(3-yr average Finding & Development cost per BOE).

Source: Company Reports, Citi Investment Research and Analysis

Raising Outlook For Crude Oil Prices…

Based on Citi's commodities strategy team updated outlook, we are raising our forecasts for oil crude oil prices…

We are raising our 2012 WTI crude oil price forecasts to $100/Bbl from $90/Bbl, while our 2012 Brent crude oil price forecast remains unchanged at $110/Bbl. We are also increasing our 2013 WTI price forecast to $113/Bbl from $90/Bbl and our 2013 Brent crude oil price forecast to $120/Bbl from $105/Bbl. Our longer-term "normalized" price remains $90/Bbl. For more detail, please see Citi's Commodities Strategy team December 12th note: Oil in 2012 – A Year of Tail Risks - OPEC may have some work to do in 2012… …but risks to supply loom large.

…Wherein Brent prices are expected to trade in a range of $100-120/Bbl and to average $110/Bbl for the year

Citi's commodities strategy team now expects Brent to trade in a range of $100-120/Bbl and to average $110/Bbl for the year. Going forward, their global supply/demand balances are moderately bearish for the first quarter of 2012, as is the price outlook, but from then on stronger balance and prices are expected. But they are not very optimistic on oil demand growth, modeling just +0.8 MMBbl/d in 2012 and +1 MMBbl/d in 2013, based on Citi's GDP expectations of 3.0% and 3.6% (PPP-adjusted) respectively. They are, however, optimistic on supply, forecasting 1.1 MMBbl/d of non-OPEC supply growth which, coupled with the return of Libya, entails a cut by OPEC of some 500 MBbl/d if the organization wants to keep the market tight and prevent a return to global inventory builds.

2012 should be a landmark year for the oil markets, with non-OECD demand forecast to overtake OECD demand for part of the year for the first ever.

They believe OPEC recognizes this reality, and take recent statements from OPEC members about how high their recent production has been as posturing in preparation for the upcoming quota reallocation. OPEC clearly has a strong hand and a cut of about 0.5 MMBbl/d should be manageable, though the cartel has been quite dysfunctional recently as their last June meeting amply demonstrated. The market will need convincing that the cuts are actually happening, and will be watching the physical market for evidence. Thus, 2012 should be a landmark year for the oil markets, with non-OECD demand forecast to overtake OECD demand for part of the year for the first time ever. This will continue the trend of decreasing the relevance of the available OECD data, and will make watching the physical market and tanker tracking data even more important.

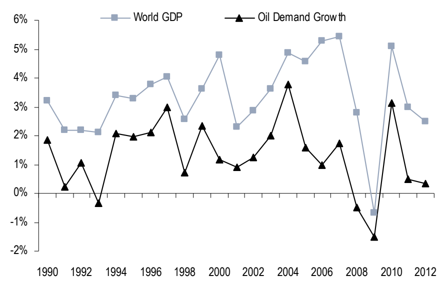
Overall, the commodities team view is that oil supplies are constrained for the next 2-3 years and that oil prices have to be high enough to constrain demand through price elasticity…

The commodities strategy team expects prices to be range bound at $10/Bbl around the current prompt price (~10% band), a rather dull position for analysts to assume, and one which requires some justification. Simply put they believe that oil supplies are constrained for the next 2-3 years, but just do not see enough liquids supplies coming to market to allow for unconstrained demand growth, and think oil prices have to be high enough to constrain demand through oil's price elasticity (which is negligible in the short to medium term) and through its income elasticity (which is non-negligible). Thus, oil supplies are constraining global GDP growth, and this will remain the case until there is a paradigm shift — either oil demand shifts lower through a transition to more of a natural gas based transportation system in some key markets, or, more likely, shale, tight oil and deepwater production reach a scale that moves the needle on a global basis for liquids supplies, and none of these is going to happen over the next two years in their view.

Overall, oil demand is a function of GDP growth and the impact of prices is visible in the changing ratio between the two.

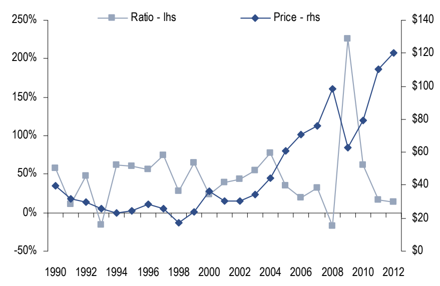
…While oil demand is a function of global GDP growth.

Figure 13. Oil Demand and GDP Growth



Source: Citi Investment Research and Analysis

Figure 14. Oil Prices and Demand/GDP Ratio



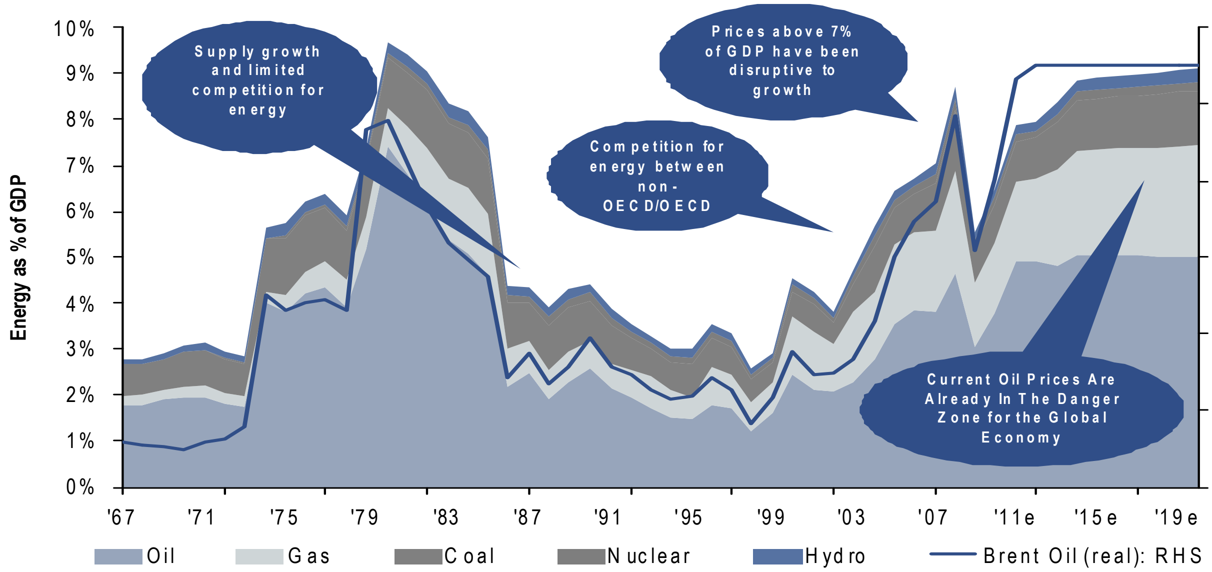
Source: Citi Investment Research and Analysis

The pain point for the global economy is estimated to be ~$120/Bbl, or a price wherein total expenditure on energy would consume about 9% of global GDP, a level that historically has been enough to cause the global economy to slow.

Citi's commodities strategy team believes we are for now living in a crude oil-constrained world, and oil prices have to stay close to the pain point for the global economy in order to constrain demand growth. They estimate the pain point for the global economy to be around $120/Bbl; at that price total expenditure on energy would consume about 9% of global GDP, a level that historically has been enough to cause the global economy to slow. However, they do recognize that the pain point is a moving target, a function of the prices of other energy sources and of the general robustness of the global economy.

But currency movements add bit of caution. Citi's view for a stronger U.S. dollar in the next 6-12 months – especially against some its largest and most liquid G10 partners including the Euro and Sterling – could weigh on nominal oil price appreciation. Citi expects continued dollar strength with our FX strategists targeting a 1.25-1.30 level for the EURUSD cross through much of 2012. This implies that in certain local markets, where retail fuel prices are at or are close to all time highs might see some further pain in 2012; this has been compounded by the removal of subsidies in some cases

Figure 15. Energy Expenditure as a % of Global GDP and Oil Prices



Source: Citi Investment Research and Analysis

But the low level of spare capacity and the numerous risks to oil supplies make the odds of an oil price spike high wherein prices could move north of $150/Bbl in very quick fashion …

But the low level of spare capacity and the numerous risks to oil supplies make the odds of an oil price spike high. If a major disruption occurred to drive prices higher, for example Iran attempting to block the Straits of Hormuz[1], then they would expect prices to move north of $150/Bbl in very quick fashion. However, they would not be expected to stay there for very long, as that level is simply too much of a burden for the global economy and the result would likely be a global recession, taking oil demand and prices much lower. Given the already fragile state of the global economy (and the equally fragile state of investor sentiment), signs point to the possibility of strong negative feedback loops coming into play — and we would expect a similar outcome (i.e. a global recession) even if the percentage increase in oil prices was lower. Given that oil prices are already close to the pain threshold for the global economy, Citi commodities team thinks that around $120/Bbl is a reasonable estimate of a sustainable ceiling. Currency movements obviously make this a moving target, however, and the strong USD accompanied by high oil prices can make the ceiling lower, and more solid.

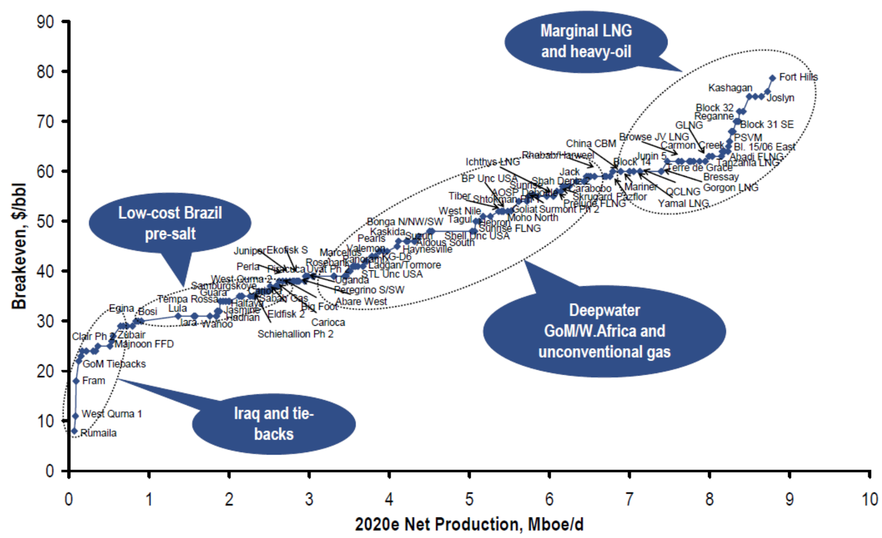
Also, Citi's commodities strategy team assumes that the rate of increase in prices is as much of an issue as the level. A spike, usually associated with a supply disruption (or investor herding behavior, as was the case in 2008), is materially different from a situation in which prices are dragged higher by a robust economy and the resulting robust growth in demand.

[1] Morse, Edward L. "Assessing an Iranian oil disruption" 22 November 2011

On the downside, cost support is a key factor. Below is a chart showing our global energy equities team's cost estimates for oil projects due to come on stream by 2020.

On the downside, cost support is a key factor…

Figure 16. Breakeven Estimations



Source: Citi Investment Research and Analysis

…Where under the assumption that a combination of conservation and a substitution of other energy sources can remove the need for the most expensive final tranche of supplies, the floor would be in the $60-70/Bbl range.

Assuming a conservative 3% decline rate for base production of 82-MMBbls in 2010, implies a replacement requirement of 22-MMB/d by 2020, so the full sum of the potential supply curve is required. If we assume that a combination of conservation and a substitution of other energy sources can remove the need for the most expensive final tranche of supplies, then somewhere in the $60-70/Bbl level looks like cost support. This is in line with current cost levels for Bakken shale production, and we would look to these levels as a sustainable floor for oil prices in the short to medium term, with full recognition that in the event of a banking crisis or some other confidence crushing event, this floor could be overshot to the downside, as occurred in 2008/09.

Beyond supply and demand, oil prices should also be supported by several other factors: geopolitical risks, Russian domestic demand, the rise of the non-OECD, higher macro correlations, and inflation tail risks.

Beyond supply and demand, Citi's commodities strategy team expects oil prices to be supported by several other factors: geopolitical risks, Russian domestic demand, the rise of the non-OECD, higher macro correlations, and inflation tail risks. Citi's views warrant cautious optimism on risk assets (our global equity strategists are targeting a 20% gain in the MSCI AC World equity index, which should be supportive for oil). Monetary expansion would be supportive for commodity prices in general, and Citi is expecting QE3 in the U.S., rate cuts in Europe and a return to an easing cycle in China; and finally geopolitics, which are expected to be a dominant theme in oil markets throughout 2012 and 2013.

Figure 17. Citi Equity Strategy Forecasts

		01-Dec-11	End 2012 Target	Change
US	S&P 500	1245	1375	10%
Pan Euro	DJ Stoxx	238	280	17%
UK	FTSE 100	5489	6200	13%
Japan	Topix	740	980	32%
Australia	S&P/ASX 200	4229	4900	16%
Emerging World	Emerging World	959	1225	28%
World	MSCI AC World	302	360	19%

Source: Citi Investment Research and Analysis

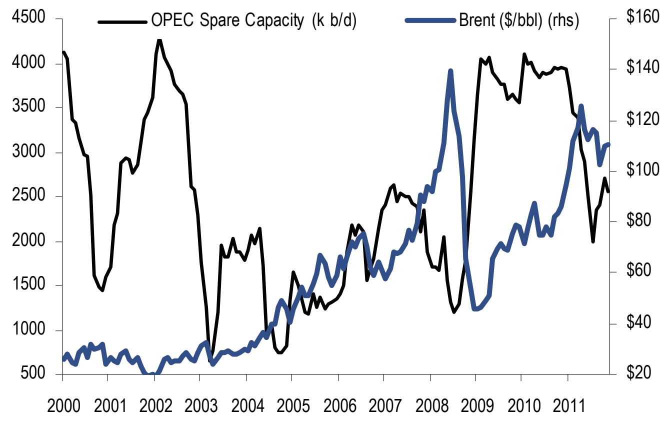
Already options markets are pricing in such factors. The option-implied probability that Dec-12-dated WTI would exceed $100/Bbl by delivery has surged over 50% as of December 8, 2011, up both from the 40% low in October and up year-on-year.

It also appears that the world is currently operating with about 2.5-MMBbls/d of spare production capacity…

It also appears that the world is currently operating with about 2.5-MMBbls/d of spare production capacity. Virtually all of it is in Saudi Arabia, with the rest scattered around other core Gulf OPEC members. Absent any supply disruptions, a marginal increase in spare capacity is expected, but the margin remains so slim and the potential disruptions so numerous that the risks are slanted heavily to the bullish side of the ledger. Tensions between Israel and Iran top the list, but an EU embargo on Iranian oil, sanctions on Syria, succession and the possibility of strife in Saudi Arabia, elections in Venezuela and Angola and ongoing violence in Nigeria and Yemen are on the list but do not complete it. Historically, low spare capacity is unsurprisingly correlated with higher prices.

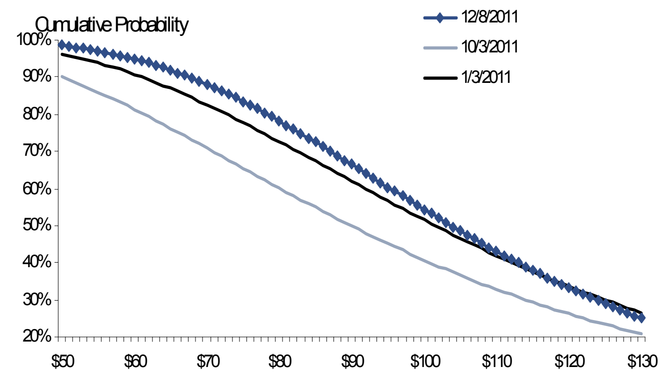
…While historically, low spare capacity is correlated with higher prices.

Figure 18. OPEC Spare Capacity and Brent Oil Price



Source: Bloomberg, OPEC, Citi Investment Research and Analysis

Figure 19. Option-implied probability of Dec-12 WTI exceeding minimum price at delivery



Source: Bloomberg, Citi Investment Research and Analysis

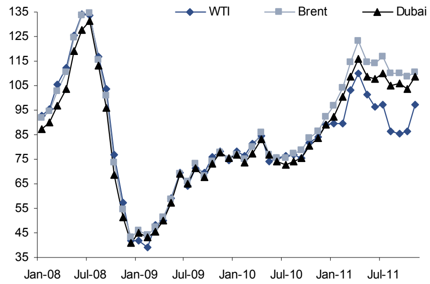
Even in a rapidly deteriorating macro environment, Citi's commodities strategy team believes that the risk of an oil price spike is still significant in 2012.

One of the persistent themes in the oil market has been that we are living through 2008 all over again and that seemingly robust oil market fundamentals are going to give way in the face of a rapidly deteriorating macro environment. Citi's commodities strategy team is looking at the world rather differently, and instead thinks that oil poses a significant threat to the macro environment. The redundancy in the system is slim, and the threats to supply are many. They examine the long list of geopolitical issues that the world will have to contend with in their report and think that so many of them involve significant threats to significant portions of the world's oil supply, that the risk of an oil price spike is significant in 2012.

Meanwhile, 2011 has seen several key themes in the oil market come to full fruition…

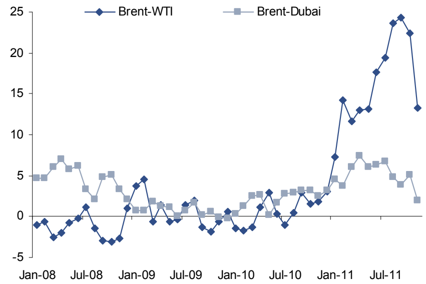
Meanwhile, 2011 has seen several key themes in the oil market come to full fruition. WTI has been under pressure since the Spearhead pipeline pushed Cushing into regular periods of oversupply back in 2006, but only really dislocated from global oil markets this year. The announcement in November that the Seaway pipeline was getting reversed brought WTI back within $10/Bbl of Brent, given the deferred 'arbs' are narrower we think that is within the range of fair value for now, and sets a floor until robust pipeline takeaway capacity is available. The removal of Libyan barrels from the market took Brent into severe backwardation, and spreads are only now easing as Libyan production returns.

Figure 20. Crude Prices



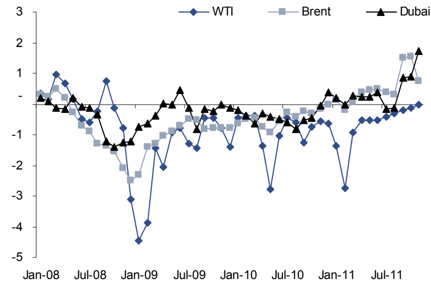
Source: Citi Investment Research and Analysis

Figure 21. Benchmark Differentials



Source: Citi Investment Research and Analysis

Figure 22. Benchmark Spreads



Source: Citi Investment Research and Analysis

…With Brent price backwardation here to stay, absent a real economic meltdown.

Brent spreads have been the key driver for moving the entire oil complex into backwardation, and they remain critical to the outlook for spreads in both crude and products across all regions. Brent backwardation looks here to stay, absent a real economic meltdown.

Finally, in response to the Arab Spring, Saudi Arabia spent almost $100 billion on social programs, which has raised the break even for the Saudi budget to about $90/Bbl (Brent) for 2012.

Finally, Saudi Arabia has the capacity and will to pull back on production to keep the market fairly tight and prices supported. In response to the Arab Spring, Saudi Arabia spent almost $100 billion on social programs, which has raised the break even for the Saudi budget to about $90/Bbl (referencing Brent) for 2012, according to the Institute of International Finance. Citi's commodities strategy team's forecast assumes that Saudi Arabia looks fairly comfortable in 2012 and 2013. But they also assume that Saudi will have to curtail output if they want to keep the market fundamentally supported, but the volumes they will need to take off the market should not be overly problematic.

…While Lowering Our Sights On Natural Gas Prices Near Term

Due to the extremely warm start to this winter along with continued growth in production, we lowering our 2012 composite spot natural gas price forecast to $3.85/MMBtu.

We are lowering our 2012 composite spot natural gas price forecast to $3.85/MMBtu from $4.35/MMBtu due to the extremely warm start to this winter along with continued growth in production. At the same time, our 2013 projection falls to $4.35/MMBtu from $4.50/MMBtu while our longer-term "normalized" price remains $5.25/MMBtu. Beyond 2013, our price forecasts are unchanged. Since the start of November through the first week of December, which accounts for ~20% of a normal winter's total weighted heating degree days (HDDs), this winter has so far been ~11% warmer than the ten-year average. As a result, this month started with a ~100Bcf year-over-year storage surplus. Importantly, Street consensus for 2012, although continuing to drop, is still ~$4.54/MMBtu implying consensus estimates for the more gas-leveraged names still have material downside.

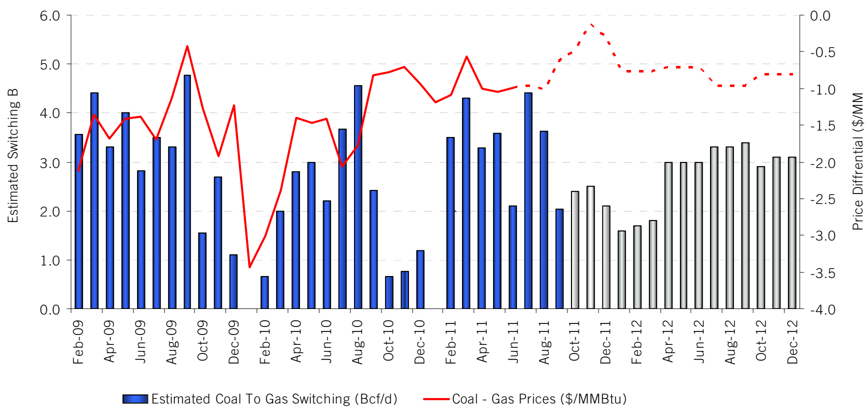
A key variable in our price determination is the level of coal-to-gas switching that is required to absorb excess domestic natural gas supply…

A key variable in our price determination is the level of coal-to-gas switching that is required to absorb excess natural gas supply so that storage does not exceed "full" heading into winter. We estimate coal-to-gas switching boosted electric generation demand by ~0.6 Tcf in 2010 and will total ~1.0 Tcf in 2011. The much higher level this year versus 2010 was primarily due to the year-over-year rise in domestic production (~4.4 Bcf/d on average) outpacing the increase in demand (~1.6 Bcf/d). Next year, based on our current assumption of normal weather going forward, we project that coal to gas switching will total around 1.0 Tcf. Our lower price forecast relative to 2011, wherein coal to gas switching was about the same level and the composite spot price is expected to average $4.00/MMBtu, is in part the result of a lower coal price outlook ($73/ton Central Appalachia in 2012 versus $77/ton in

2011). Thus, one area of potential upside to our forecast, apart from other variables, is if coal prices end up being much higher than currently projected. We would also note that apart from the aforementioned coal to gas switching, we are projecting a 1.0 Bcf/d increase in demand next year as result of the new CASPR SO2 rules.

…Which is now projected to total nearly 1.0 Tcf again in 2012.

Figure 23. Estimated Coal-to-Gas Switching vs. Gas-Coal Differential ($/MMBtu)



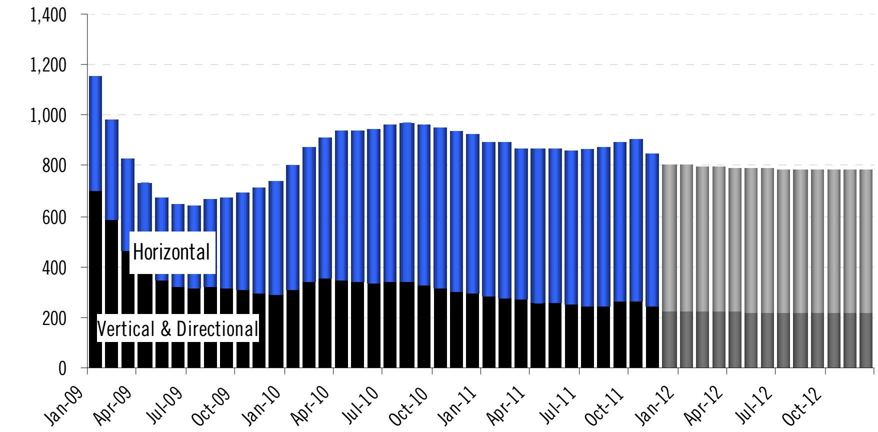
Source: Citi Investment Research and Analysis

Total U.S. natural gas production is projected to increase ~1.3 Bcf/d, on average, in 2012 following a ~5.5 Bcf/d uptick this year…

Overall, we project total U.S. natural gas wellhead output will average 70.5 Bcf/d in 2012, or an increase of 1.3 Bcf/d over this year, driven by a 1.8 Bcf/d rise in domestic onshore production partially offset by a continued decline in offshore Gulf of Mexico production. Thus, we expect onshore production growth to slow versus this year wherein it grew by ~5.5 Bcf/d. The projected sharp drop in production growth is driven by the drop in domestic gas rigs over the past 2 months as the 12-region composite spot cash natural gas price dropped to a two-year low. The total domestic gas rig count peaked at 936 in October but has since dropped by 116 over the past six weeks. Thus, at 820, the *total* domestic natural gas rig count is now at a 2011 low and is also 172 below the post-2008 high in the summer of 2010. This recent drop back to early 2010 levels has occurred as producers have accelerated the shift towards liquids-rich or oil plays in the face of collapsing natural gas prices. Looking ahead, we expect the *onshore* domestic natural gas rig count to drop to around ~780 based on our natural gas price forecast and as companies increasingly focus on oil and liquids-rich plays and move rigs away from some dry gas regions that are now held by production.

…Largely underscored by a slow down in onshore natural gas drilling activity…

Figure 24. U.S. Natural Gas Rig Count

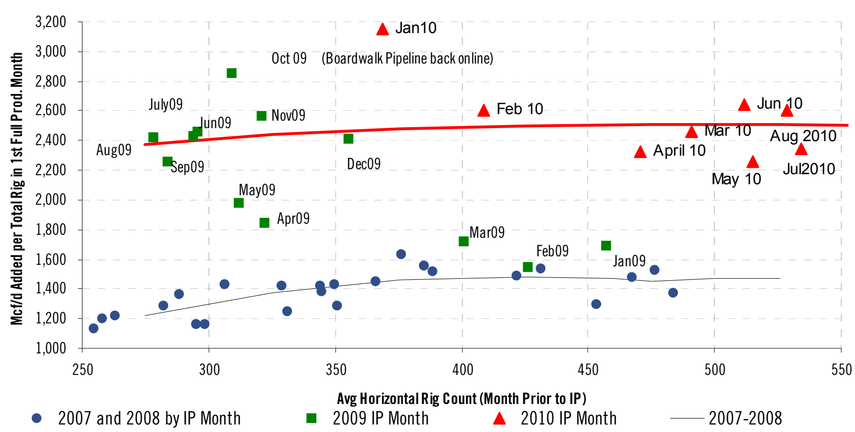


Source: Baker Hughes, Citi Investment Research and Analysis

Meanwhile, as producers continue to reduce spud-to-spud times, drill longer laterals with more frac stages and optimize completion techniques, production added per rig, or rig efficiency, has continued to improve. The September EIA data appeared to indicate an improvement in rig efficiency although this may have more to do with the surge in associated gas production from oil wells as the U.S. oil rig count continued to climb. We would note that the flattening of this curve as we have modeled it in Figure 25 at this juncture might still prove conservative given the continued improvements in rig efficiencies this year. However, we have assumed that an ongoing mix shift change as activity moves to more liquids-rich play will offset the continued improvements in rig efficiencies. Our proprietary rig efficiency curve remains unchanged at this juncture although we will continue to monitor data points for any further indication of overall efficiency changes.

…With overall rig efficiency assumed to remain flat as the ongoing mix shift change to more liquids-rich plays is offset by the overall continued improvements in rig efficiencies and continued uptick is associated gas from an increase in oil drilling.

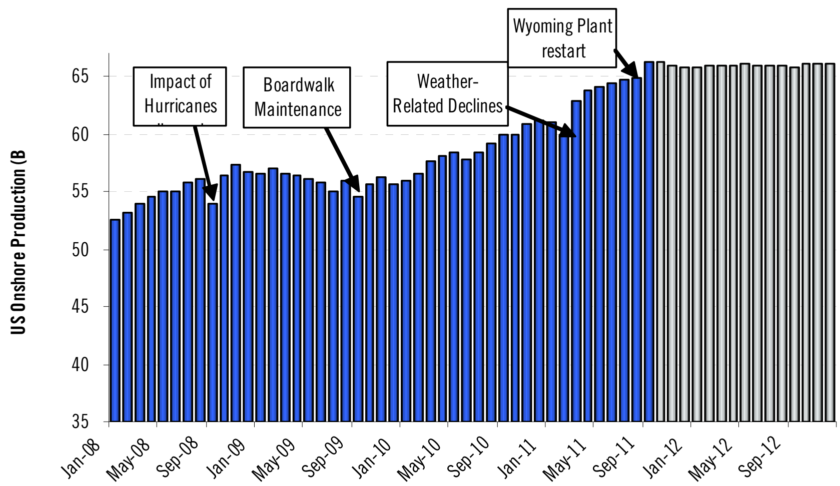
Figure 25. 2007-2010 Rig Efficiency



Source: HPDI, Baker Hughes, Citi Investment Research and Analysis

Our projection for U.S. onshore natural gas production in 2012 to average slightly higher than this year is more likely conservative at this juncture than overstated, especially if natural gas prices turn out to be stronger than our revised forecast.

Figure 26. U.S. Onshore Natural Gas Production



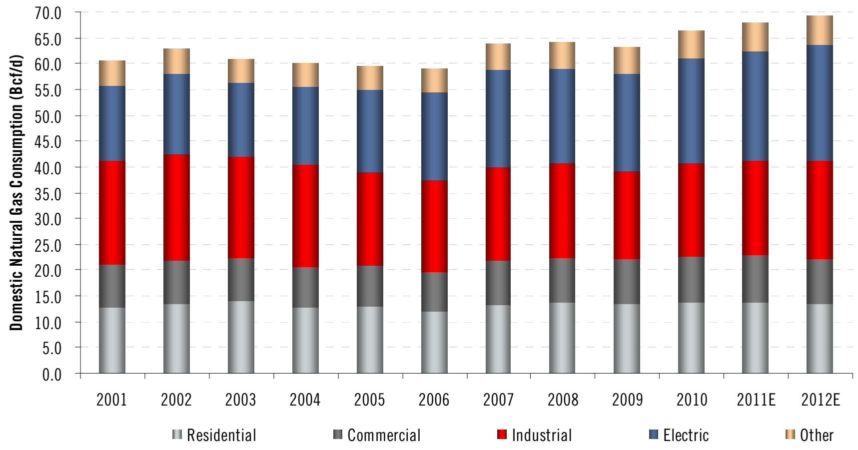
Source: Citi Investment Research and Analysis

On the demand side of the equation, we project a ~1.6 Bcf/d total increase next year…

On the demand side of the equation, based on normal weather next year, we project a ~1.6 Bcf/d increase in 2012. However, every 1% variation in first quarter 2012 weighted temperatures would change our full-year average demand projection by nearly 0.1 Bcf/d.

…With the assumption of normal weather next year resulting in a 0.3 Bcf/d drop in residential plus commercial demand…

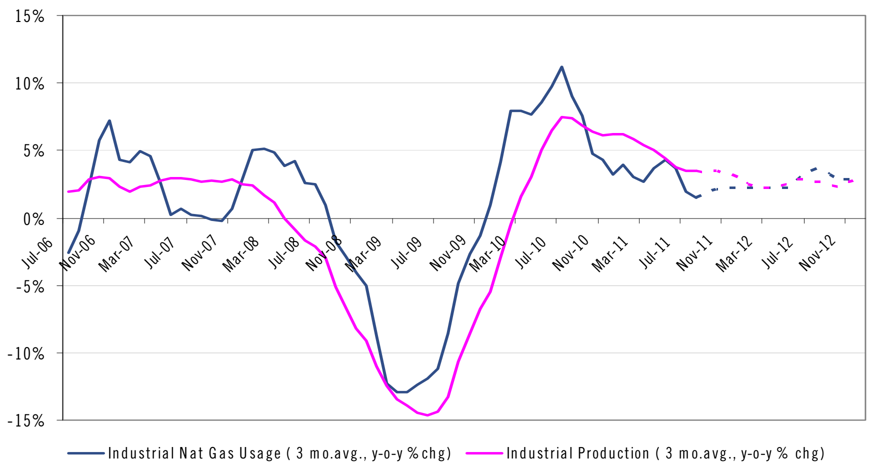
Figure 27. U.S. Natural Gas Consumption by Sector



Source: Citi Investment Research and Analysis

Based on CIRA's 2.8% U.S. Industrial production growth forecast for next year, we project U.S. industrial natural gas demand will increase by ~0.5 Bcf/d or ~2.5% in 2012, following the 0.5 Bcf/d or ~2.6% uptick this year concurrent with roughly 3% IP growth. See our December 8th, 2011 note: Natural Gas Weekly - 2012 Projected U.S. Industrial Gas Demand Growth Still ~0.5 Bcf/d

Figure 28. Industrial Natural Gas Usage vs. Industrial Production (YoY change)



Source: Citi Investment Research and Analysis

…But with a ~0.5 Bcf/d uptick in industrial demand based on CIRA's 2.8% U.S. IP growth forecast in 2012…

Meanwhile, natural gas and coal combined account for roughly two-thirds of U.S. electric generation while total generation, apart from seasonality, is most closely correlated to U.S. IP growth. As shown in Figure 29, natural gas as percentage of total generation rose from 21.4% in 2008 to 23.3% in 2009 when coal-to-gas switching first occurred. This year, based on weather so far, coal-to-gas switching levels will again need to rise to absorb even greater excess supply and therefore we forecast the natural gas share of total generation to increase to 25%.

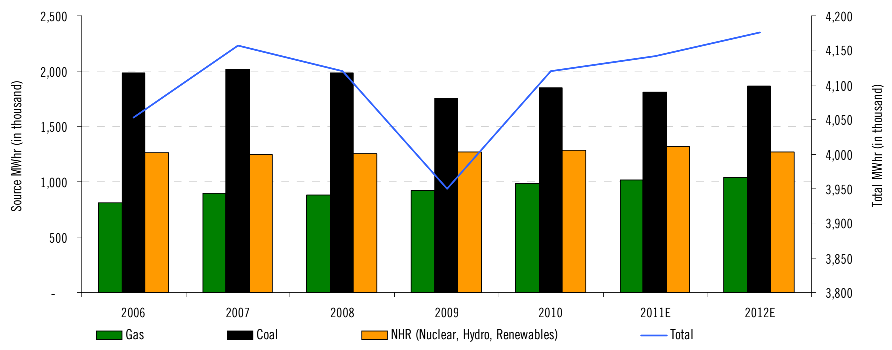
…And a 1.0 Bcf/d increase as a result of the EPA's new CSAPR SO2 rules…

However, looking forward into 2012, our utilities team estimates that coal emissions rules effective January 1, 2012, will result in at least 1.0 Bcf/d of additional natural gas demand. As this is a secular shift, i.e. independent of the short-term swings in coal and natural gas prices, we do not consider this extra amount as part of our coal to gas switching projections. We note that this additional demand is a result of the EPA's Cross State Air Pollution Rule (CSAPR) which is aimed at SO2 emissions from coal-fired power plants.

…Which is incorporated in our projected total 1.8 Bcf/d increase in power generation demand for natural gas…

Thus, we project "pure" coal-to-gas switching in 2012 will remain at levels similar to this year, averaging 2.8 Bcf/d (Figures 23), with the share of natural gas in total electric generation remaining at around 25%. Further, as the level of hydro-power generation is purely weather-driven, and given that we assume normal weather going forward, we project natural gas will regain the market share lost to hydro, which, net of a return to normal nuclear generation, we estimate will add ~0.7 Bcf/d to demand for natural gas from the electric power sector in 2012. Thus, combined with 2.8 % IP growth, we expect electric utility demand for natural gas to increase by 1.8 Bcf/d, or 7%, next year.

Figure 29. Generation (MWHr) By Source



Source: Citi Investment Research and Analysis

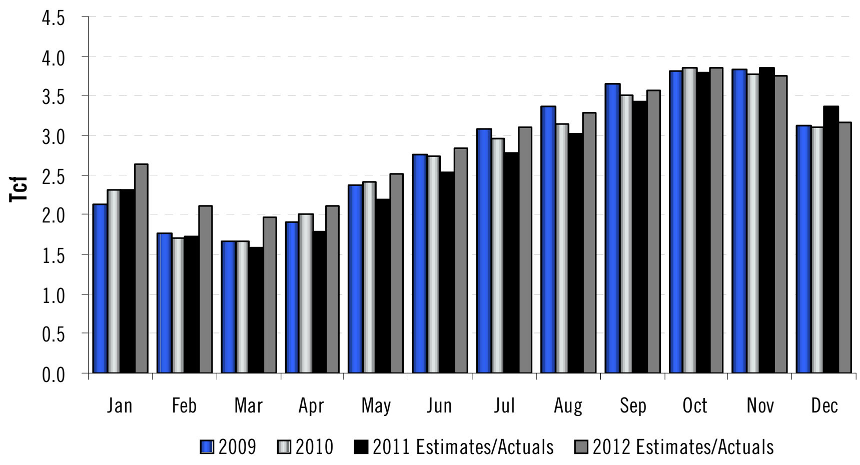
…With coal to gas switching remaining the effective "clearing mechanism" for continued excess supply.

Therefore, with coal to gas switching remaining the effective "clearing mechanism" for continued excess supply, the net result is that our models assume that storage will once again reach "full" heading into next winter.

For a more detailed discussion of our assessment of the U.S. natural gas supply/ demand fundamentals, please see our September 13, 2011, report: 2011 Natural Gas Price Summer Wrap-Up and Outlook

One key factor to keep in mind for 2012, despite a lower level of excess supply versus this year, is that domestic storage levels are projected to start the year nearly 300 Bcf higher than at the beginning of this year.

Figure 30. Gas Working Underground Storage (Bcf)



Source: Company Reports, Citi Investment Research and Analysis

Key Trends For The E&P Sector In 2012 -

Liquids Growth Poised To Outpace North America Natural Gas Production Rise…

For our coverage group, liquids growth in 2012 is pegged at 23%, on average, versus 13% this year, with North America natural gas volumes up ~6% versus an uptick of ~4% this year.

Total production growth for our E&P coverage group is expected to average 14% next year, a sharp increase from the 7% uptick projected for this year. However, 2011 output was constrained by maintenance work in the North Sea for Nexen and Talisman, the Horizon plant shutdown for Canadian Natural Resources, as well as non-core asset sales by Denbury and Rosetta Resources. Meanwhile, producers are continuing to counter the weak natural gas price environment by shifting a greater portion of their capital and effort towards the oil and liquids rich plays. Thus, liquids output is expected to increase by 23%, on average, versus 13% this year while contributing two-thirds of total output growth versus one-half of total growth this year. On the other hand, North America natural gas production for our coverage group is currently projected to increase ~6% in 2012 versus just ~4% this year driven primarily by higher growth in the Marcellus by Range Resources, Ultra and Noble Energy. ***The following companies have the highest percentage of total growth coming from liquids next year:***

- ***Rosetta Resources -*** output is expected to grow by more than ~40%, with most of this growth coming from liquids, as the company completed non-core asset divestitures this year and plans to aggressively ramp up activity in the Eagle Ford shale next year.

- ***Canadian Natural Resources –*** total output is expected to grow 17% largely driven by Horizon operating at full capacity followed by sharp upticks in Canadian Light and Primary Heavy Oil which will be slightly offset by declines in the North Sea and Offshore Africa production.

- ***EOG Resources -*** output is expected to be up 11% versus this year, with the growth entirely driven by domestic liquids, with the Eagle Ford expected to remain the company's single largest growth asset, and the Bakken and Barnett Combo accounting for much of the balance of the growth.

- ***Noble Energy -*** production growth will be driven primarily by the Niobrara and Marcellus and the Galapagos project in the deepwater Gulf of Mexico. West Africa volumes are projected to rise year-over-year due to contribution from Aseng offshore Equatorial Guinea. Three-quarters of 16% total production growth nest year is expected to be liquids.

- ***Chesapeake -*** liquids output should increase by more than 70% next year, with liquids accounting for nearly one-quarter of total production, up from just 16% this year. The liquids-rich Anadarko Basin is projected to account for roughly one-quarter of company-wide growth, with the Eagle Ford and the Permian Basin adding nearly 20% each.

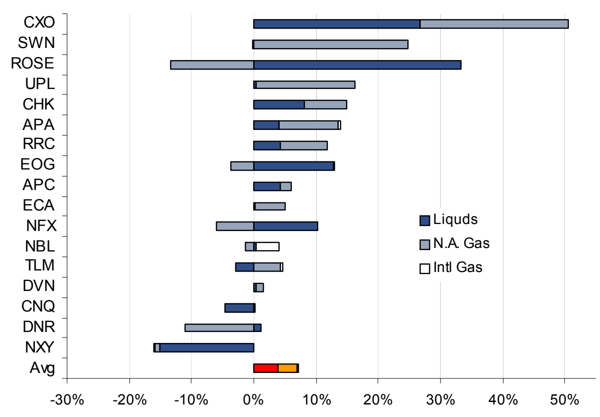
- ***Concho Resources –*** total19% production growth next year will be driven by the recently expanded Delaware Basin Bone Spring play in the Permian, with two-thirds of the growth coming from liquids.

- ***Denbury Resources -*** Bakken and tertiary oil recovery are expected to be the main drivers of production growth with liquids expected to comprise ~95% of total output next year.

- *Newfield Exploration* – total 10% production growth entirely driven by liquids. Output from Malaysia's East Piatu field and from the Gulf of Mexico Pyrenees field being online for the entire year, adding ~5% and ~3%, respectively, to production upon start-up, while Uinta Basin will also add ~4% to 2012 production growth. Offsetting this growth will be natural declines across the asset base, particularly in the offshore Gulf of Mexico.

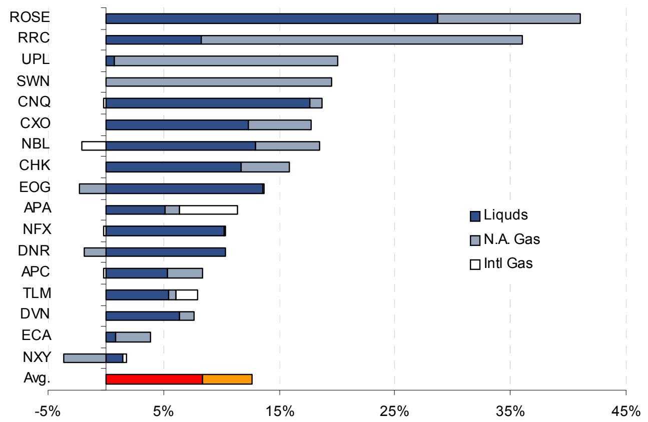
- *Range Resources* – almost a quarter of 36% total output growth will be liquids. Total output growth driven primarily by the Marcellus play, augmented to some extent by increases in Range's Midcontinent areas, such as the Mississippian Lime and St. Louis formation, and offset by the sale of the Barnett in early 2011.

Figure 31. 2010-11 Total Production Growth by Company



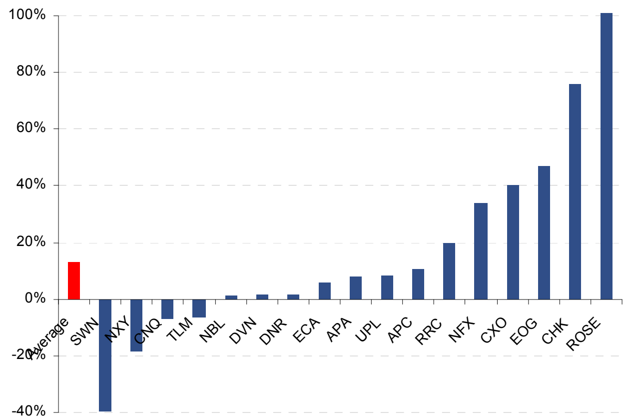
Source: Citi Investment Research and Analysis

Figure 32. 2011-12 Total Production Growth by Company



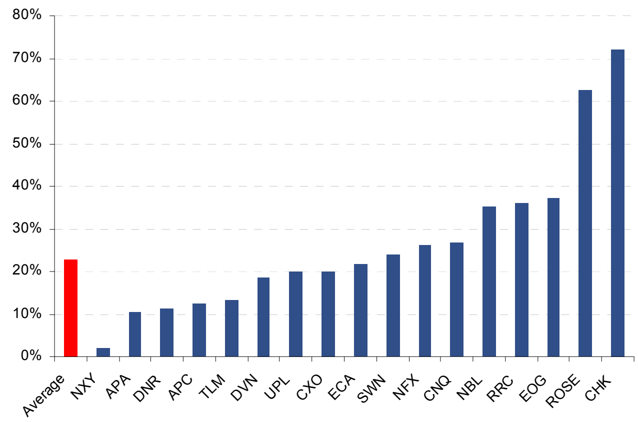
Source: Citi Investment Research and Analysis

Figure 33. 2010-11 Liquids Growth by Company



Source: Citi Investment Research and Analysis

Figure 34. 2011-12 Liquids Growth by Company



Source: Citi Investment Research and Analysis

While most producers have largely shifted towards oil and liquids development, some companies still have notable North America natural gas output growth, as lower per

well costs and greater rig efficiencies have supported margins despite weak prices. Output in certain high margin gas developments such as Marcellus and Fayetteville is expected to increase as well, however growth should be challenging in a sub-$4.00/MMBtu natural gas price environment. ***The following companies will significantly increase their Marcellus and Fayetteville output next year:***

- ***Noble Energy -*** should also benefit from a rise in production from the Marcellus shale as North American gas output is expected to grow by 19% next year following their joint venture with Consol Energy earlier this year.

- ***Range Resources –*** domestic natural gas output is expected to grow by 36%, largely driven the Marcellus shale which is expected to grow by *50%+* to exit next year at 600 MMcf/d

- ***Southwestern Energy -*** output is expected to grow 20% on the back of ramp-up in Fayetteville, while Marcellus should also contribute meaningfully to output growth next year. Natural gas is projected to continue accounting for virtually 100% of Southwestern's output

- ***Ultra Petroleum –*** natural gas output next year is expected to be up 20% again driven by the Marcellus shale, as opposed the Uinta Basin this year, where production is expected to double. Natural gas is projected to continue to account for 97% of Ultra's output

Associated natural gas volumes from liquids rich developments should also add to natural gas supply:

- ***Concho Resources -*** will also have significant 14% associated gas growth in the Permian as total output is poised to rise 19% next year.

- ***Chesapeake Energy -*** associated gas from Anadarko Basin, Eagle Ford and Permian developments in addition to continued growth in the Marcellus will drive more than 5% gas output growth next year. This will be slightly offset by a drop in the Fayetteville, where CHK sold its entire stake earlier this year, and a slowing of drilling activity in the Haynesville shale.

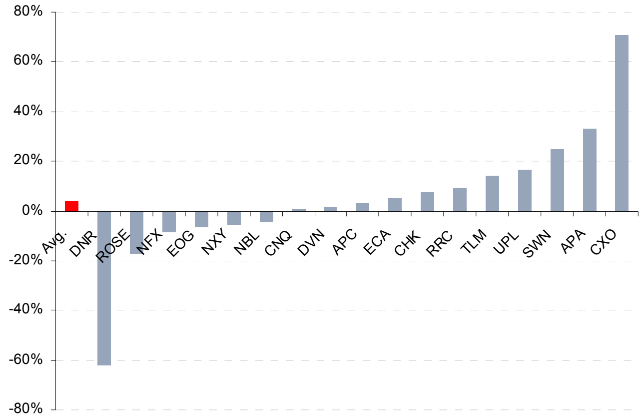
- ***Rosetta Resources –*** 23% of natural gas output growth should be driven by the rapid expansion in the liquids rich Eagle Ford shale. Rosetta's overall production should grow by 41% with liquids comprising 53% of output vs. 46% this year.

However, not every company is expected to increase their gas output next year:

- ***EOG Resources –*** domestic natural gas output is expected to decline 3% in 2012 as drilling in the dry-gas Haynesville and Marcellus plays has been minimized to just satisfy lease retention requirements. This should be slightly offset by the growth in the associated gas output from the Barnett Combo and the Eagle Ford shale plays.

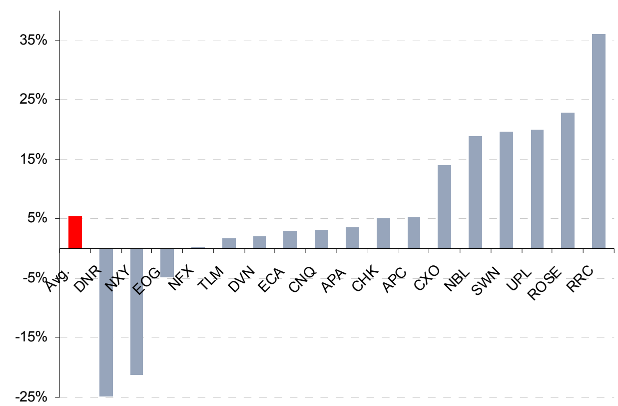
- ***Nexen Inc. –*** North America natural gas output should be driven by the farm out of an interest in Horn River to Inpex announced earlier this month

Figure 35. 2010-11 North America Natural Gas Output Growth



Source: Citi Investment Research and Analysis

Figure 36. 2011-12 North America Natural Gas Output Growth



Source: Citi Investment Research and Analysis

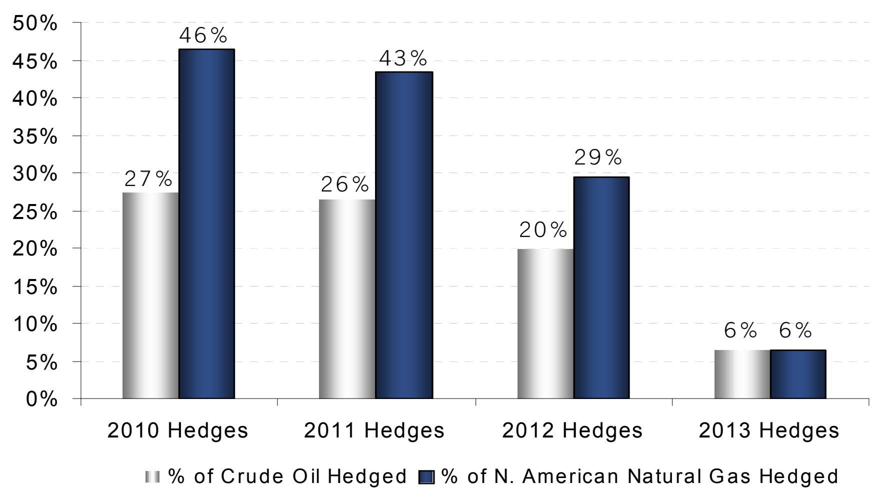
…Hedging Is Less Prevalent Next Year…

At this juncture, companies in our coverage group have far less of their projected production hedged for 2012 versus this year…

Meanwhile, North America natural gas volumes hedged in 2012 by our coverage group currently equate to just under one-third of projected North American natural gas output, and only 6% of projected gas production in 2013, a sharp drop from ~43% of this year's projected gas production having been hedged. While earlier this year, E&P companies in our coverage universe were still adding natural gas hedges for 2012-2013, the recent weakness in natural gas strip prices has hindered their willingness to hedge additional volumes. In fact, at this juncture one year ago, our coverage group had 35% of projected natural gas production hedged but ended up with 43% hedged as of the end of the third quarter (see Figures 37 and 38). At this point, we don't expect the 29% level of 2012 projected natural gas production hedged to increase much given current forward NYMEX strip prices which for 2012 is currently \$3.80/MMBtu and for 2013 is at \$4.41/MMBtu.

…While the hedging of additional natural gas volumes for next year is unlikely unless natural gas prices get a sharp boost from Mother Nature this winter…

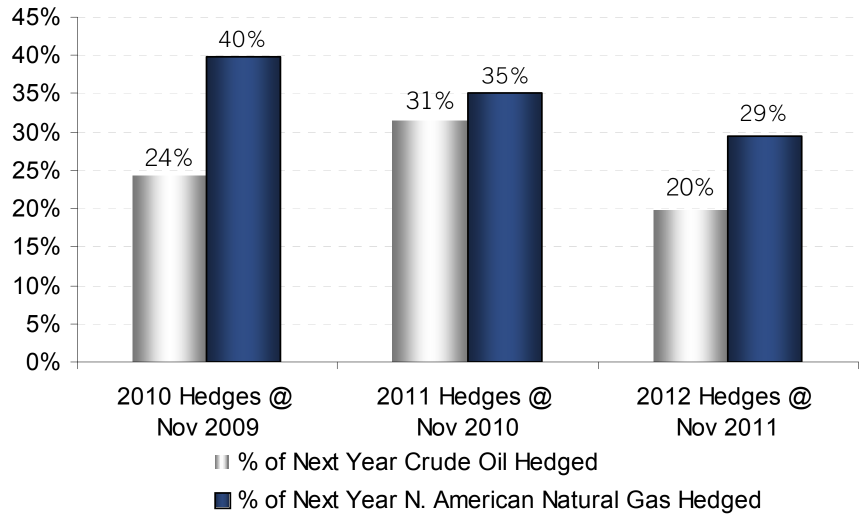
Figure 37. E&P Coverage Group Average Production Hedged in 2010-2013



Source: Company Reports, Citi Investment Research and Analysis

…Wherein companies had only 35% of projected 2011 natural gas production hedged at this time one year ago.

Figure 38. Ensuing Year Production Hedges



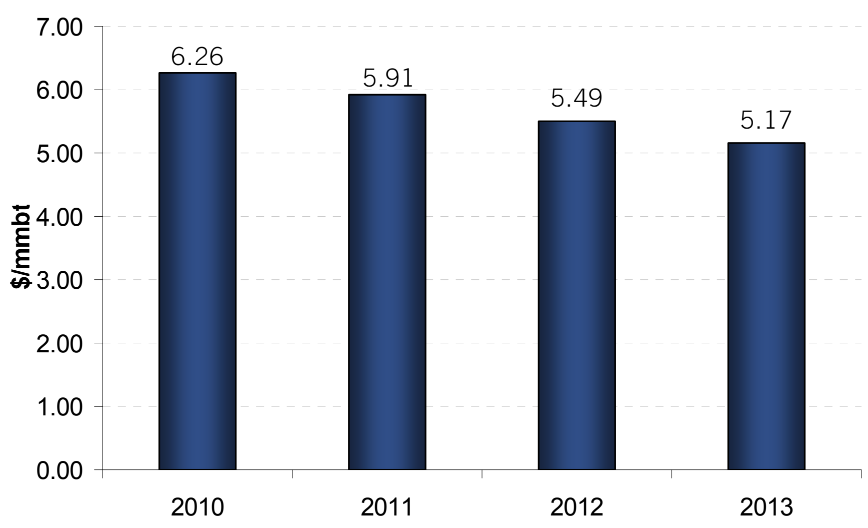
Source: Company Reports, Citi Investment Research and Analysis

In addition, the average swap or collared floor price continues to drop…

In addition to lower natural gas volumes being hedged, producers are securing contract terms at generally lower natural gas prices versus last year. While most of the 2011-2012 hedged volumes were contracted for in 2010 and 2009 at more attractive forward prices, the most recent additions for 2012 and 2013 have been entered into at much lower prices of around ~$4.50/MMBtu. This in turn has resulted in lower average swap and collar floor prices for North American natural gas prices for the companies in our universe from $5.91/MMBtu in 2011 to $5.49/MMBtu in 2012 and $5.17/MMBtu in 2013 (see Figure 39).

…And is now ~$5.50/MMBtu for next year and $5.17/MMBtu in 2013, down from $5.91/MMBtu this year, and while companies continue to use premiums received on call options in outer years to augment this effective price.

Figure 39. E&P Coverage Group – Average Floor Prices for Swap and Collar Hedge Contracts



Source: Company Reports and CIRA Estimates

As a result, and based on our current $3.85/MMBtu forecast for 2012, hedging gains should drop to ~$3.8bn versus ~$5.2bn this year based on a $4.00/MMBtu natural gas price.

As a result of lower average hedge contract volumes and prices in 2012, we expect net pre-tax realized natural gas hedging gains to drop to ~$3.8 billion next year from nearly $5.2 billion in 2011, which equates to ~5% of our projected after-tax operating cash flows. This also assumes our lower 2012 spot natural gas price forecast of $3.85/MMBtu versus $4.00/MMBtu this year. At the current 2012 NYMEX strip price of ~$3.80/MMBtu, the hedging gains for our coverage group would increase to roughly $3.9 billion, or ~5% of projected operating cash flows, on average. However, this proportion remains markedly higher for the more gas-levered names. ***The following companies have the greatest proportion of their 2012 natural gas production hedged:***

- ***Anadarko Petroleum –*** *has* protected 41% of next year's natural gas volumes at an average swap price of $4.61/MMBtu which should result in a ~$300 million uplift to upstream operating cash flow.

- ***Chesapeake Energy -*** remains virtually unhedged on the gas side going forward after it elected to lock in the gains on its contracts a few months ago (before the sharp drop in natural gas prices).

- ***Devon Energy –*** currently has hedged ~31% of its 2012 projected natural gas production and should thus post a gain of ~$300 million next year based on our commodity price forecast.

- ***EnCana Corp. -*** has hedged ~58% of its 2012 projected natural gas production versus 51% this year. At an average swap price of $5.80/MMBtu, these hedges are expected to register a gain of $1.4bn at our $3.85/MMBtu full-year forecast, or equal to 36% of our total 2012 projected after-tax operating cash flow. EnCana remains exposed in 2013, however, with only 14% of volumes hedged at an average price of $5.24/MMBtu.

- ***EOG Resources -*** has hedged ~34% of next year's projected natural gas output, but it has also sold calls on nearly 30% of projected production which adds ~$300 million to the upstream operating cash flow based on our current forecasts.

- **Newfield Exploration -** has hedged 44% and 30% of its projected natural gas production for 2012 and 2013 respectively, which should result in increases to cash flows of $107million and $58 million, respectively.

- ***Noble Energy -*** currently has ~31% of its 2012 projected natural gas production hedged versus ~56% of this year's volumes, which should add ~$73 million to operating cash flow.

- ***Range Resources -*** has also hedged ~45% of next year's projected natural gas production which should add 10%, or ~$110 million, to total operating cash flow for the year.

- ***Southwestern Energy -*** has hedged 44% of projected 2012 volumes which should contribute ~$420 million, or equate to ~20% to operating cash flow next year. Management is still hoping for winter price spikes to provide an opportunity for additional hedging. However, it has only 27% of volumes hedged in 2013.

- ***Ultra Petroleum -*** has hedged 45% of projected 2012 natural gas volumes which adds ~$140 million, or a 14% uplift, to total operating cash flow.

Figure 40. Projected Hedging Gains

	2012E				2013E			
	Projected Gas Hedging Gains (Losses) ($MM)	Projected Oil Hedging Gains (Losses) ($MM)	Estimated After Tax Operating ($MM)	Projected Hedging Gains % of CF	Projected Gas Hedging Gains (Losses) ($MM)	Projected Oil Hedging Gains (Losses) ($MM)	Estimated After Tax Operating ($MM)	Projected Hedging Gains % of CF
APC	289	(0)	7,705	4%	99	0	9,850	1%
APA	186	153	11,867	3%	0	0	13,850	0%
CNQ	0	0	8,948	0%	0	0	11,384	0%
CHK	400	(109)	4,242	7%	21	(371)	6,512	-5%
CXO	1	(70)	1,374	-5%	0	(139)	1,836	-8%
DNR	20	(1)	1,421	1%	0	(0)	1,898	0%
DVN	294	22	5,921	5%	0	(128)	7,097	-2%
ECA	1,427	0	4,006	36%	162	0	3,748	4%
END	(3)	(0)	112	0%	(18)	(1)	284	-7%
EOG	296	26	6,068	5%	0	0	7,787	0%
NFX	107	0	1,828	6%	58	(12)	2,275	2%
NXY	0	0	3,240	0%	0	0	4,347	0%
NBL	73	(47)	3,045	1%	0	(16)	3,571	0%
RRC	106	(11)	978	10%	40	0	1,489	3%
ROSE	9	0	475	2%	0	0	698	0%
SWN	418	0	2,086	20%	122	0	2,402	5%
TLM	0	0	4,571	0%	0	0	5,511	0%
UPL	139	0	1,014	14%	0	0	1,210	0%
Aggregate	3,761	(37)	69,544	5%	485	(668)	86,686	0%

Source: Company Reports, Citi Investment Research and Analysis

On the oil side, only ~20% of projected oil volumes have been hedged although we expect this to have increased during the current quarter.

Meanwhile, several companies have hedged large portions of projected oil volumes. Oil volumes hedged in 2012 by our coverage group currently equate to just 20% of projected oil output, and only 6% of projected gas production in 2013, a sharp drop from ~26% of this year's projected oil production having been hedged. Overall, fewer companies hedge their oil production as extensively as natural gas. ***The following companies have the greatest proportion of their 2012 crude oil production hedged:***

- ***Chesapeake Energy -*** could post a ~$100 million loss next year on oil calls it sold based on our revised oil price forecast.

- ***Concho Resources -*** remains the most oil hedged name in our coverage group with 65% of projected oil volumes next year sold at an average price $93.85/Bbl, which would actually result in a $70 million loss based on our revised oil price forecast.

- ***Newfield Exploration -*** has hedged 52% of its projected oil volumes next year with $83/Bbl- $111/Bbl collars.

- ***Rosetta Resources –*** has hedged ~56% of its projected 2012 oil output down from ~61% this year. However, we don't expect material hedging losses given its contracts are primarily $76/Bbl-$113/Bbl collars next year.

Capital Spending Gap Set To Close…

In 2011, total capital expenditures by our coverage group should be ~$80bn, including $11bn for asset and leasehold acquisitions…

…While just E&D spending should equate to ~115% of our operating cash flow projections….

In 2011, we expect our coverage group to have total capital expenditures of roughly $80 billion, including $11 billion for asset and leasehold acquisitions. This will exceed our projected operating cash flows of ~$60 billion by ~33%. Excluding CHK (2011 capex of $12.1bn vs. projected cash flow of $3.9bn), capital budgets should average ~121% of projected cash flows. Also, if we include just E&D capital outlays for all companies, then E&D budgets will equate to 115% of our projected operating cash flows. Thus, the large outspend versus operating cash flow is predominantly driven by asset and acreage acquisitions although this has been largely funded by non-core asset sales this year.

…While the financing gap for the asset and leasehold acquisitions was more than covered by non-core asset sales and upfront cash payments under joint venture agreements.

Notably, nearly all of the companies in our coverage group are expected to spend more than the cash flow they generate this year, with just APC, APA and CNQ staying within cash flow. But the financing gap should be covered with asset sales (APA, CHK, DNR, DVN, EOG, ECA and RRC), up front cash joint venture proceeds (CHK, TLM), equity issuances (EOG, END), available credit facilities and cash on hand. Asset sales were the most popular option this year, with 12 of the 20 producers opting to divest properties. For our coverage group, more than $18bn in assets were sold in 2011, covering nearly all of the total estimated budget gap. Utilizing or expanding available credit lines was the second most common option, while only a few companies relied on equity issuances to finance a portion of their capital spending.

At this juncture, total projected capital budgets are expected to equate to 105% of operating cash flows although we don't model asset acquisitions or sales until announced.

Looking to next year at this juncture, total projected capital budgets are expected to be just 105% of operating cash flows and fall to 97% of projected cash flows if we exclude CHK from the calculation. But keep in mind that we do not model acquisitions or asset sales unless they have already been announced. Growing oil and liquids production, coupled with higher oil prices is projected to drive operating cash flows higher, helping to offset the expected decline in natural gas prices. Thus, we expect spending to be within operating cash flows for 8 of the 20 companies in our coverage group (APC, APA, CNQ, CXO, DNR, ECA, NFX and NXY and TLM).

Overall, after-tax operating cash flow for our coverage group is projected to be up nearly 20% next year.

Overall, we expect after-tax operating cash flow for our coverage group to be up nearly 20% in 2012 driven by a 23% increase in oil/liquids production, 6% increase in North America natural gas volumes and a 3% uptick in international gas volumes. Concurrently, we now forecast a 5% increase WTI crude oil prices but a 4% drop in composite spot natural gas prices.

Figure 41. 2011 Cash Flow vs. Capex

	2011E								
	Total Capital Budget ($MM)[1]	After Tax Operating Cash Flow ($MM)[2]	Capital Budget % of CF	Funding Surplus (Gap) $MM	Funding Sources ($MM) Asset Sales	JV's	Equity Issuance	Planned Funding Sources	2011 Remaining Funding Surplus (Gap) $MM
Anadarko Petroleum (APC)	6,178	7,032	88%	854	0	0	0		854
Apache Corporation (APA)	9,552	10,161	94%	609	1,000	0	0	Plan $1B of non-core N.A. conventional assets sale	1,609
Canadian Natural Res. (CNQ)	6,031	6,276	96%	245	0	0	0	$2.8 Bn available under revolving credit facility	245
Chesapeake Energy (CHK)	12,136	3,947	307%	(8,189)	8,090	570	0	Sold multiple assets this year (Fayetteville, Utica JV)	471
Concho Resources (CXO)	1,377	1,138	121%	(239)	196	0	0	Sold Bakken for $196mm, ample revolver availability	(43)
Cobalt International Energy (CIE)	NM	NM	NM	NM	NM	NM	NM		NM
Denbury Resources (DNR)	1,680	1,360	124%	(320)	29	0	0	Funding cap funded via revolver	(291)
Devon Energy (DVN)	7,704	5,924	130%	(1,780)	3,200	0	(3,500)	Has $6.7bn of cash following closure of Brazil asset sale	(2,080)
EnCana Corp. (ECA)	5,182	4,210	123%	(972)	1,500	0	0	Plans $1-2Bn asset sales and JVs. With $1.7Bn complete	528
Endeavour International (END)	313	(26)	NA	(339)	0	0	118	Issued debt in '11, use cash for finance budget gap	(221)
EOG Resources (EOG)	6,841	4,805	142%	(2,036)	1,600	0	1,431	Sold multiple assets to fund growth in 2011	995
Newfield Exploration (NFX)	2,211	1,434	154%	(777)	202	0	0	$100-200 million of addional asset sales planned by YE	(575)
Nexen, Inc. (NXY)	2,837	2,292	124%	(545)	462	0	0	Funding cap via revolver, plan more GoM farm-outs	(83)
Noble Energy (NBL)	4,265	2,428	176%	(1,836)	0	0	0	Issued debt earlier, expanded revolver $3.0bn in Q3'11	(1,836)
Range Resources (RRC)	1,470	697	211%	(773)	900	0	0	Barnett sale proceeds helped bridge 2011 funding gap	127
Rosetta Resources (ROSE)	475	302	158%	(174)	255	0	0	Closed 2 divestitures in $255 million deal	81
Southwestern Energy (SWN)	2,044	1,731	118%	(313)	121	0	3	Potential midstream monetization	(189)
Talisman Energy (TLM)	4,499	3,574	126%	(925)	0	520	0	Receiving $520 million upfront from Sasol for 2 JVs	(405)
Ultra Petroleum (UPL)	1,320	943	140%	(377)	0	0	0	Gap will be financed by borrowing on the revolver	(377)
Aggregate	79,570	59,821	133%	(19,749)	18,544	1,090	(1,947)		(2,062)

[1] E&P Budgets are shown net of capitalized interest and overhead.

[2] Based on a 2011WTI spot crude oil price of $90.00/Bbl and a $4.00/MMBtu composite spot natural gas price.

Source: Company Reports, Citi Investment Research and Analysis

Figure 42. 2012 Cash Flow vs. Capex

	2012E								
	Total Capital Budget ($MM)[1]	After Tax Operating Cash Flow ($MM)[2]	Capital Budget % of CF	Funding Surplus (Gap) $MM	Funding Sources ($MM) Asset Sales	JV's	Equity Issuance	Planned Funding Sources	2012 Remaining Funding Surplus (Gap) $MM
Anadarko Petroleum (APC)	6,578	7,705	85%	1,127	4,000	0	0	Expects to sell Brazilian assets early next year for $3-5 Bn.	5,127
Apache Corporation (APA)	9,200	11,867	78%	2,667	0	0	0		2,667
Canadian Natural Res. (CNQ)	7,202	8,948	80%	1,746	0	0	0		1,746
Chesapeake Energy (CHK)	9,379	4,242	221%	(5,137)	0	0	0	Three more JV's, sale of stake in OFS business and in the Marcellus	(5,137)
Concho Resources (CXO)	1,300	1,374	95%	74	0	0	0	Plans to balance budget with cashflow next year	74
Cobalt International Energy (CIE)	NM	NM	NM	NM	0	0	0		NM
Denbury Resources (DNR)	1,350	1,421	95%	71	0	0	0	Extra capex funded via revolver, may buy back stock up to $500mm	71
Devon Energy (DVN)	6,820	5,921	115%	(899)	0	0	0	Looking for JV partner for new venture plays	(899)
EnCana Corp. (ECA)	3,450	4,006	86%	556	1,000	0	0	Plans additional $1bn of asset sales/JV (Jean Marrie, Cutbank Rid	1,556
Endeavour International (END)	142	112	126%	(30)	0	0	0	Use cash for financing gap, may issue high yield debt	(30)
EOG Resources (EOG)	7,294	6,068	120%	(1,226)	0	0	0	Surplus from 2011 asset sales, further minor divestitures plus deb	(1,226)
Newfield Exploration (NFX)	1,600	1,828	88%	228	0	0	0		228
Nexen, Inc. (NXY)	3,012	3,240	93%	228	0	650	0	To receive $600 cash pmt in Q1'12 post Horn River JV closing	878
Noble Energy (NBL)	4,165	3,045	137%	(1,120)	0	0	0	Expanded credit line to $3 bn, will use to finance extra capex	(1,120)
Range Resources (RRC)	1,625	978	166%	(647)	0	0	0	Surplus from 2011 Barnett sale, further minor sales plus debt	(647)
Rosetta Resources (ROSE)	550	475	116%	(75)	0	0	0		(75)
Southwestern Energy (SWN)	2,153	2,086	103%	(68)	0	0	0		(68)
Talisman Energy (TLM)	4,500	4,571	98%	71	0	0	0	Budget to balance Cash Flow; Some North Sea asset sales possible	71
Ultra Petroleum (UPL)	1,168	1,014	115%	(154)	0	0	0		(154)
Aggregate	74,659	71,272	105%	(3,387)	5,000	650	0		2,263

[1] E&P Budgets are shown net of capitalized interest and overhead.

[2] Based on a 2012WTI spot crude oil price of $100.00/Bbl and a $3.85/MMBtu composite spot natural gas price.

Source: Company Reports, Citi Investment Research and Analysis

…With Most Capital Outlays Now Earmarked For Liquids Growth & International Projects…

Most of 2012 capital spending has been earmarked for oil and liquids rich projects and international opportunities.

Most of the projected ~$71 billion of capital spending in 2012 will be directed towards oil and liquids rich and international projects. Meanwhile, North American dry gas capital outlays by our coverage group should be minimal for the year. ***Companies allocating the vast majority of 2012 capital spending to oil or liquids projects are:***

- ***Canadian Natural Resources –*** plans to allocate 90% of its $7.2bn projected 2012 budget to oil projects, with the remaining 10% going towards liquids rich and emerging plays.

- ***Chesapeake Energy -*** noted that 75% of its 2012 budget will be allocated to oil and liquids rich plays, up significantly from 50% this year.

- **Devon Energy -** With nearly all of its acreage held by production, expects to allocate 100% of capital spending to developing its oil and liquids rich areas.

- **EnCana Corp. -** In order to bring its capex within projected discretionary cash flow, is significantly scaling back its Haynesville shale development. As a result, output from the play should be flat this year after contributing two-thirds of the company's overall production growth in 2011.

- ***Endeavour International -*** plans to allocate 5-20% of its $150mm projected 2012 capital budget towards developing the dry gas Marcellus shale, although it noted this would be the first place it would look to cut spending if necessary. After it drops its last Haynesville rig by the end of this year, END will not spend anything in this play next year.

- ***EOG Resources -*** expects nearly all of its 2012 capital budget to be allocated to oil and liquids rich plays, with dry gas spending minimized to HBP commitments only.

- ***Nexen Inc. -*** nearly all of its 2012 capital budget will be allocated towards oil and liquids project, with just 1% to be spent on the Horn River dry gas play, with the remainder to be covered by its new joint venture partner Inpex.

- ***Rosetta*** expects to spend most of its $550 mm budget next year on developing its core Gates Ranch area in the liquids rich Eagle Ford shale

- ***Talisman Energy –*** has de-emphasized dry gas, and is planning to cut spending the dry gas Marcellus shale and reallocate capital from its B.C. Montney shale play towards the Eagle Ford and Columbia.

Another recent trend in capital spending patterns is companies' willingness to invest a substantial portion of projected spending on long-term projects that will not yield a return for a few years.

- ***Canadian Natural Resources -*** expects to spend just over a one-half of its projected 2012 budget on growth projects beyond next year.

- **Nexen Inc. -** nearly 20% of projected capital spending next year will be for projects that will not contribute to production until after 2012.

…While Any Funding Gaps Should Again Be Primarily Funded With Asset Sales…

We expect asset sales to again play a major role in helping companies finance any funding gaps that might evolve…

As previously noted, asset sales comprised the largest portion of funding used to cover funding gaps in 2011. We expect asset sales to again play a major role in helping companies finance growth and leasehold acquisitions going forward, as operators continue to dispose of mostly non-core and international assets to finance higher growth opportunities. But we would note that the inventory of non-core assets that might be put on the auction block is depleting for many companies.

…Although most companies are likely to be unwilling to sell pure dry gas assets in the current depressed natural gas price environment.

Importantly though, we think the depressed natural gas price environment heading into 2012 will make it difficult for potential sellers to receive bids attractive enough to sell pure dry gas assets. Furthermore, many of the assets sold in 2011 were natural gas properties, leaving less of an inventory to be sold next year. On the other hand, considering the much stronger outlook for crude prices, we would not be surprised to see more companies looking to monetize non-core oil properties via outright sales or via joint ventures as we discuss in the next section.

We would note that few producers have given any details on planned asset sales in 2012, but ***the following companies have already given some indication on planned asset sales or monetizations in 2012:***

- ***Anadarko Petroleum -*** currently has a data room open for its Brazilian assets, with a deal expected to be inked in the first quarter of next year following well results from Itauna-2 appraisal.
- ***Chesapeake Energy -*** In addition to one or more joint ventures and VPPs, the company might look to monetize its Marcellus acreage and has a data room open for its oilfield services division.
- ***Denbury Resources -*** is actively developing the Bakken next year, although it continues to look to swap its acreage here for CO2 EOR projects that are more in-line with its focus.
- ***EnCana Corp. -*** announced the sale if its Cutbank Ridge assets in B.C. for nearly $1bn in December, with closing and sale proceeds expected to help support its 2012 capital allocation program.
- ***Nexen Inc. -*** at its December analyst day, management admitted that it considered strategic alternatives including selling the entire company and one or more of its major assets, but concluded that neither was the best option. Although the focus is now on project execution, management did not rule out the possibility of asset sales in the future.
- ***Talisman Energy -*** we project that a portion of the North Sea might be up for sale next year given the recent output volatility and the company's large exposure to the region.
- ***Ultra Petroleum -*** indicated it is considering monetizing its midstream assets, which could be valued up to ~$200mm.

Meanwhile, like this year, we believe that some E&P companies could be acquisition targets by major integrated or international firms.

Even as we expect our coverage group to use proceeds from asset sales to perhaps help finance operations, we note that some of them, like this year, might be takeout targets themselves. Domestic and international majors, with the latter often financially backed by their respective governments, might use the prolonged weakness in natural gas prices to expand their footprint in the U.S. shale plays. We believe that those

companies that might be expected to significantly outspend operating cash flow or could sharply accelerate drilling and production growth with increased spending would most likely be acquisition targets if major integrated or international oil companies chose to seek acquisition opportunities.

…While Joint Venture Activity Remains Robust

Emerging oil and liquids-rich plays are most likely to continue to be the focus of joint venture agreements next year…

…With drilling carries from deals already inked expected to total $3.5bn next year and with more yet to be announced.

Joint venture activity in North American shale and unconventional resource plays has been quite robust this year and we expect this to remain the case in 2012. While natural gas focused transactions were most prevalent prior to 2010, 2010-11 activity has shifted to oil and liquids-rich plays, while emerging oil and liquids-rich plays are most likely to be the focus next year. We estimate that drilling carries from joint ventures announced so far should augment drilling budgets by ~$3.5bn and boost capital budgets by 14% in 2012. In comparison, JV proceeds provided ~$5.1bn or carry proceeds, augmenting cash flows by ~22% so far this year. ***Companies expected to announce new joint venture deals in 2012 include:***

- ***Chesapeake Energy -*** After its most recent Utica shale transaction brought the total number of signed deals to seven, the company is planning three more, including one in the Mississippian Lime, Three Forks and an undisclosed play.

- ***Devon Energy -*** Despite having one of the strongest balance sheets in the space, the company has a data rooms open to find a partner for all of its New Venture plays (Ohio Utica, Niobrara, Mississippian Lime, Tuscaloosa, Brown Dense, Michigan 1 Carbonate), which could be inked in the first quarter of next year. Thus, with the upcoming joint ventures freeing up capital and improve field economics, Devon expects to pursue other new venture plays.

- ***Nexen Inc. –*** just recently entered into a joint venture for its Horn River assets with Inpex, with ~$600 mm of cash proceeds expected upon deal closing in the first quarter of next year. Also, after farming out a 20% stake in six of its Gulf of Mexico prospects to CNOOC in December 2011, Nexen will likely continue to farm out prospects in the offshore Gulf of Mexico next year.

Figure 43. Oil & Gas Shale Play Joint Venture Activity

Seller	Acquirer	Play	Transaction Date	Total Drilling Carry ($ Millions)	Drilling Carry Remaining ($ Millions)	2010 Estimated Carry ($ Millions)	2011 Expected Carry ($ Millions)	2012 Expected Carry ($ Millions)	Seller's 2010 North American Capex Budget ($ Millions)	Seller's 2011 North American Capex Budget ($ Millions)	Seller's 2012 North American Capex Budget ($ Millions)	2010 Budget Lift*	2011 Budget Lift*	2012 Budget Lift*
Chesapeake	PXP	Haynesville & Bossier	Jul-08	$1,508	$0	$0	$0	$0	$5,242	$6,500	$7,800	0%	0%	0%
Chesapeake	BP	Fayetteville	Sep-08	$800	$0	$0	$0	$0	$5,242	$6,500	$7,800	0%	0%	0%
Carrizo Oil and Gas	Avista Capital Partners	Marcellus	Nov-08	$72	$0	$0	$0	$0	$170	$253	$253	0%	0%	0%
Chesapeake	Statoil	Marcellus	Nov-08	$2,125	$762	$600	$600	$600	$5,242	$6,500	$7,800	11%	9%	8%
Quicksilver Resources	Eni	Barnett	May-09	$0	$0	$0	$0	$0	$595	$690	$475	0%	0%	0%
Rex Energy	Williams	Marcellus	Jun-09	$33	$0	$33	$0	$0	$142	$242	$190	23%	0%	0%
EXCO Resources	BG Group	Haynesville	Jul-09	$400	$0	$205	$30	$30	$347	$976	$976	59%	3%	3%
Swift Energy	Petrohawk	Eagle Ford	Nov-09	$13	$0	$13	$0	$0	$338	$440	$440	4%	0%	0%
Carrizo Oil and Gas	Sumitomo	Barnett	Dec-09	Pay 16.7% for 12.5% WI	NA	$6	$6	$6	$170	$253	$253	4%	2%	2%
Chesapeake	Total	Barnett	Jan-10	$1,450	$0	$561	$889	$0	$5,242	$6,500	$7,800	11%	14%	0%
PGE (Private)	ExxonMobil	Marcellus	Feb-10	Undisclosed	Undisclosed	Undisclosed	Undisclosed	Undisclosed	Undisclosed	Undisclosed	Undisclosed	NA	NA	NA
Anadarko	Mitsui	Marcellus	Feb-10	$1,500	$0	$600	$900	$0	$2,300	$3,200	$4,800	26%	28%	0%
EnCana	Kogas	Horn River & Montney	Mar-10	$565	$154	$113	$149	$149	$4,476	$4,454	$3,300	3%	3%	5%
Lewis Energy (Private)	BP	Eagle Ford	Mar-10	Undisclosed	Undisclosed	Undisclosed	Undisclosed	Undisclosed	Undisclosed	Undisclosed	Undisclosed	NA	NA	NA
Atlas Energy	Reliance	Marcellus	Apr-10	$1,360	$1,008	$49	$114	$189	$260	$103	$146	19%	111%	129%
St. Mary Land & Exp.	Undisclosed	Haynesville	May-10	$87	$0	$46	($46)	$0	$871	$1,550	$1,450	5%	-3%	0%
EXCO Resources	BG Group	Marcellus	May-10	$150	$0	$150	$0	$0	$347	$976	$976	43%	0%	0%
PetroQuest	NextEra Energy	Woodford	May-10	$147	$62	$25	$30	$30	$94	$135	$147	27%	22%	20%
Pioneer	Reliance	Eagle Ford	Jun-10	$879	$363	$74	$221	$221	$1,200	$2,100	$2,100	6%	11%	11%
Trans Energy	Republic Energy Ventures	Marcellus	Jul-10	$2	$4	$2	$2	$2	$8	$8	$8	25%	25%	25%
Abraxas Petroleum	Blue Stone Oil & Gas	Eagle Ford	Aug-10	$19	$19	Undisclosed	Undisclosed	Undisclosed	Undisclosed	Undisclosed	Undisclosed	NA	NA	NA
Penn West	Mitsubishi	Cordova (BC)	Aug-10	$600	$380	$0	$110	$110	$950	$1,100	$1,100	0%	10%	10%
Rex Energy	Sumitomo	Marcellus	Aug-10	$52	$0	$0	$30	$22	$131	$200	$200	0%	15%	11%
Gastar Exploration	Atinum Partners	Marcellus	Sep-10	$40	$13	$1	$13	$13	$62	$80	$80	2%	16%	16%
Carrizo and Avista	Reliance	Marcellus	Sep-10	$52	$0	$7	$23	$23	$142	$242	$190	5%	10%	12%
Chesapeake	CNOOC	Eagle Ford	Oct-10	$1,080	$0	$50	$800	$230	$5,242	$6,500	$7,800	1%	12%	3%
Enduring Resources	Talisman/Statoil	Eagle Ford	Oct-10	$0	$0	$0	$0	$0	NA	NA	NA	NA	NA	NA
Talisman	Sasol	Montney (Farrell)	Dec-10	$790	$190	$0	$300	$300	$1,800	$1,700	$1,800	0%	18%	17%
Chesapeake	CNOOC	Niobrara	Jan-11	$697	$349	$0	$87	$87	$5,242	$6,500	$7,800	0%	1%	1%
Talisman	Sasol	Montney (Cypress A)	Mar-11	$790	$690	$0	$50	$50	$1,800	$1,700	$1,800	0%	3%	3%
Anadarko	KNOC	Eagle Ford	Mar-11	$1,600	$500	$0	$500	$600	$2,300	$3,200	$4,800	0%	16%	13%
Chesapeake	Clayton Williams	Wolfbone	Mar-11	NA	NA	NA	NA	NA	$5,242	$6,500	$7,800	NA	NA	NA
Marathon Oil	Marubeni	Niobrara	Apr-11	NA	NA	NA	NA	NA	$1,500	$1,500	$1,500	NA	NA	NA
Progress Energy	Petronas	Montney	Jun-11	$803	$482	$0	$161	$161	NA	$350	$350	0%	46%	46%
Denbury Resources	EnCana Corp	Tuscaloosa	Jun-11	Undisclosed	Undisclosed	Undisclosed	Undisclosed	Undisclosed	$1,177	$1,350	$1,350	NA	NA	NA
Cabot	Undisclosed	Haynesville	Jun-11	Undisclosed	Undisclosed	Undisclosed	Undisclosed	Undisclosed	$790	$850	$875	NA	NA	NA
SM Energy	Mitsui	Eagle Ford	Jun-11	$680	$680	$0	$0	$110	$700	$1,550	$1,450	0%	0%	8%
Sandridge Energy	Atinum Partners	Mississippian	Aug-11	$250	$83	$0	$83	$83	$1,000	$1,800	$1,800	0%	5%	5%
Consol	Noble Energy	Marcellus	Aug-11	$2,130	$1,973	$0	$32	$125	$700	$700	$700	0%	5%	18%
Consol	Hess	Utica	Sep-11	$534	$514	$0	$5	$15	$700	$700	$700	0%	1%	2%
NA	Carrizo and Avista	Utica	Sep-11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chesapeake	Undisclosed	Utica	Nov-11	$1,500	$1,500	$0	$0	$0	$5,242	$6,500	$7,800	0%	0%	0%
Quicksilver Resources	KKR	Horn River	Nov-11	$0	$0	$0	$0	$0	$170	$253	$253	0%	0%	0%
EnCana	Pending	Canada and U.S.	Pending	Pending	Pending	Pending	Pending	Pending	Undisclosed	Undisclosed	Undisclosed	NA	NA	NA
Nexen	Pending	Offshore GOM	Pending	Pending	Pending	Pending	Pending	Pending	$588	$728	$725	NA	NA	NA
Chesapeake	Pending	Mississippian	Pending	Pending	Pending	Pending	Pending	Pending	$5,242	$6,500	$7,800	NA	NA	NA
Chesapeake	Pending	Three Forks	Pending	Pending	Pending	Pending	Pending	Pending	$5,242	$6,500	$7,800	NA	NA	NA
Nexen	Inpex	Horn River	Dec-11	$350	$350	$0	$0	$350	$588	$728	$725	0%	0%	48%
Devon Energy	Pending	Venture Plays	Pending	Pending	Pending	Pending	Pending	Pending	$5,535	$6,137	$5,600	NA	NA	NA
Anadarko	Pending	Niobrara	Pending	Pending	Pending	Pending	Pending	Pending	$2,300	$3,200	$4,800	NA	NA	NA
Cenovus	Pending	Canadian Oil Sands	Pending	Pending	Pending	Pending	Pending	Pending	$2,000	$2,143	$2,143	NA	NA	NA
Total/Average*				$23,057	$10,075	**$2,534**	**$5,090**	**$3,506**	**$18,985**	**$23,628**	**$25,119**	13%*	22%*	14%*

Source: Citi Investment Research and Analysis

New Resource Plays to Remain In Focus

We expect that there will be more new oil and liquids-rich resource plays announced in 2012.

With pure dry natural gas plays increasingly uneconomic as natural gas prices weaken and many emerging oil and liquids rich plays plagued by capacity constraints and rising service costs, producers have increasingly turned their attention towards new oil and liquids rich plays to expand their portfolio of opportunities. The Ohio Utica, Tuscaloosa shale, Mississippian Lime, Niobrara, among others, have recently stepped into the spot light as potential new plays. ***The following companies are expected to announce initial or new results in resource plays early next year:***

- ***Anadarko Petroleum -*** is drilling its first wells in the Utica shale play, where it has accumulated 200k net acres and continues to add to this position and plans to bring a 2^{nd} rig in to the play next year.

- ***Chesapeake Energy -*** further well results from its preliminary drilling campaign in the Utica shale should be forthcoming next year.

- ***Devon Energy -*** In 2011, disclosed 1.2mm net acres in six New Venture plays: Ohio Utica, Niobrara, Michigan 1 Carbonate, Tuscaloosa, Mississippian Lime and Brown Dense. The company drilled test wells in all these regions as part of its initial 40-well program but has yet to disclose results

- ***EnCana Corp. -*** continues its exploration program across the Tuscaloosa and other liquids rich plays such as the Collingwood, Niobrara and Duvernay plays, where early signs "are encouraging" but official results are slated for early next year.

- ***Endeavour International -*** is drilling four vertical appraisal wells in the Heath Shale in Montana, with initial results expected early next year.

- ***EOG Resources –*** continues to evaluate the economic viability of its Niobrara acreage.

- ***Noble Energy -*** has leased 200k acreage to date and is working towards 500k+ acres in three undisclosed U.S. onshore emerging venture plays, all of which are oil or liquids.

- ***Range Resources -*** is expected to report results from its expanding Mississippian Lime and St Louis regions.

- ***Southwestern Energy -*** is expected to release initial well results from its Lower Smackover Brown Dense play early next year. The company has also recently accumulated acreage in several yet undisclosed plays, which could be revealed next year.

- ***Ultra Petroleum -*** revealed a new position in the Niobrara formation south of current activity in the play near Colorado Springs.

Activity In The Offshore Gulf of Mexico Should Continue To Ramp Back Up…

Activity in the deepwater Gulf of Mexico is expected to continue to slowly ramp back up in 2012.

The deepwater Gulf of Mexico has been one of the "new" plays that has regained interest following the lifting of the post-Macondo moratorium earlier this year. The pace of permitting has been slowing picking up and more producers are shifting capital back to the region, further inspired by news stories of major discoveries such as the Exxon led Hadrian projects. ***Companies with prospects teed up in the deepwater Gulf of Mexico next year include:***

- ***Anadarko Petroluem –*** is drilling the Coronado and Kakuna prospects and has two more prospects - Spartacus and Yucatan - that should spud early next year.

- ***Apache Corp. –*** a new focus will be its deepwater Gulf of Mexico exploration program in 2012, with plans to drill 2-3 prospects per year.

- ***Noble Energy -*** its Santiago oil discovery has already been tied into its Galapagos project, with initial output slated in the beginning of next year.

- ***Nexen Inc. -*** is drilling the Kakuna prospect and has two more prospects that are awaiting permits and should spud shortly after Kakuna is completed.

…While Overall Exploration Activity Increases

We project an active global exploration slate for many companies in 2012, with activity ramping up in Brazil, offshore Africa and Columbia, among many others areas, along with the deepwater Gulf of Mexico.

We project an active global exploration slate for many companies in our coverage group, with activity ramping up in Brazil, offshore Africa and Columbia, among many others areas, along with the deepwater Gulf of Mexico. ***Companies with notable exploration plans next year include:***

- ***Anadarko Petroleum -*** expects to drill exploration wells in the offshore Gulf of Mexico, Ghana, Mozambique, Sierra Leon, Cote d'Ivoire, Brazil and China. Moreover, the company expects initial results from appraisal wells offshore Brazil and Sierra Leon.

- ***Apache Corp. –*** the main focus of its exploration program should be the deepwater Gulf, Cook Inlet offshore Alaska, Kenya and offshore New Zealand.

- ***Cobalt International -*** expects results from its first exploration well in Angola shortly, while next year's exploratory program includes its first prospects in the deepwater Gulf of Mexico.

- ***Endeavour International -*** is currently drilling an exploration well in the U.K. North Sea and plans to expand its exploration & appraisal work in the region following initial oil output from Bacchus.

- ***Nexen Inc. -*** has a full exploration slate for next year which exposes it to a stated 550 MMBOE of net risked resource potential (~50% of total proved reserves). It is currently drilling one prospect each in the Gulf of Mexico, Columbia, and Poland, with high-impact prospects also teed up offshore Nigeria and the U.K. North Sea

- ***Nobel Energy -*** In addition to several new projects slated to come online in the first half of next year, the company is also currently drilling prospects in the deepwater Gulf of Mexico, offshore Israel and Cyprus, Cameroon and Carmen/Diega.

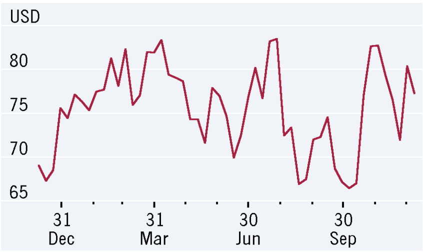
- ***Talisman Energy -*** has several exploration catalysts set for next year, including appraisal wells in Columbia, Kurdistan and Poland.

Company Focus

- Company Update
- Estimate Change

Buy	**1**
Price (09 Dec 11)	US$80.25
Target price	US$120.00
Expected share price return	49.5%
Expected dividend yield	0.4%
Expected total return	**50.0%**
Market Cap	US$39,962M

Price Performance
(RIC: APC.N, BB: APC US)



Anadarko Petroleum Corp (APC)

Wattenberg, Eagle Ford and Marcellus to Drive 2012 Growth

- **2012 Production Outlook** – Output next year is expected to average ***734 MBOE/d next year***, up from ***682 MBOE/d this year***. As was the case last year, most of the production growth for Anadarko will come from ***Eagle Ford and Marcellus shale*** plays, as well as ***Wattenberg (Niobrara)***. Internationally, ***El Merk*** is expected to ramp-up to its full ~30 MBBl/d net capacity later next year, while continuing issues at ***Jubilee will further delay reaching plateau until the end of 2012***.

- **2012 Capital Budget** - The company currently pegs next year's budget at ***$6.1-$6.5 bn.*** virtually unchanged vs. this year. However, larger proportion will be directed towards U.S. shales particularly ***Marcellus as drilling carry is expected to run out*** next year. ***Wattenberg Niobrara*** should also see a budget increase.

- **Catalysts** – Anadarko's continues its most active ever global exploration program with the drill bit turning in the offshore ***Gulf of Mexico, Ghana, Mozambique, Sierra Leone, Cote d'Ivoire, Brazil and China***. Early next year results should be forthcoming on the ***Itauna-2 appraisal*** offshore Brazil. In addition, results are awaited for offshore Sierra Leone the high-potential ***Jupiter prospect*** followed by the ***Mercury-2 appraisal***. Anadarko will also resume exploration offshore Cote d'Ivoire, with the ***Kosrou*** prospect followed by the ***Paon***.

- **Niobrara in Focus**- Following very positive results from horizontal Niobrara program, APC is expected to increase its drilling activity in DJ Basin with ***160 horizontal Niobrara wells on the slate*** for the Wattenberg field next year. We expect production at the Wattenberg field ***increase by 18 MBOE/d*** from the current ~70 MBOE/d with most of the growth from liquids. In addition APC holds 900k Niobrara acreage outside of Wattenberg that it plans to explore next year.

- **Solid Onshore Unconventional Base**- Anadarko continues to be ***active in the Eagle Ford Shale*** where it currently runs 10 rigs and we expect an ***additional 12 MBOE/d*** of production coming from this play next year. Meanwhile, ***production growth in Marcellus is expected to slow down***.

- **Utica Position** - Anadarko is currently drilling its first well in the Ohio Utica shale play where it has accumulated 300k gross (200k net) acres and continues to add to this position. Plans are to add a second rig here early next year.

EPS	Q1	Q2	Q3	Q4	FY	FC Cons
2010A	0.83A	0.49A	0.21A	0.29A	1.82A	1.82A
2011E	**0.73A**	**1.14A**	**0.65A**	**0.69E**	**3.22E**	**3.12E**
Previous	0.73A	1.14A	0.65A	0.76E	3.28E	na
2012E	**na**	**na**	**na**	**na**	**4.37E**	**3.47E**
Previous	na	na	na	na	4.19E	na
2013E	**na**	**na**	**na**	**na**	**7.03E**	**4.26E**
Previous	na	na	na	na	4.47E	na

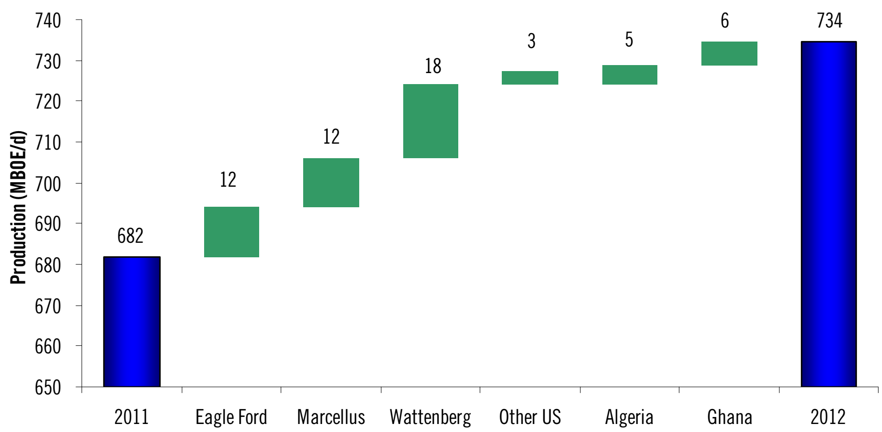
Source: Company Reports and dataCentral, CIR. FC Cons: First Call Consensus.

- **Brazil Asset Sale**- A data room is currently open for sale of Brazil assets and the company will wait until Itauna-2 well results early next year to then solicit bids for all of its Brazil assets including the ***appraised Itaipu, Itauna, and Wahoo*** discoveries. We peg the value of a potential deal at ***$4 billion***.

- **Adjusting Estimates** - We adjusted our 2011-2013 EPS/CFPS estimates to reflect our new crude oil and natural gas price forecasts. Our estimates are now $3.22/$14.10 from $3.28/$14.18 for 2011, $4.37/$15.44 from $4.19/$15.44 for 2012, $7.03/$19.74 from $4.47/$16.65 for 2013.

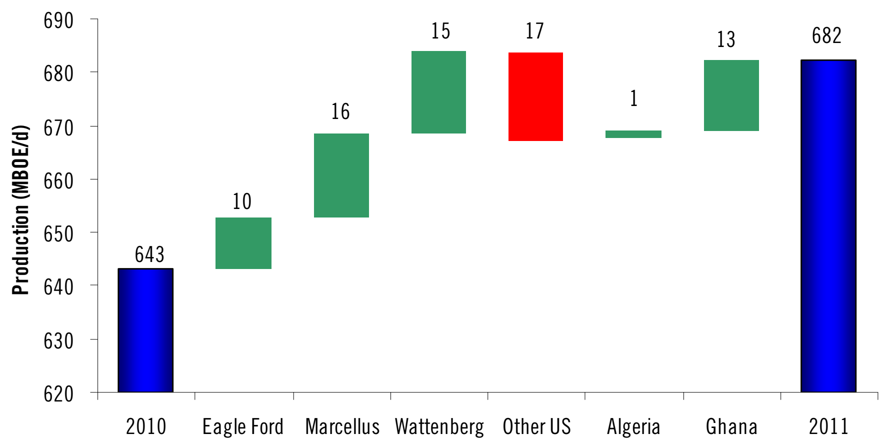
- **Valuation** – We are maintaining our Buy rating with a $120 12-month PT based on the stock achieving 2012 and 2013 EV/DACF multiples of ~8.8x/7.7x and 132% of proven only NAV based on our "normalized" WTI spot oil and composite spot natural gas prices of $90/Bbl and $4.50/MMbtu.

Figure 44. Anadarko Production Growth by Major Asset in 2012



Source: Company Reports, Citi Investment Research and Analysis

Figure 45. Anadarko Production Growth by Major Asset in 2011



Source: Company Reports, Citi Investment Research and Analysis

Company Focus

- Company Update
- Estimate Change

Buy	**1**
Price (09 Dec 11)	US$97.48
Target price	US$150.00
Expected share price return	53.9%
Expected dividend yield	0.6%
Expected total return	**54.5%**
Market Cap	US$37,438M

Price Performance
(RIC: APA.N, BB: APA US)

Apache Corp (APA)

Balanced Growth; Exploration in Focus

- **2012 Production Outlook** – Although management didn't provide next year's production guidance, we model ~11% production increase with about 30% of this or 25 MBOE/d attributable to the ***North Sea Beryl acquisition from XOM***. In addition growth should be driven by a full year of output from ***Van Gogh*** and the ***Reindeer*** start-up ***offshore Australia***, onshore ***U.S. liquids*** plays and ongoing drilling success in Egypt.

- **U.S. Liquids Growth** - We expect a ramp in onshore liquids rich plays particularly ***Permian Basin*** where APA has ~1.5 mm acres and is running 24 rigs with the focus on horizontal drilling as well as Granite Wash. We project 16 MBbl/d growth in U.S. liquids next year.

- **Egypt** – Apache's drilling success in Egypt coupled with infrastructure improvements such as gas export capacity additions, should underscore a 10% production growth next year. Egypt remains an overhang on APA's share price, given political uncertainty and ~22% of total production coming from this region. We believe the market is imputing too great of a discount for risk to APA's Egypt operations. The fact that the Egyptian government is embarking on its first new concession licensing round in five years with similar terms to past rounds indicates that Apache's concessions are not at significant risk, in our view.

- **Exploration**- Apache is stepping up its exploration program this year. The main focus of its exploration efforts will be the deepwater Gulf of Mexico, Cook Inlet of Alaska, deepwater Kenya and onshore New Zealand. We believe the Cook Inlet holds perhaps the best promise with drilling to kick off H2'12 following the completion of 3D seismic. In deepwater Kenya APA plans to drill the large Mbawa prospect that lies in an oil prone hydrocarbon system. Apache also plans to drill 2-3 operated deepwater Gulf of Mexico prospects next year.

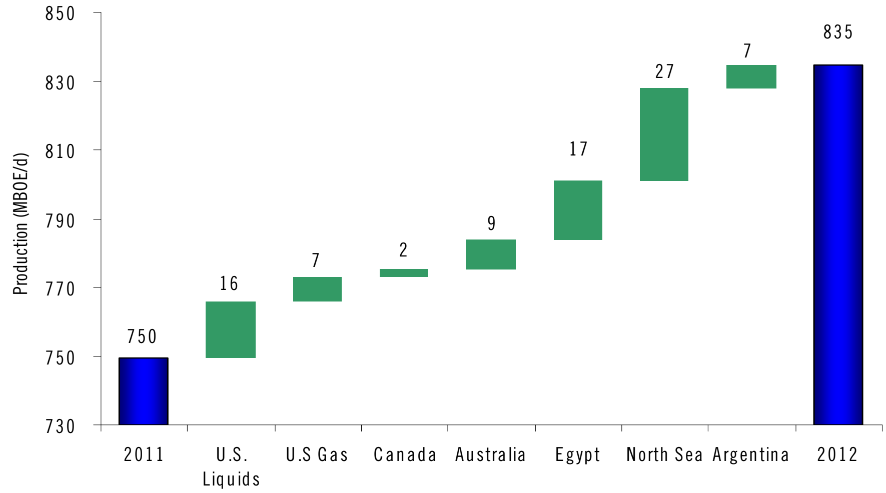
- **Adjusting Estimates** - We adjusted our 2011-2013 EPS/CFPS estimates to reflect our new crude oil and natural gas price forecasts. Our estimates are now \$12.11/\$25.50 from \$12.13/\$25.53 for 2011, \$14.28/\$29.67 from \$14.09/\$29.56 for 2012, \$17.78/\$34.63 from \$13.90/\$29.70 for 2013.

- **Valuation** – We are maintaining our Buy rating with a $150 12-month PT based on the stock achieving 2012 and 2013 EV/DACF multiples of ~5.7x/5.5x and 96% of proven only NAV based on our "normalized" WTI spot oil and composite spot natural gas prices of $90/Bbl and $4.50/MMbtu

EPS	Q1	Q2	Q3	Q4	FY	FC Cons
2010A	2.10A	2.44A	2.19A	2.19A	8.91A	8.92A
2011E	**2.90A**	**3.23A**	**2.95A**	**3.04E**	**12.11E**	**11.84E**
Previous	2.90A	3.23A	2.95A	3.06E	12.13E	na
2012E	**na**	**na**	**na**	**na**	**14.28E**	**12.30E**
Previous	na	na	na	na	14.09E	na
2013E	**na**	**na**	**na**	**na**	**17.78E**	**13.62E**
Previous	na	na	na	na	13.90E	na

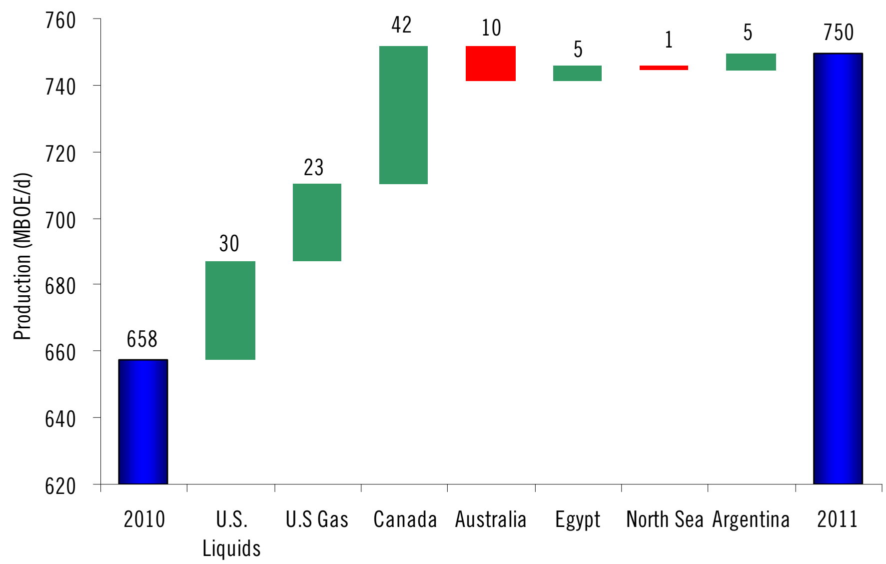
Source: Company Reports and dataCentral, CIR. FC Cons: First Call Consensus.

Figure 46. Apache Production Growth by Region in 2012



Source: Company Reports, Citi Investment Research and Analysis

Figure 47. Apache Production Growth by Region 2011



Source: Company Reports, Citi Investment Research and Analysis

Company Focus

- Company Update
- Estimate Change

Buy	1
Price (09 Dec 11)	US$37.00
Target price	US$50.00
Expected share price return	35.1%
Expected dividend yield	1.0%
Expected total return	**36.1%**
Market Cap	US$40,509M

Price Performance
(RIC: CNQ.N, BB: CNQ US)

Canadian Natural Resources Ltd (CNQ)

Horizon and Primary Heavy Oil to Drive Growth in 2012

- **2012 Production Outlook** – Total production next year is expected to be up ~17% to 717 MBOE/d. Roughly two-thirds of next year's production growth should be driven by ***Horizon*** operating at near full capacity followed by sharp upticks in ***Canadian Light*** and ***Primary Heavy Oil*** volumes adding 10 MBBl/d and 18MBbl/d respectively. On the other hand U.K. North Sea and Offshore Africa should drop significantly by 3MBOE/d and 5MBOE/d respectively, as focus shifts to domestic crude oil production. Montney liquids rich Septimus development is expected to ramp up and compensate for the decline in conventional Canadian gas production.

- **2012 Capital Budget** – Capex ***is projected to rise by 18%*** from the current $6.1 billion to $7.2 billion. ***About 90% of next year's budget will be directed toward oil projects*** while spending on natural gas will be focused on liquids-rich and emerging plays. Notably, just over ***one-half ($3.8bn) of the 2012 budget will be for future growth*** projects beyond next year. Our current cash flow projection for 2012 is ~$8.2bn, wherein management stated that its first choice for free cash flow would be opportunistic acquisitions (which have been predominantly natural gas this year) followed by dividend increases, debt reduction and lastly share repurchases.

- **Catalysts** – Events to watch for next year are expansion of ***polymer-flooding at Pelican Lake*** following clearing of regulatory delays as well as Primrose production increase due to continued pad additions.

- **2012 Hedging**- CNQ doesn't have any oil hedges and as one of the most oil levered names in our coverage it should benefit from rising WTI prices under our commodity price forecast assumptions

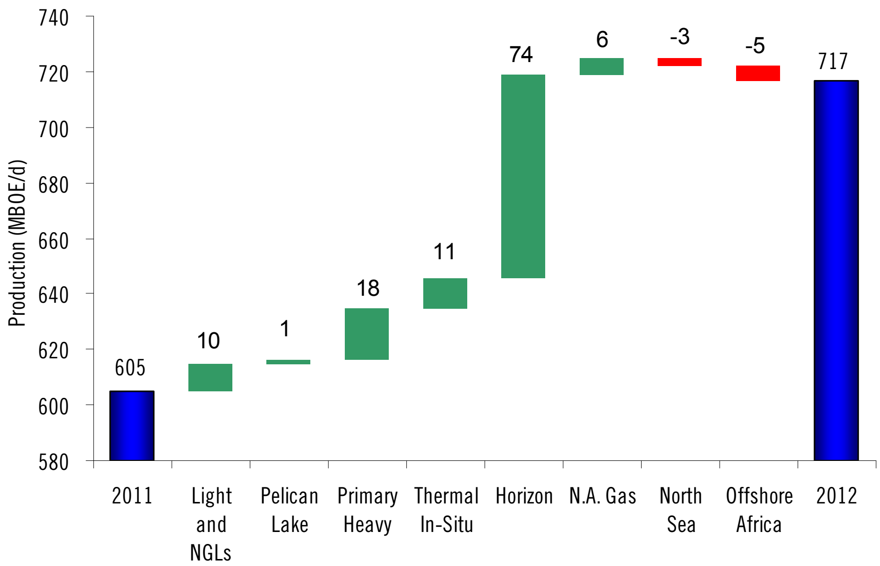
- **Adjusting Estimates** - We adjusted our 2011-2013 EPS/CFPS estimates to reflect our new crude oil and natural gas price forecasts. Our estimates are now $2.14/$5.69 from $2.16/$5.72 for 2011, $3.77/$8.11 from $3.15/$7.40 for 2012, $5.52/$10.32 from $3.46/$8.05 for 2013.

- **Valuation** – We are maintaining our Buy rating with a $50 12-month PT based on the stock achieving 2012 and 2013 EV/DACF multiples of ~7.6x/7.0x and 161% of proven only NAV based on our "normalized" WTI spot oil and composite spot natural gas prices of $90/Bbl and $4.50/MMbtu.

EPS	Q1	Q2	Q3	Q4	FY	FC Cons
2010A	0.61A	0.63A	0.55A	0.57A	2.36A	2.36A
2011E	**0.21A**	**0.56A**	**0.65A**	**0.72E**	**2.14E**	**2.17E**
Previous	0.21A	0.56A	0.65A	0.74E	2.16E	na
2012E	**na**	**na**	**na**	**na**	**3.77E**	**3.22E**
Previous	na	na	na	na	3.15E	na
2013E	**na**	**na**	**na**	**na**	**5.52E**	**3.80E**
Previous	na	na	na	na	3.46E	na

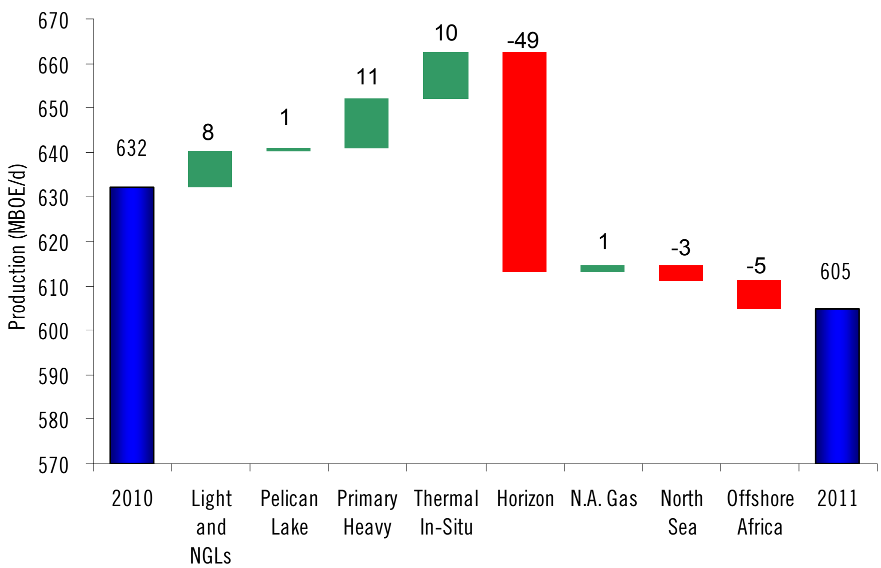
Source: Company Reports and dataCentral, CIR. FC Cons: First Call Consensus.

Figure 48. Canadian Natural Resources Production Growth by Play in 2012



Source: Company Reports, Citi Investment Research and Analysis

Figure 49. Canadian Natural Resources Production Growth by Play in 2011



Source: Company Reports, Citi Investment Research and Analysis

Company Focus

- Company Update
- Estimate Change

Buy	**1**
Price (09 Dec 11)	US$24.66
Target price	US$32.00
Expected share price return	29.8%
Expected dividend yield	1.2%
Expected total return	**31.0%**
Market Cap	US$16,258M

Price Performance
(RIC: CHK.N, BB: CHK US)

Chesapeake Energy Corp (CHK)

Rapid Liquids Growth Set to Continue Although Hinges on Future Asset Monetizations

- **2012 Production Outlook** – Output next year is expected to average 3.78 Bcfe/d next year, up 16% from this year. However, unlike this year, when natural gas assets continued to drive the company's output growth, next year's growth is expected to be much more heavily weighted towards liquids, largely due to the fact that Chesapeake's drilling commitments in the Haynesville have now largely been satisfied. Thus, the company has now reduced its rig count in the play to 19, or down ~50% year-to-date. Next year, the liquids-rich Anadarko Basin is projected to account for roughly a quarter of company-wide growth, with the Eagle Ford and the Permian adding nearly 20% each to company-wide growth and the Powder River Basin adding another 12%. Thus, liquids areas combined should account for over three-quarters of the company's total growth next year, with the remainder made up by the low-cost Marcellus, Haynesville, and the Barnett, offset by a drop in the Fayetteville, where Chesapeake sold its entire stake earlier this year. Overall, liquids output should increase by more than 70% next year, with liquids accounting for nearly a quarter of next year's output, up from just 16% this year. Meanwhile, natural gas output is projected to increase just 5% in 2012.
- **2012 Capital Budget** – E&D spending is projected to increase 4% next year to $7.8 billion from $7.5 billion this year, with 75% of next year's drilling budget allocated towards liquids-rich plays, up significantly from 50% this year. Additionally, we currently model leasehold spending to drop to just $1.0 billion next year from $4.5 billion this year, and we project spending on other PP&E to remain flat at $1.5 billion. Thus, net of capitalized interest of $0.9 billion, we expect the company's total capital budget to decline ~25% next year. However, we note that spending on the other categories (leasehold and other PP&E) is much more difficult to model than E&D spending given that (1) the company does not guide for these items and (2) spending in these categories is much more opportunistic in nature and is very closely tied to the level of capital inflows from asset sales. For example, this year, Chesapeake has already sold nearly $9 billion worth of assets, and thus even with the higher amount of leasehold spending than assumed for next year, the funding gap this year is only ~$0.4 billion, versus $5.3 billion gap for next year. Thus, we note that versus our assumptions of no asset sales and a sharp drop in leasehold spending next year, the more likely scenario is for the company to conduct more asset sales and to allocate a part of the incremental proceeds towards further acreage spending. However, we have no way of modeling these items.

EPS	Q1	Q2	Q3	Q4	FY	FC Cons
2010A	0.82A	0.75A	0.70A	0.70A	2.95A	2.95A
2011E	**0.75A**	**0.76A**	**0.72A**	**0.58E**	**2.80E**	**2.85E**
Previous	0.75A	0.76A	0.72A	0.72E	2.94E	na
2012E	**na**	**na**	**na**	**na**	**2.58E**	**2.46E**
Previous	na	na	na	na	2.57E	na
2013E	**na**	**na**	**na**	**na**	**4.24E**	**3.67E**
Previous	na	na	na	na	3.37E	na

Source: Company Reports and dataCentral, CIR. FC Cons: First Call Consensus.

Likely sources of future cash inflows from asset sales proceeds from joint ventures covering the Three Forks/Williston, Mississippian Lime, and an undisclosed play, a potential Marcellus monetization, and a sale of stake in the company's oilfield services business.

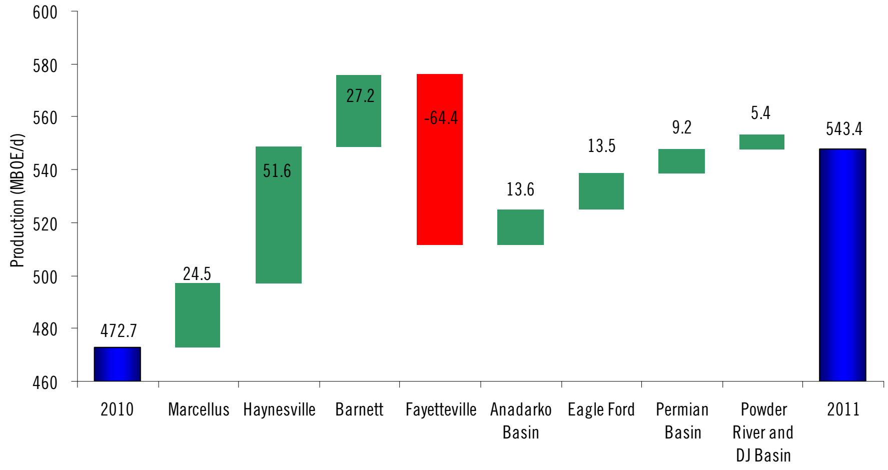
- **Catalysts** – 2012 has the potential to become a truly transformational year for Chesapeake, although we believe that aside from the quality of assets and operational performance, investors will also be closely focused on the company's capital discipline. Next year's key catalysts include: (1) well results from the company's preliminary drilling campaign in the emerging liquids-rich Utica shale, (2) announcements of any new liquids-rich resource plays, (3) additional joint ventures, potentially covering the Mississippian, Three Forks, and an undisclosed play, (4) the trajectory of Chesapeake's capital spending in the context of how the proceeds from said joint ventures and any other asset monetizations help to plug the company's funding gap next year, which absent any future asset sales and assuming a significant curtailment in leasehold outlays next year, we estimate to total ~$6.0 billion.

- **2012 Hedging** – During Q3'11, Chesapeake elected to terminate virtually all of its Q4'11, 2012, and 2013 natural gas hedges, electing to lock in the gains on these contracts, as the company believes that the risk to the current natural gas price strip is to the upside, and is therefore purposely increasing its exposure to the commodity. However, the company still has some written natural gas calls outstanding. Additionally, only 3% and 1% of the company's 2012, and 2013 liquids volumes, respectively, have been hedged, while Chesapeake has also sold calls on oil output through 2017.

- **Adjusting Estimates** - We are revising our 2011, 2012 and 2013 EPS/CFPS estimates to $2.80/$5.48, $2.58/$5.82 and $4.24/$8.76, respectively (from $2.94/$5.70, $2.57/$5.80 and $3.37/$7.33, respectively) based on our revised oil price forecast.

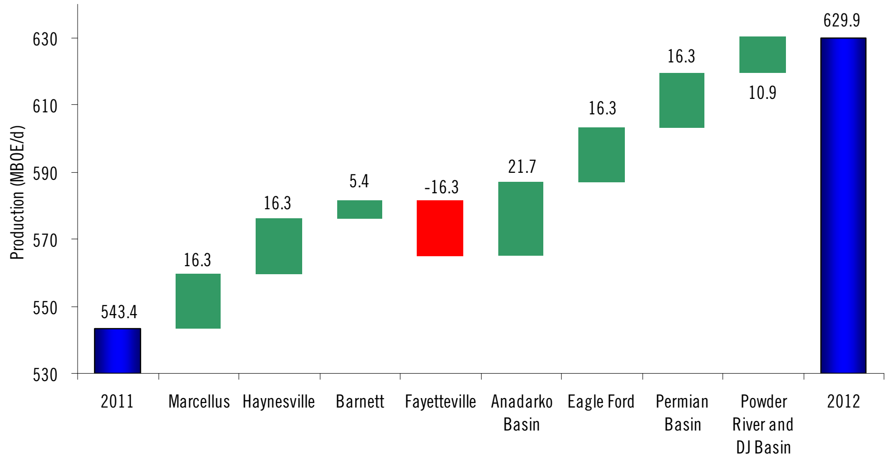
- **Valuation -** Maintain Buy rating and $32 PT, which equates to a 2012/2013 EV multiples of 8.0x/7.3x our debt adjusted cash flow estimate and 100% of proven-only NAV. Our price target is based on 'normalized' WTI spot crude oil and composite spot natural gas prices of $90/Bbl and $4.50/MMBtu, respectively.

Figure 50. Chesapeake Projected Production Breakdown by Region in 2011



Source: Citi Investment Research and Analysis

Figure 51. Chesapeake Projected Production Breakdown by Region in 2012



Source: Citi Investment Research and Analysis

Company Focus

Cobalt International Energy (CIE)

Impactful Drilling Campaign Gets Fully Underway in 2012; Production Still Years Away

- Company Update

Buy/High Risk	1H
Price (09 Dec 11)	US$10.51
Target price	US$18.00
Expected share price return	71.3%
Expected dividend yield	0.0%
Expected total return	**71.3%**
Market Cap	US$4,121M

Price Performance
(RIC: CIE.N, BB: CIE US)

- **2012 Production Outlook** — Cobalt will not begin producing hydrocarbons for at least the next three to four years as the company is still just in early stages of its exploratory drilling campaign.

- **2012 Capital Budget** — The company's drilling costs combined with some seismic outlays are projected to amount to just under $300 million next year. Cobalt is fully funded through the end of 2013.

- **Catalysts/New Plays** — While results from its first exploratory well in Angola's subsalt, Cameia #1, are expected to be announced any day, next year's drilling slate in Angola features Bicuar #1, located on the same block as Cameia #1, and an appraisal well of either Cameia or Bicuar, depending on the outcome of the two exploratory wells. In the Gulf of Mexico, Cobalt still awaits the arrival of the Ensco 8503 (currently with Tullow), before the Coast Guard can inspect the rig and issue the final permit for Ligurian #2. The North Platte exploratory well will follow next year. Meanwhile, APC spud Heidelberg #2R in late October (CIE 9.375%), targeting the same structure as Ligurian. In Gabon, operator Tullow is currently mapping out drilling locations and plans to conduct a rig tender in Q1'12, with drilling to begin in early H2'12.

- **Estimates Unchanged** — With EPS/CFPS for 2011, 2012 and 2013 at -$0.38/-$0.33, -$0.77/-$0.74 and -$0.90/-$0.87, respectively

- **Valuation -** Maintain Buy rating and $18 PT based on a risked (both geologic and commercial) NAV assessment at a $90/Bbl flat oil price.

EPS	Q1	Q2	Q3	Q4	FY	FC Cons
2010A	-0.09A	-0.12A	-0.10A	-0.09A	-0.39A	-0.39A
2011E	**-0.05A**	**-0.05A**	**-0.12A**	**-0.15E**	**-0.38E**	**-0.29E**
Previous	-0.05A	-0.05A	-0.12A	-0.15E	-0.38E	na
2012E	**na**	**na**	**na**	**na**	**-0.77E**	**-0.38E**
Previous	na	na	na	na	-0.77E	na
2013E	**na**	**na**	**na**	**na**	**-0.90E**	**-0.48E**
Previous	na	na	na	na	-0.90E	na

Source: Company Reports and dataCentral, CIR. FC Cons: First Call Consensus.

Company Focus

Concho Resources Inc (CXO)

Steady Ramp Up in the Permian Basin

- Company Update
- Estimate Change

Buy	1
Price (09 Dec 11)	US$100.58
Target price	US$92.00
Expected share price return	-8.5%
Expected dividend yield	0.0%
Expected total return	**-8.5%**
Market Cap	US$10,428M

Price Performance
(RIC: CXO.N, BB: CXO US)

- **2012 Production Outlook** – Production next year is expected to average ***~76 MBOE/d, up from 64 MBOE/d this year***, which implies 19% growth y-o-y with most of the growth coming from the recently expanded ***Delaware Basin Bone Spring*** acreage in the Permian. ***Liquids are projected to contribute to 63% of the company's output in 2012***.

- **2012 Capital Budget** – CXO FY'12 ***capex is pegged at $1.3 billion*** (with $1.1 billion allocated to drilling and completions, down 4% versus this year). The budget assumes an average of 35 operated rigs, up from an average of ~34 this year. The company plans to drill a total of ~825 wells next year, down slightly from this year, but with more of a ***focus on higher impact Bone Spring/Avalon Shale*** horizontal wells in the Delaware Basin.

- **2012 Hedging** – CXO ***hedged ~65% of its projected 2012 oil output*** (down from ~83% in 2011), 36% of its 2013 oil output at average swap prices of $93.85/$94.29 per Bbl. ***CXO remains the most oil hedged name within our coverage***. Its natural gas hedge position is unchanged with less than 1% of projected volumes hedged in 2012 (down from 23% in 2011).

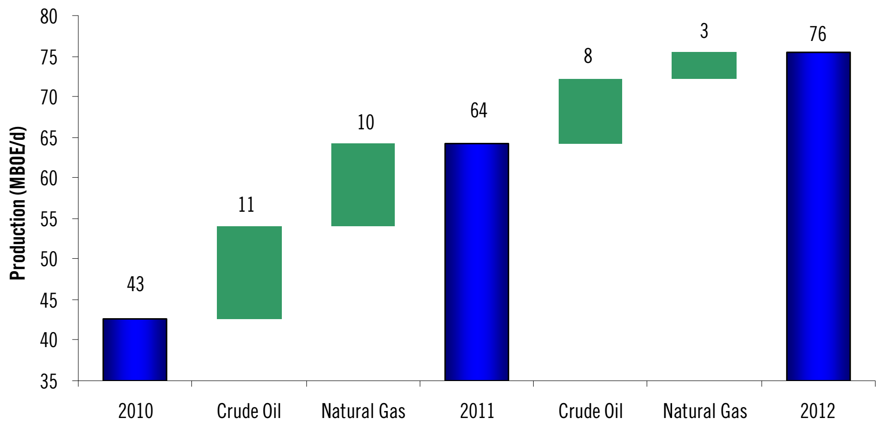
- **Adjusting Estimates** - We adjusted our 2011-2013 EPS/CFPS estimates to reflect our new crude oil and natural gas price forecasts. Our estimates are now $4.17/$10.98 from $4.21/$11.05 for 2011, $5.40/$13.25 from $5.28/$13.07 for 2012, $7.72/$17.70 from $6.22/$15.41 for 2013

- **Valuation** – We are maintaining our Buy rating with a $92 12-month PT based on the stock achieving 2012 and 2013 EV/DACF multiples of ~8.0x/6.8x and 166% of proven only NAV based on our "normalized" WTI spot oil and composite spot natural gas prices of $90/Bbl and $4.50/MMbtu,

EPS	Q1	Q2	Q3	Q4	FY	FC Cons
2010A	0.59A	0.63A	0.77A	0.75A	2.74A	2.71A
2011E	**0.79A**	**1.09A**	**1.14A**	**1.15E**	**4.17E**	**4.12E**
Previous	0.79A	1.09A	1.14A	1.19E	4.21E	na
2012E	**na**	**na**	**na**	**na**	**5.40E**	**5.41E**
Previous	na	na	na	na	5.28E	na
2013E	**na**	**na**	**na**	**na**	**7.72E**	**7.61E**
Previous	na	na	na	na	6.22E	na

Source: Company Reports and dataCentral, CIR. FC Cons: First Call Consensus.

Figure 52. Concho Projected Production Breakdown by Region in 2012



Source: Company Reports, Citi Investment Research and Analysis

Company Focus

- Company Update
- Estimate Change

Neutral	**2**
Price (09 Dec 11)	US$16.44
Target price	US$18.00
Expected share price return	9.5%
Expected dividend yield	0.0%
Expected total return	**9.5%**
Market Cap	US$6,438M

Price Performance
(RIC: DNR.N, BB: DNR US)

Denbury Resources, Inc. (DNR)

Bakken/Tertiary Drive Production Growth

- **2012 Production Outlook** – As was the case in 2011, ***Bakken*** and ***tertiary oil recovery*** are expected to be the main drivers of production growth next year, more than offsetting natural declines from conventional oil and natural gas fields. Liquids are projected to comprise 92.5% of the company's output in 2011 and increase to 94.5% in 2012.

- **2012 Capital Budget** – DNR expects its ***FY'12 capex to remain unchanged at ~$1.35 bn***, with more than ***half allocated towards oil*** producing projects, and the remainder towards CO2-related costs. DNR does not allocate any capital to natural gas projects.

- **Catalysts** – Most catalysts should come from tertiary projects, including projected initial output from the ***Oyster Bayou*** (Phase 8) and ***Hastings*** (Phase 7) fields in Q1'12.

- **New Plays** – ***DNR farmed out 85% of its Tuscaloosa*** shale to EnCana in 2011 and has the opportunity to participate in two wells in the play next year. DNR did not allocate any of its 2012 funds to the play.

- **Bakken Growth** - Notably, the Bakken is projected to comprise ***nearly 19% of 2012 volumes***, up from ~13% in 2011, even as the company spends a smaller portion of its capital spending on the play. Nearly all of DNR's Bakken acreage is expected to be held by production by Q1'12, allowing it to drill multi-well pads and re-frack the simple one-frack wells it inherited from Encore.

- **Well Costs** – Although DNR expects service cost inflation to continue in 2012, particularly in the Bakken, it is ***planning to save ~$400-$500k per well*** by drilling multiple well pads.

- **2012 Hedging** – DNR ***hedged ~79% of its projected 2012 oil output*** (up from ~77% in 2011) and ~90% of its natural gas output (down from ~100%).

- **Potential Asset Sales** – Despite actively developing the play in 2012, DNR may ***swap its Bakken acreage for CO2 fields/projects*** that is more in-line with its focus.

EPS	Q1	Q2	Q3	Q4	FY	FC Cons
2010A	0.06A	0.18A	0.13A	0.22A	0.62A	0.62A
2011E	**0.26A**	**0.36A**	**0.37A**	**0.38E**	**1.39E**	**1.28E**
Previous	0.26A	0.36A	0.37A	0.32E	1.34E	na
2012E	**na**	**na**	**na**	**na**	**1.47E**	**1.29E**
Previous	na	na	na	na	1.12E	na
2013E	**na**	**na**	**na**	**na**	**2.17E**	**1.46E**
Previous	na	na	na	na	1.25E	na

Source: Company Reports and dataCentral, CIR. FC Cons: First Call Consensus.

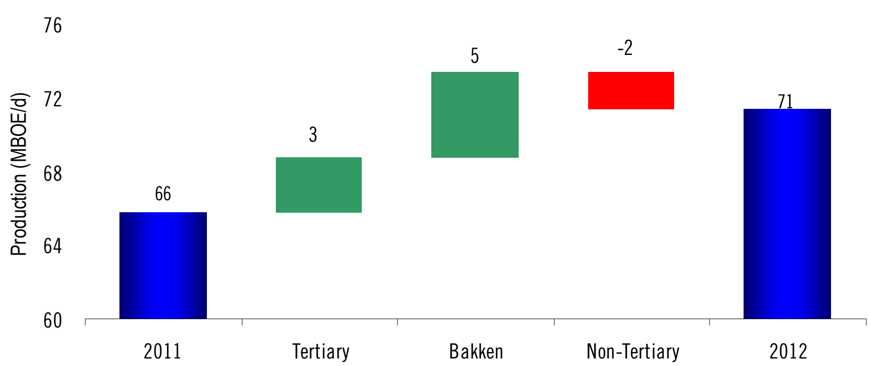
- **Adjusting Estimates** – We adjusted our 2011-2013 EPS/CFPS estimates to reflect our new crude oil and natural gas price forecasts. Our estimates are now $1.39/$3.47 from $1.34/$3.38 for 2011, $1.47/$3.62 from $1.12/$3.05 for 2012, $2.17/$4.84 from $1.25/$3.37 for 2013.

- **Valuation –** We are maintaining our Neutral rating with a $18 12-month PT based on the stock achieving 2012 and 2013 EV/DACF multiples of ~7.7x/7.1x and 81% of proven only NAV based on our "normalized" WTI spot oil and composite spot natural gas prices of $90/Bbl and $4.50/MMbtu, respectively.

Figure 53. Denbury Projected Production Breakdown by Region in 2011

Source: Citi Investment Research and Analysis

Figure 54. Denbury Projected Production Breakdown by Region in 2012



Source: Citi Investment Research and Analysis

Company Focus

Devon Energy Corp (DVN)

Canadian Oil, U.S. NGLs Drive Devon Into 2012

- Company Update
- Estimate Change

Buy	1
Price (09 Dec 11)	US$66.56
Target price	US$75.00
Expected share price return	12.7%
Expected dividend yield	1.0%
Expected total return	**13.6%**
Market Cap	US$26,884M

Price Performance
(RIC: DVN.N, BB: DVN US)

- **2012 Production Outlook** – Most of Devon's production growth next year should come from two regions: ***Canadian oil sands*** driven by the Jackfish 2 ramp-up, and growing ***domestic NGL volumes*** as it expands its ***Permian*** operations. U.S. natural gas output is also projected to rise year-over-year even as ***Barnett gas should grow by only 3-4%*** due to its high proportion of the overall production mix. In contrast, U.S. gas output was the largest source of growth in 2011, driven by Barnett activity.

- **2012 Capital Budget** – Although Devon has yet to provide guidance on its 2012 production or budget, management alluded on the Q3'11 earnings call that ***2012 spending will likely remain around current year's levels***, aside from the $700 mm DVN spend on new acreage acquisitions. We are modeling E&D spending of $6.2 Bn and total capex of $6.8 Bn for next year. With all of its acreage HBP, Devon will allocate 100% of its capital towards developing its oil and liquids rich areas. If the regional capex allocation remains unchanged, ~2/3 of spending (~$4.7 bn) should be allocated towards the U.S., with the remainder (~$1.5 bn) going towards Canada. However, ***$3.2 bn (nearly half) of Devon's cash balance is held outside the U.S***. and will need to be allocated towards international projects to avoid a ***tax liability***, suggesting a potential increase in Canadian capital spending.

- **Catalysts** – Devon currently has a data room open to ***find a joint venture partner for all of the New Venture plays***, with "very encouraging" initial interest. Devon believes that a J.V will improve its internal play economics, provide greater financial flexibility and allow it to also ***pursue other new resources plays***.

- **New Plays** - In 2011, Devon disclosed 1.2 mm net acres in ***six New Venture plays***: Ohio Utica, Michigan A1 Carbonate, Niobrara, Mississippian Lime, Tuscaloosa, Brown Dense***.*** The company ***drilled test wells in all these regions*** under an initial 40-well program but has yet to disclose well results.

- **Cost Inflation** – Devon expects industry-wide cost inflation to moderate in 2012, forecasting year-over-year growth of just 5% vs. a 10-12% rise this year, with nearly all of this increase coming from oil and liquids rich plays.

EPS	Q1	Q2	Q3	Q4	FY	FC Cons
2010A	1.65A	1.33A	1.31A	1.46A	5.76A	6.53A
2011E	**1.28A**	**1.71A**	**1.54A**	**1.49E**	**6.02E**	**6.05E**
Previous	1.28A	1.71A	1.54A	1.51E	6.04E	na
2012E	**na**	**na**	**na**	**na**	**7.20E**	**6.91E**
Previous	na	na	na	na	6.46E	na
2013E	**na**	**na**	**na**	**na**	**9.16E**	**8.17E**
Previous	na	na	na	na	7.07E	na

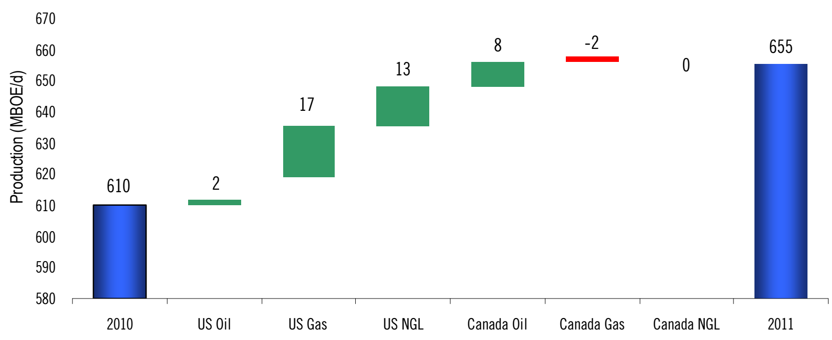
Source: Company Reports and dataCentral, CIR. FC Cons: First Call Consensus.

- **2012 Hedging** – Currently, Devon has *hedged ~31% of its 2012 natural gas production* vs. 35% of gas output. Meanwhile, *~61% of its 2012 crude oil volumes is hedged* vs. just 37% of oil output this year.

- **Adjusting Estimates** – We adjusted our 2011-2013 EPS/CFPS estimates to reflect our new crude oil and natural gas price forecasts. Our estimates are now $6.02/$14.12 from $6.04/$14.16 for 2011, $7.20/$14.44 from $6.46/$13.47 for 2012, $9.16/$17.31 from $7.07/$14.57 for 2013.

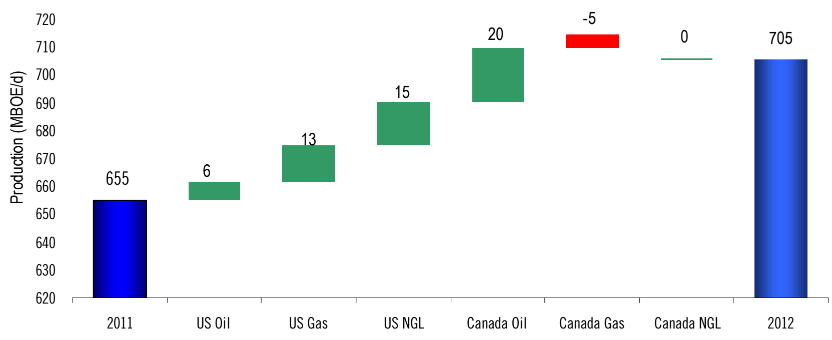
- **Valuation –** We are maintaining our Buy rating with a $75 12-month PT based on the stock achieving 2012 and 2013 EV/DACF multiples of ~5.6x/5.5x and 83% of proven only NAV based on our "normalized" WTI spot oil and composite spot natural gas prices of $90/Bbl and $4.50/MMbtu, respectively.

Figure 55. Devon Projected Production Growth by Region in 2011



Source: Citi Investment Research and Analysis

Figure 56. Devon Projected Production Growth by Region in 2011



Source: Citi Investment Research and Analysis

Company Focus

- Company Update
- Estimate Change

Neutral	**2**
Price (09 Dec 11)	US$19.17
Target price	US$20.00
Expected share price return	4.3%
Expected dividend yield	4.2%
Expected total return	**8.5%**
Market Cap	US$14,097M

Price Performance
(RIC: ECA.N, BB: ECA US)

EnCana Corp (ECA)

Production Outlook Remains Weak; New Liquids Plays in Focus

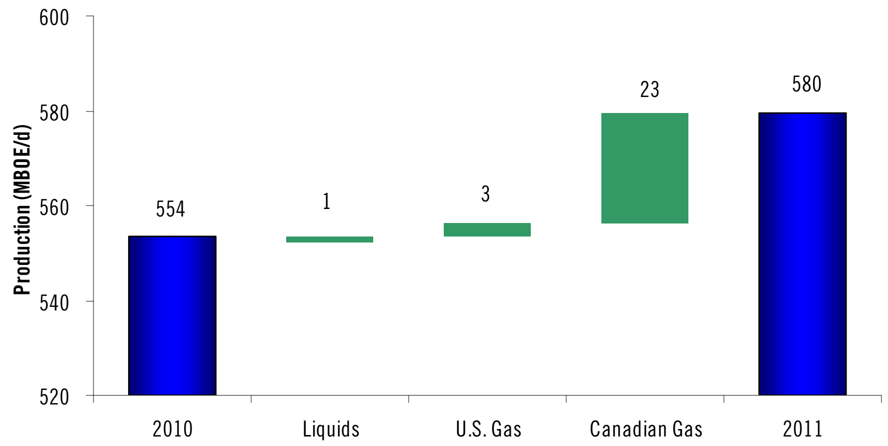
- **2012 Production Outlook** – Most of the production growth next year is expected to come from ***Deep Panuke*** project offshore East Canada which is expected to startup mid next year and contribute ***13 MBOE/d*** net to 2012 production. The rest of the onshore production is expected to grow at modest ***2%*** in view of lower capital expenditures, with bulk of growth coming from liquids as the company continues to invest into NGL extraction.
- **2012 Capital Budget** - We expect Encana's ***E&P budget next year to drop significantly from the current $4.7 Bn to ~$3.3 Bn*** in order to match projected discretionary cash flow net of dividends, with larger portion diverted towards liquids rich exploration.
- **Catalysts** – ECA will try to get additional $1bn. next year through additional joint ventures although at much smaller scale than the failed $5.4 CNPC JV this year.
- **New Plays** - The Company continues its exploration program across ***Tuscaloosa*** and other liquids rich plays ***Collingwood, Niobrara, Duvernay*** shale plays where "early well results are encouraging" but no details were given. The company spud horizontal wells in all these regions but will disclose well results early next year after flow testing those for extended period of time.
- **Haynesville** - Drilling activity in the Haynesville will be reduced in light of deteriorating gas price environment and company's plans to balance its capital spend with expected lower operating cash flow and dividend requirements for the next year. EnCana expects the ***Haynesville production to stay "relatively flat"*** at ~510 MMcf/d in 2012, despite lower capital spend before the decline in 2013. Notably, Haynesville accounted for two-thirds of production uptick last year adding more than ~200MMcf/d.
- **Focus On Costs** - Given that the natural gas price environment may remain challenged for some time, ECA is instead focusing on ***driving down supply costs***. It is progressing its strategy for moving towards dedicated pad drilling ("gas factories") alongside dedicated completion crews in places like Haynesville. EnCana's ***corporate supply costs (incl. G&A) at the moment stand at $3.70/MMBtu,*** with a target to further reduce them down to $3.00/MMBtu over the next 3-5 years.
- **2012 Hedging**- ***ECA has hedged ~58% of its 2012 natural gas production*** vs. ~51% of output this year. At an average swap price of $5.80/MMBtu, those volumes are expected to contribute ~$1bn. uplift to upstream cash flow at our current price assumptions. Encana remains exposed in 2013, however, with only 14% of volumes hedged at an average price of $5.24/MMBtu

EPS	Q1	Q2	Q3	Q4	FY	FC Cons
2010A	0.56A	0.11A	0.13A	0.09A	0.90A	0.90A
2011E	**0.02A**	**0.22A**	**0.23A**	**0.06E**	**0.54E**	**0.66E**
Previous	0.02A	0.22A	0.23A	0.22E	0.70E	na
2012E	**na**	**na**	**na**	**na**	**0.56E**	**0.80E**
Previous	na	na	na	na	0.74E	na
2013E	**na**	**na**	**na**	**na**	**0.15E**	**0.30E**
Previous	na	na	na	na	0.10E	na

Source: Company Reports and dataCentral, CIR. FC Cons: First Call Consensus.

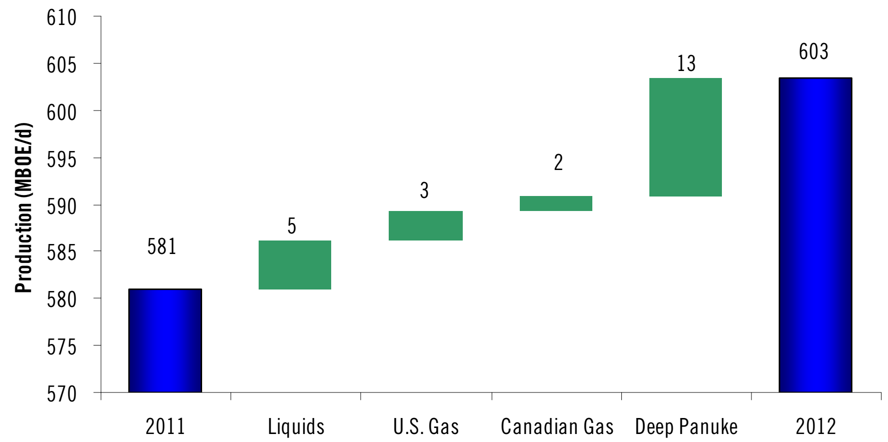
- **Adjusting Estimates** - We adjusted our 2011-2013 EPS/CFPS estimates to reflect our new crude oil and natural gas price forecasts. Our estimates are now \$0.54/\$5.71 from \$0.70/\$5.87 for 2011, \$0.56/\$5.43 from \$0.74/\$5.65 for 2012, \$0.15/\$5.08 from \$0.10/\$5.01 for 2013.
- **Valuation** – We are maintaining our Neutral rating with a \$20 12-month PT based on the stock achieving 2012 and 2013 EV/DACF multiples of ~4.4x/5.1x and 151% of proven only NAV based on our "normalized" WTI spot oil and composite spot natural gas prices of \$90/Bbl and \$4.50/MMbtu.

Figure 57. Encana Production Growth by Region in 2011



Source: Company Reports, Citi Investment Research and Analysis

Figure 58. Encana Production Growth by Region in 2012



Source: Company Reports, Citi Investment Research and Analysis

Company Focus

- Company Update
- Estimate Change

Neutral/High Risk	2H
Price (09 Dec 11)	US$6.96
Target price	US$9.00
Expected share price return	29.3%
Expected dividend yield	0.0%
Expected total return	**29.3%**
Market Cap	US$262M

Price Performance
(RIC: END.N, BB: END US)

Endeavour International (END)

All Eyes & Capital on North Sea Bacchus Field

- **2012 Production Outlook** – The ***Bacchus oil field in the North Sea*** should be Endeavour's focus next year, with first production expected in 1H'12. Operated by Apache (END 30% WI), the field has been a constant headache for END, as ***multiple delays*** have further strained the company's already ***tight capital structure***. Once Bacchus is online (we project the first well on stream in Q1'12), it is expected to more than double Endeavour's 2011 output and provide the capital necessary to finance further developments.

- **2012 Capital Budget –** Preventing further delays at Bacchus, END's management expects ***2012 spending to come close to this year's level*** of ~$150 mm, with ~3/4 of it allocated towards developing the Rochelle natural gas project in the North Sea. The company noted that only ***$110-120 mm of its budget has been fully committed***, including the amounts necessary to bring Bacchus and Rochelle to first oil, while it ***can bring its projected U.S. (gas) spending to a minimum*** if necessary.

- **Catalysts In Year Ahead** – Although ***first output from Bacchus*** is projected to be the main catalyst next year, exploration results from the ***Tudor Rose exploration well*** and a potential ***high yield debt offering*** are other catalysts.

- **New Plays** – Endeavour is drilling four vertical appraisal wells in the ***Heath shale*** in Montana, with initial results expected early next year. Furthermore, once the company achieves first output from Bacchus, it plans to use the associated cash flows to expand ***exploration work in the North Sea***.

- **Marcellus Capacity Constraints** – While low natural has prices made further development in the Haynesville uneconomical, END's Marcellus operations have been put on hold due to capacity constraints. In an effort to solve these and increase its production from the region, END agreed to purchase SM Energy's acreage in the pay for $110 mm, although the transaction has yet to close.

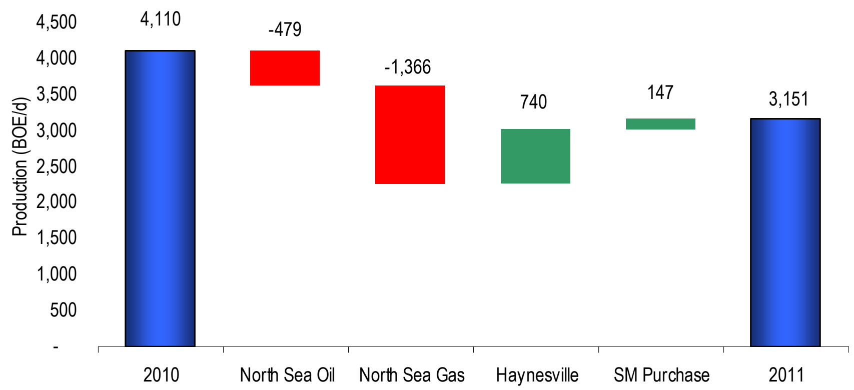
- **Adjusting Estimates** – We adjusted our 2011-2013 EPS/CFPS estimates to reflect our new crude oil and natural gas price forecasts. Our estimates are now ($1.25)/($0.67) from ($1.23)/($0.64) for 2011, $0.75/$2.88 from $0.77/$2.91 for 2012, $2.23/$7.26 from $1.82/$6.52 for 2013.

- **Valuation –** We are maintaining our Neutral rating with a $9 12-month PT based on the stock achieving 2012 and 2013 EV/DACF multiples of ~6.4x/2.9x and 64% of proven only NAV based on our "normalized" WTI spot oil and composite spot natural gas prices of $90/Bbl and $4.50/MMbtu, respectively.

EPS	Q1	Q2	Q3	Q4	FY	FC Cons
2010A	-0.54A	0.00A	-0.51A	1.19A	0.37A	-0.70A
2011E	**-0.30A**	**-0.25A**	**-0.58A**	**-0.22E**	**-1.25E**	**-1.60E**
Previous	-0.30A	-0.25A	-0.58A	-0.20E	-1.23E	na
2012E	**na**	**na**	**na**	**na**	**0.75E**	**0.52E**
Previous	na	na	na	na	0.77E	na
2013E	**na**	**na**	**na**	**na**	**2.23E**	**1.22E**
Previous	na	na	na	na	1.82E	na

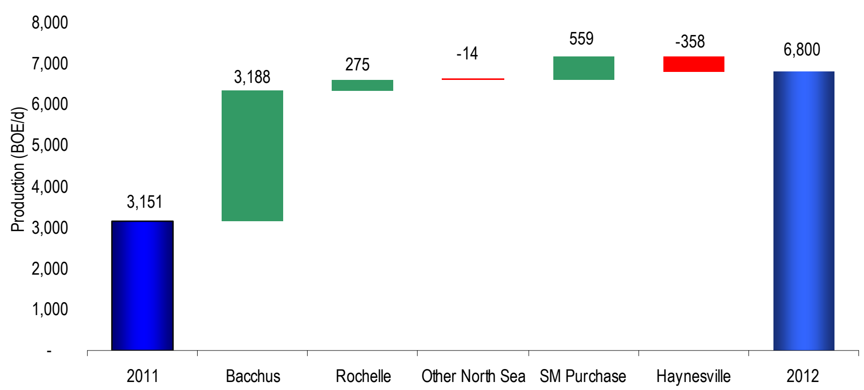
Source: Company Reports and dataCentral, CIR. FC Cons: First Call Consensus.

Figure 59. Endeavour Projected Production Growth by Region in 2012



Source: Citi Investment Research and Analysis

Figure 60. Endeavour Projected Production Growth by Region in 2012



Source: Citi Investment Research and Analysis

Company Focus

- Company Update
- Estimate Change

Buy	**1**
Price (09 Dec 11)	US$103.75
Target price	US$110.00
Expected share price return	6.0%
Expected dividend yield	0.6%
Expected total return	**6.6%**
Market Cap	US$27,893M

Price Performance
(RIC: EOG.N, BB: EOG US)

EOG Resources Inc (EOG)

Eagle Ford Remains the Growth Engine in 2012; Wolfcamp Drilling Ramping Up

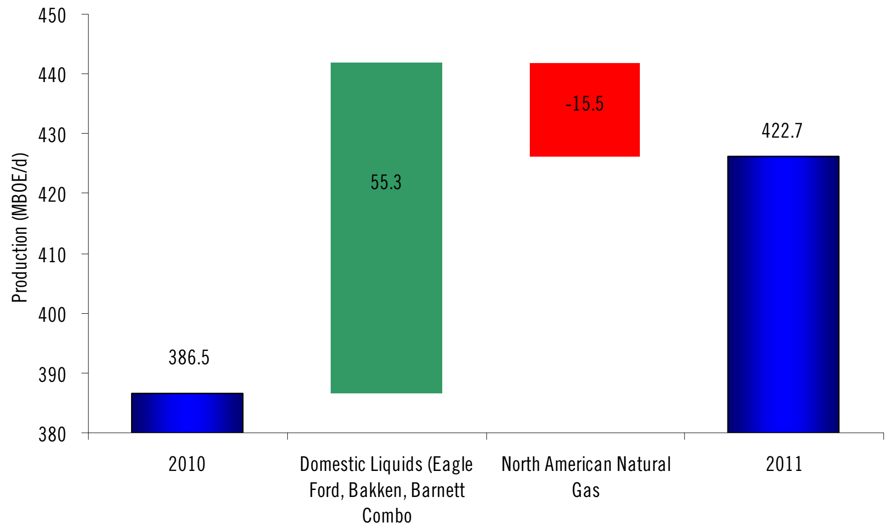
- **2012 Production Outlook** – Output next year is expected to average 2.82 Bcfe/d next year, up 11% from this year, with growth largely driven by domestic liquids, with the Eagle Ford expected to remain the company's single largest growth asset, and the Bakken and Barnett Combo accounting for much of the balance of growth. Additionally, following positive drilling results from the Wolfcamp this year, the company expects to ramp up activity here next year, and the asset should begin to contribute more significantly to output growth. Meanwhile, drilling in the dry-gas Haynesville and Marcellus plays has been minimized to satisfy HBP commitments only. Overall, liquids output should increase by nearly 40% next year, with liquids then accounting for ~45% of next year's output, up from ~36% this year. Meanwhile, natural gas output is projected to drop ~3% in 2012.
- **2012 Capital Budget** – E&D spending is projected to tick up ~6% to $6.7 billion next year, while total capex, including other PP&E and net of capitalized interest, is projected to increase 7% to $7.3 billion. Spending will be focused almost exclusively on liquids-rich plays, with dry gas spending minimized to HBP commitments only. The company's $1.3 billion funding gap next year will partially be bridged by the $0.7 billion in funding surplus generated this year following $1.6 billion in asset sales, with the remainder likely to be plugged by further minor divestitures in combination with debt issuance, although we project the company to be able to stay within its internally-imposed net debt-to-capital limit of 30% (we project 28% at YE12 assuming no further asset sales given that we do not model future divestitures; thus the ratio could very well end up below this level in the event of further successful sales).
- **Catalysts In Year Ahead** – (1) Further well results from the company's centerpiece Eagle Ford asset, (2) Evaluation of the economic viability of the company's Niobrara acreage, (3) Further results from the company's Wolfcamp drilling program, (4) Results from the company's initial wells in Argentina's Vaca Muerte Shale.
- **2012 Hedging –** EOG has hedged ~34% of next year's projected natural gas output, but it has also sold calls on nearly 30% of projected production. On the liquids side, only 7% of next year's volumes have been hedged.

EPS	Q1	Q2	Q3	Q4	FY	FC Cons
2010A	0.46A	0.18A	0.18A	0.36A	1.18A	0.92A
2011E	**0.68A**	**1.11A**	**0.83A**	**0.84E**	**3.48E**	**3.48E**
Previous	0.68A	1.11A	0.83A	0.75E	3.38E	na
2012E	**na**	**na**	**na**	**na**	**5.92E**	**4.45E**
Previous	na	na	na	na	4.75E	na
2013E	**na**	**na**	**na**	**na**	**9.22E**	**6.40E**
Previous	na	na	na	na	5.44E	na

Source: Company Reports and dataCentral, CIR. FC Cons: First Call Consensus.

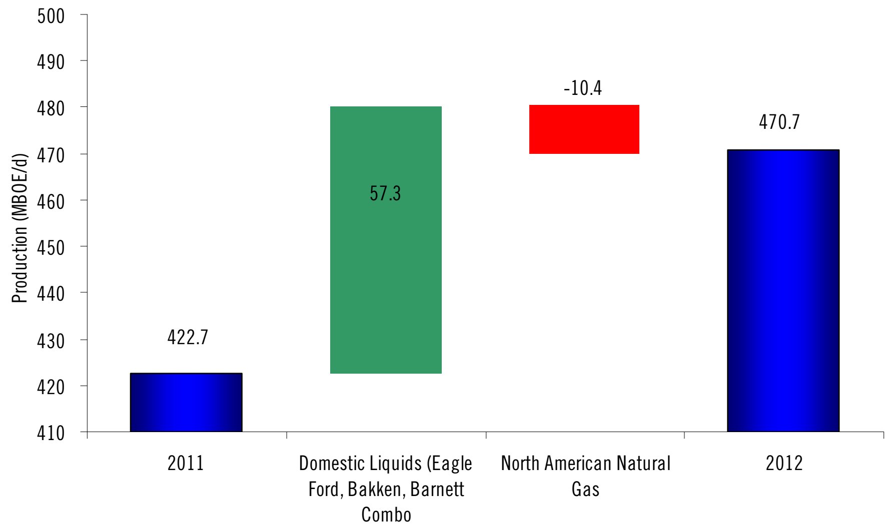
- **Adjusting Estimates** – We are revising our 2011, 2012 and 2013 EPS/CFPS estimates to $3.48/$18.02, $5.92/$22.53 and $9.22/$28.92, respectively (from $3.38/$17.88, $4.75/$20.89 and $5.44/$23.62, respectively) based on our revised oil price forecast
- **Valuation -** Maintain Buy rating and $110 PT, which equates to 2012/2013 EV multiples of 6.1x/5.6x our debt-adjusted cash flow estimates and 133% of proven-only NAV. Our price target is based on 'normalized' WTI spot crude oil and composite spot natural gas prices of $90/Bbl and $4.50/MMBtu, respectively.

Figure 61. EOG Resources Projected Production Growth by Region in 2011



Source: Citi Investment Research and Analysis

Figure 62. EOG Resources Projected Production Growth by Region in 2011



Source: Citi Investment Research and Analysis

Company Focus

- Company Update
- Estimate Change

Buy	**1**
Price (09 Dec 11)	US$41.88
Target price	US$48.00
Expected share price return	14.6%
Expected dividend yield	0.0%
Expected total return	**14.6%**
Market Cap	US$5,637M

Price Performance
(RIC: NFX.N, BB: NFX US)

Newfield Exploration Co. (NFX)

Uinta, Offshore GOM and International Projects Drive 2012 Growth

- **2012 Production Outlook** – Output next year is expected to average 909 MMcfe/d next year, up 10% from this year, with growth largely driven by output from Malaysia's East Piatu field and from the Gulf of Mexico Pyrenees field being online for the entire year, adding ~5% and ~3%, respectively, to production upon start-up. The Uinta Basin, which is projected to post output growth of 25% next year, will also add ~4% to 2012 production growth. Further adding to growth next year will be production from this year's deferred completion in the Williston Basin and in the Midcontinent (Granite Wash and the "Oily" Woodford). Offsetting this growth will be natural declines across the asset base, particularly in the offshore Gulf of Mexico, with decreased activity in the Williston Basin and in the Eagle Ford in response to escalating service costs along with 10 Bcfe of production sold this year. Overall, liquids output should increase by nearly 30% next year, with liquids then accounting for ~45% of next year's output, up from ~39% this year. Meanwhile, natural gas output is projected to remain flat in 2012.

- **2012 Capital Budget** – Is projected to drop ~16% next year to $1.6 billion from $1.9 billion this year. Even with this drop in spending, however, NFX should have no trouble achieving its growth targets due to the benefit of flush production from Malaysia's East Piatu and GOM Pyrenees projects starting up late this year, and from deferred completions in the Williston and in the Granite Wash. Thus, next year's budget is ~$0.2 billion below our discretionary cash flow estimate. Spending next year will be focused on the company's centerpiece Uinta Basin asset, with a ramp-up in Wolfcamp drilling also planned following positive drilling results this year, and with the Bakken, Barnett Combo, and the Eagle Ford garnering much of the remainder of the budget.

- **Catalysts In Year Ahead** – (1) Further well results from the company's centerpiece Uinta Basin asset, (2) Pyrenees start-up late this year, (3) Evolution of the economics of the company's Eagle Ford and Williston Basin acreage depending on further developments in cost service inflation, (4) Evaluation of the economic viability of the company's Southern Alberta Bakken acreage.

- **2012 Hedging –** Since its second-quarter 2010 earnings release, the company has not added any new natural gas hedges. For 2012 and 2013, the company has hedged 44% and 30% of its projected natural gas production, respectively, and 52% and 18% of its 2012 and 2013 expected oil volumes, respectively.

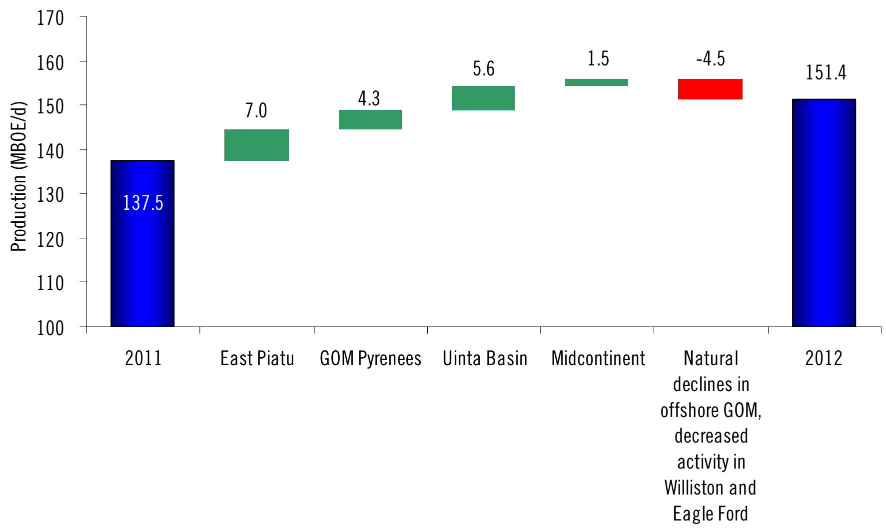
EPS	Q1	Q2	Q3	Q4	FY	FC Cons
2010A	1.19A	1.06A	1.10A	1.16A	4.52A	4.51A
2011E	**0.99A**	**1.02A**	**1.04A**	**1.14E**	**4.19E**	**4.08E**
Previous	0.99A	1.02A	1.04A	1.13E	4.17E	na
2012E	**na**	**na**	**na**	**na**	**5.81E**	**4.64E**
Previous	na	na	na	na	5.08E	na
2013E	**na**	**na**	**na**	**na**	**7.85E**	**5.50E**
Previous	na	na	na	na	5.46E	na

Source: Company Reports and dataCentral, CIR. FC Cons: First Call Consensus.

- **Adjusting Estimates** - We are revising our 2011, 2012 and 2013 EPS/CFPS estimates to $4.19/$10.62, $5.81/$13.54 and $7.85/$16.85, respectively (from $4.17/$10.60, $5.08/$12.46 and $5.46/$13.34, respectively) based on our revised oil price forecast

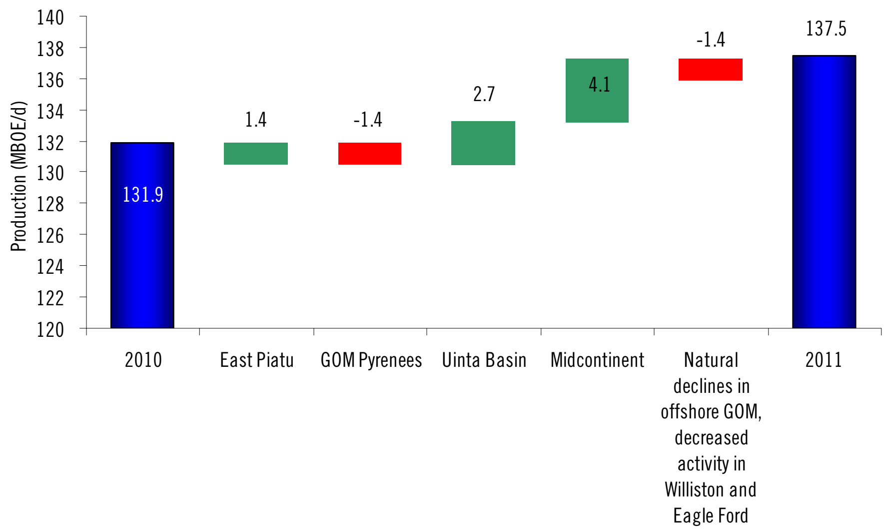
- **Valuation -** Maintain Buy rating and $48 PT, which equates to 2012/2013 EV multiples of 5.4x/5.0x our debt-adjusted cash flow estimates and 88% of proven-only NAV. Our price target is based on 'normalized' WTI spot crude oil and composite spot natural gas prices of $90/Bbl and $4.50/MMBtu, respectively.

Figure 63. Newfield Projected Production Growth by Region in 2011



Source: Citi Investment Research and Analysis

Figure 64. Newfield Projected Production Growth by Region in 2011



Source: Citi Investment Research and Analysis

Company Focus

- Company Update
- Estimate Change

Buy	1
Price (09 Dec 11)	US$14.71
Target price	US$20.00
Expected share price return	36.0%
Expected dividend yield	1.3%
Expected total return	**37.3%**
Market Cap	US$7,765M

Price Performance
(RIC: NXY.N, BB: NXY US)

Nexen Inc (NXY)

Usan Replaces Yemen in NXY's Production Mix

- **2012 Production Outlook** – The ***expiration of the Yemen production contract in December*** of this year takes ~15% of total output off the table for next year, but the company expects to replace most of lost volumes with ***initial oil from the Usan*** field offshore Nigeria. The ***return of normal activity at the Buzzard field*** in the North Sea following extensive maintenance work in 2011 should be the other production driver. We are modeling 2012 output of ~203 MBOE/d, which equates to a 6-26% increase over this year, adjusting for Yemen.

- **2012 Capital Budget** – Out 2012 capital spending forecast to $3.0bn represents ***a ~6% year-over-year uptick from $2.8bn this year***, which excludes $0.1bn for dividends and $650mm from the Horn River joint venture. ***Nearly all of the budget will be allocated towards oil*** and liquids project, with just 1% allocated towards Canadian natural gas development. Of note, ***nearly 20% of Nexen's 2012 capex is allocated towards exploration*** projects and ~1/3 should be spent on projects that won't yield production until after 2012.

- **Catalysts In Year Ahead** – First production from the ***Usan*** field offshore Nigeria (1H'12), return of normal activity at the ***Buzzard*** field in the North Sea, ***Long Lake*** ramp-up, results from the ***Kakuna*** exploration well and ***Appomatox*** appraisal wells in the Gulf of Mexico.

- **New Plays** – Nexen projects a full exploration slate for next year, which exposes it to a 550 MMBOE net mean risked resource potential (~50% of total proven reserve base). Currently drilling are the ***Kakuna*** prospect in the offshore Gulf of Mexico, the ***Sueva-1*** well in Colombia and the ***Cycow-1*** well in Poland with high-impact prospects also teed up for ***offshore Nigeria*** and the U.K. ***North Sea*** along with the ***Granum tight oil*** appraisal in Canada.

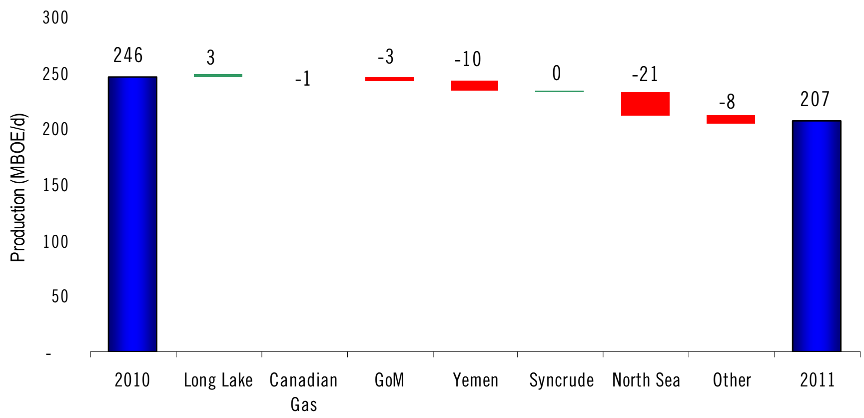
- **Potential Asset Sales** – During its December analyst day, Nexen admitted that it ***studied strategic alternatives of selling the entire company*** or one or more of its major assets, but concluded that ***neither was the best option*** to pursue at this time. Instead, the focus how now shifted towards better execution on existing projects, although management did not rule out the possibility of more joint ventures or asset sales in the future. Furthermore, we expect NXY ***to farm out additional interest in its Gulf of Mexico prospects*** next year.

EPS	Q1	Q2	Q3	Q4	FY	FC Cons
2010A	0.35A	0.30A	0.31A	0.42A	1.38A	2.27A
2011E	**0.49A**	**0.45A**	**0.36A**	**0.44E**	**1.64E**	**1.56E**
Previous	0.49A	0.45A	0.36A	0.39E	1.58E	na
2012E	**na**	**na**	**na**	**na**	**2.66E**	**2.16E**
Previous	na	na	na	na	2.45E	na
2013E	**na**	**na**	**na**	**na**	**3.69E**	**2.87E**
Previous	na	na	na	na	2.35E	na

Source: Company Reports and dataCentral, CIR. FC Cons: First Call Consensus.

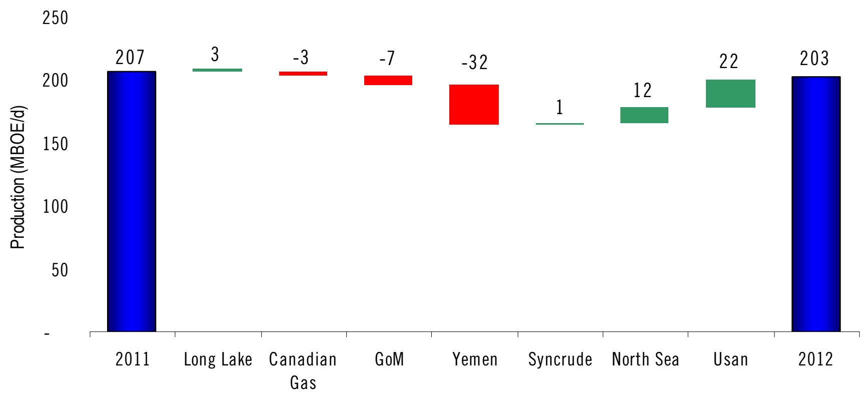
- **Adjusting Estimates** – We adjusted our 2011-2013 EPS/CFPS estimates to reflect our new crude oil and natural gas price forecasts. Our estimates are now \$1.64/\$4.17 from \$1.58/\$4.11 for 2011, \$2.66/\$5.89 from \$2.45/\$5.43 for 2012, \$3.69/\$7.91 from \$2.35/\$6.05 for 2013.
- **Valuation –** We are maintaining our Buy rating with a \$20 12-month PT based on the stock achieving 2012 and 2013 EV/DACF multiples of ~4.1x/3.5x and 64% of proven only NAV based on our "normalized" WTI spot oil and composite spot natural gas prices of \$90/Bbl and \$4.50/MMbtu, respectively.

Figure 65. Nexen Projected Production Growth by Region in 2011



Source: Citi Investment Research and Analysis

Figure 66. Nexen Projected Production Growth by Region in 2012



Source: Citi Investment Research and Analysis

Company Focus

- Company Update
- Estimate Change

Buy	**1**
Price (09 Dec 11)	US$95.53
Target price	US$110.00
Expected share price return	15.1%
Expected dividend yield	0.9%
Expected total return	**16.1%**
Market Cap	US$16,875M

Price Performance
(RIC: NBL.N, BB: NBL US)

Noble Energy Inc (NBL)

U.S. Liquids/Gas and Equatorial Guinea to Drive Output Growth

- **2012 Production** – We project Noble's production will grow by ~16% to ~257 MBOE/d in 2012, primarily driven by the U.S., as production ramps up in the ***Niobrara*** and ***Marcellus*** and the ***Galapagos*** project comes online in the Gulf of Mexico. West Africa volumes are projected to rise year-over-year due to contribution from ***Aseng offshore Equatorial Guinea***, while Israel output should drop as the ***Mari-B*** field comes to the end of its useful life. In contrast, this year's volumes were driven primarily by the increase in Israeli demand following the interruption of Egyptian imports, and DJ Basin ramp-up.

- **2012 Capital Budget** – Capital outlays are set to steadily rise f***rom ~$3.0 bn this year to ~$3.5 bn in 2012*** and over $5.0 bn in 2015, underscored by a ramp in onshore U.S. horizontal drilling along with exploration/development offshore international and deepwater Gulf. In addition to the aforementioned spending needs, next year's budget is further augmented by the $125 mm drilling carry and $375 mm payment to CNX as part of the Marcellus joint venture transaction. NBL has already ***expanded its credit line to $3.0 bn*** from $2.1 bn to finance its projected production growth.

- **Catalysts In Year Ahead** – Initial volumes from the ***Noa*** and ***Tamar*** natural gas fields offshore Israel, initial exploration results at ***Cyprus***, start-up of the ***Galapagos*** project in the deepwater Gulf of Mexico, domestic output ramp-up in the ***Niobrara*** and ***Marcellus*** and international ramp-up at ***Aseng*** in Equatorial Guinea. Furthermore, Noble expects initial results from the ***Deep Blue sidetrack*** well in the Gulf, the ***Dolphin*** exploration well offshore Israel and the ***Bwabe*** prospect offshore Cameroon by 1H'12.

- **New Plays** - Noble plans to step up the risk curve on exploration with several high risk and high potential prospects on the slate from the deepwater Gulf of Mexico to offshore ***Israel/Cyprus***, ***West Africa***, ***France*** and ***Nicaragua***. In addition, the company is leasing acreage (200k acres to date and targeting 500k+) ***on three U.S. onshore emerging new ventures plays*** (liquids-rich or oil).

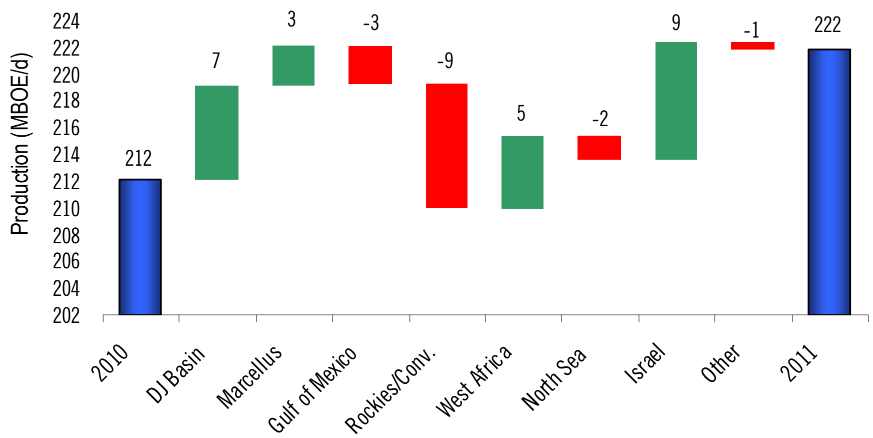
- **2012 Hedging** – Noble currently has ***~31% of its 2012 projected natural gas production hedged*** vs. ~56% of this year's volumes. Meanwhile, the company has not added any hedges on the oil side for next year vs. ~47% of total output this year.

EPS	Q1	Q2	Q3	Q4	FY	FC Cons
2010A	0.78A	1.07A	1.27A	1.22A	4.34A	4.22A
2011E	**1.35A**	**1.47A**	**1.24A**	**1.27E**	**5.31E**	**5.06E**
Previous	1.35A	1.47A	1.24A	1.28E	5.31E	na
2012E	**na**	**na**	**na**	**na**	**6.57E**	**6.85E**
Previous	na	na	na	na	6.39E	na
2013E	**na**	**na**	**na**	**na**	**8.52E**	**8.96E**
Previous	na	na	na	na	6.95E	na

Source: Company Reports and dataCentral, CIR. FC Cons: First Call Consensus.

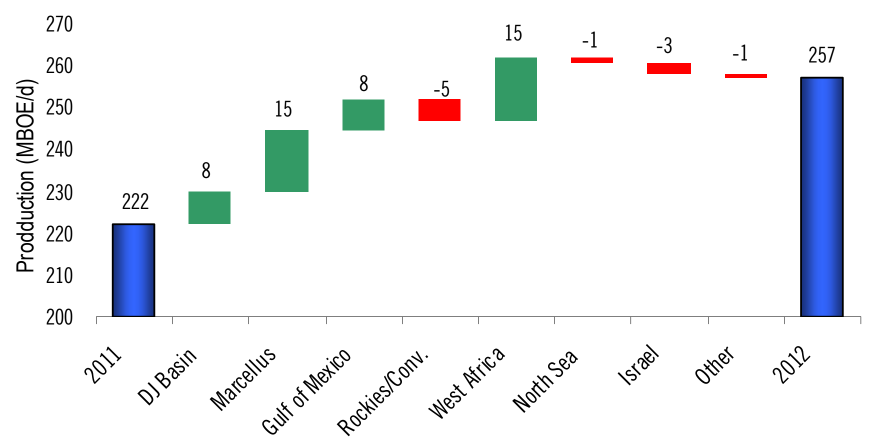
- **Adjusting Estimates** – We adjusted our 2011-2013 EPS/CFPS estimates to reflect our new crude oil and natural gas price forecasts. Our estimates are now \$5.31/\$13.49 from \$5.31/\$13.50 for 2011, \$6.57/\$16.92 from \$6.39/\$16.70 for 2012, \$8.52/\$19.84 from \$6.95/\$17.95 for 2013.
- **Valuation –** We are maintaining our Buy rating with a \$110 12-month PT based on the stock achieving 2012 and 2013 EV/DACF multiples of ~7.8x/7.7x and 108% of proven only NAV based on our "normalized" WTI spot oil and composite spot natural gas prices of \$90/Bbl and \$4.50/MMbtu, respectively.

Figure 67. Noble's Projected Production Growth by Region in 2011



Source: Citi Investment Research and Analysis

Figure 68. Noble's Projected Production Growth by Region in 2012



Source: Citi Investment Research and Analysis

Company Focus

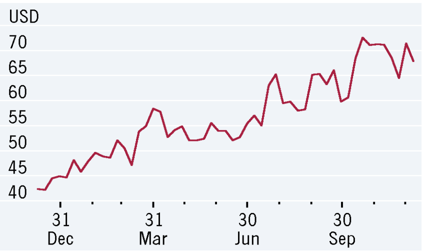
Range Resources Corp (RRC)

36% Growth in 2012 Yet Again to Be Driven by the Marcellus

- Company Update
- Estimate Change

Buy	1
Price (09 Dec 11)	US$68.13
Target price	US$70.00
Expected share price return	2.7%
Expected dividend yield	0.2%
Expected total return	**2.9%**
Market Cap	US$10,986M

Price Performance
(RIC: RRC.N, BB: RRC US)

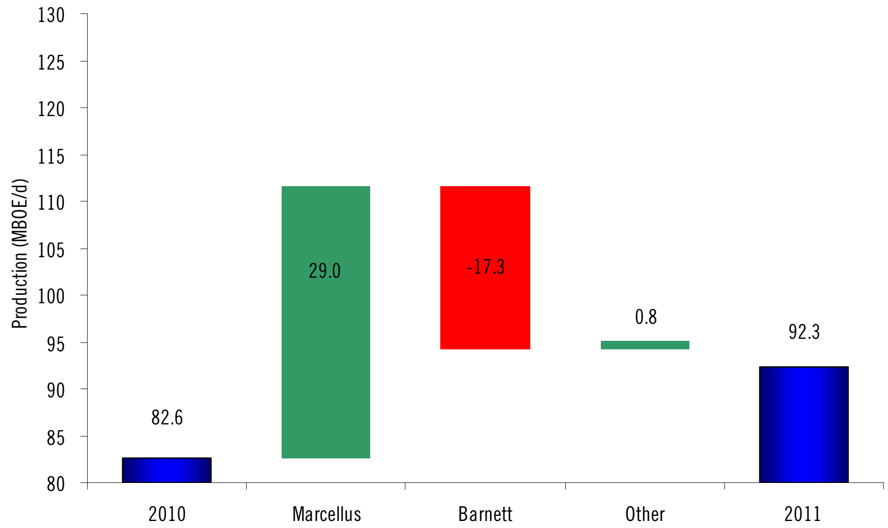


- **2012 Production Outlook** – Output next year is expected to average 753 MMcfe/d, up 36% from this year, with growth once again driven primarily by the Marcellus play, augmented to some extent by increases in Range's Midcontinent areas, such as the Mississippian Lime and St. Louis formation, and offset by the sale of the Barnett in early 2011. Thus, output from the Marcellus should grow by at least ~50% next year to exit 2012 at ~600 MMcfe/d after doubling to 400 MMcfe/d at the end of 2011 vs. YE10. Overall, liquids and natural gas should grow at the same pace of 36% next year, with liquids continuing to account for ~23% of total output.
- **2012 Capital Budget** – E&D spending of $1.3 billion next year is projected to be up 13% from this year, while leasehold and other PP&E outlays are projected to remain flat at $0.2 billion and $0.1 billion, respectively. Thus, total capital budget of $1.6 billion should be up 11% from this year, and is projected to exceed our discretionary cash flow forecast by $0.7 billion, with the shortfall set to be financed partially by the surplus from this year's asset sales, and partially by potential future sales in combination with debt. The Marcellus (86% of this year's budget) is set to once again garner the great majority of the budget, with some increased spending in the company's economically attractive Midcontinent areas (Mississippian Lime, St. Louis).
- **Catalysts In Year Ahead** – (1) Implementation of successful infrastructure solutions in the Marcellus, securing of further ethane contracts (2) Well results from the company's expanding Mississippian Lime and St. Louis formations.
- **2012 Hedging –** Range has also hedged ~45% of next year's projected natural gas production and 22% of 2013. However, the company continues to subsidize its natural gas hedges by option-writing on 2011 and 2012 crude volumes, having sold calls with strikes of $80-85/Bbl. Additionally, 26% of next year's oil volumes are hedged with a $70/Bbl x $80/Bbl collar.
- **Adjusting Estimates** - We are revising our 2011, 2012 and 2013 EPS/CFPS estimates to $1.02/$4.40, $1.70/$6.18 and $3.16/$9.41, respectively (from $1.06/$4.46, $1.84/$6.40 and $2.54/$8.38, respectively) based on our revised oil price forecast.
- **Valuation** - Maintain Buy rating and $70 PT, which equates to 2012/2013 EV multiples of 12.0x/9.9x our debt-adjusted cash flow estimates and 198% of proven-only NAV. Our price target is based on 'normalized' WTI spot crude oil and composite spot natural gas prices of $90/Bbl and $4.50/MMBtu, respectively.

EPS	Q1	Q2	Q3	Q4	FY	FC Cons
2010A	0.16A	0.09A	0.12A	0.19A	0.56A	0.56A
2011E	**0.22A**	**0.21A**	**0.28A**	**0.34E**	**1.02E**	**1.06E**
Previous	0.22A	0.21A	0.28A	0.37E	1.06E	na
2012E	**na**	**na**	**na**	**na**	**1.70E**	**1.43E**
Previous	na	na	na	na	1.84E	na
2013E	**na**	**na**	**na**	**na**	**3.16E**	**2.47E**
Previous	na	na	na	na	2.54E	na

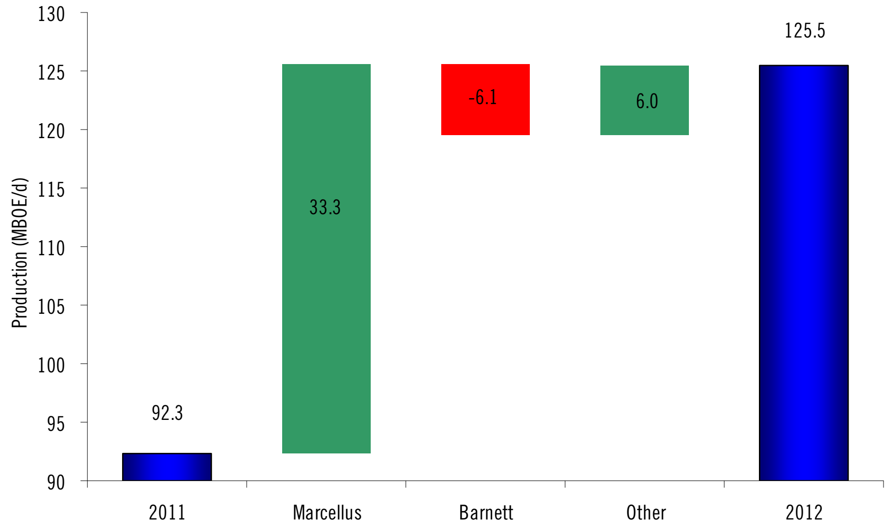
Source: Company Reports and dataCentral, CIR. FC Cons: First Call Consensus.

Figure 69. Range Projected Production By Region in 2011



Source: Citi Investment Research and Analysis

Figure 70. Range Projected Production By Region in 2012



Source: Citi Investment Research and Analysis

Company Focus

Rosetta Resources (ROSE)

Fast Ramp Up in the Eagle Ford; Southern Alberta Jury Still Out

- Company Update
- Estimate Change

Neutral/High Risk	2H
Price (09 Dec 11)	US$50.55
Target price	US$50.00
Expected share price return	-1.1%
Expected dividend yield	0.0%
Expected total return	**-1.1%**
Market Cap	US$2,681M

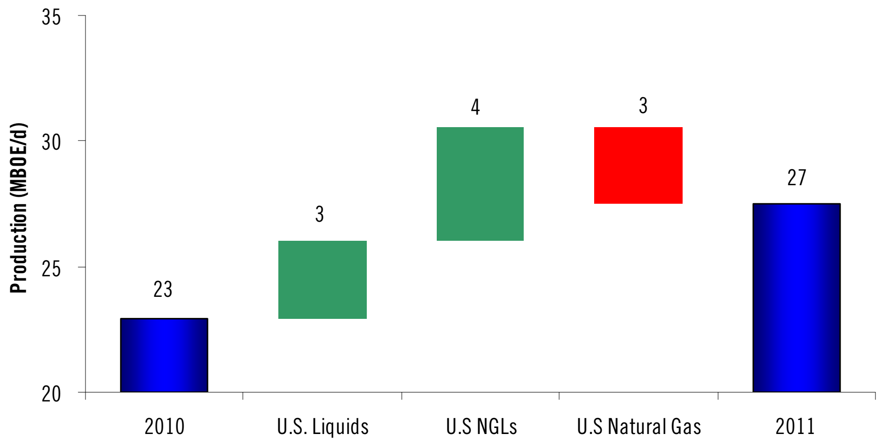
Price Performance
(RIC: ROSE.O, BB: ROSE US)

- **2012 Production Outlook** – 2012 Production is expected to average ~39 MBOE/d (53% liquids) up from 27 MBbl/d this year (46% liquids). Following divestiture of non-core Sacramento and DJ Basin gas assets this year, the ***production next year should grow ~45%*** entirely driven by increase in output from Gates Ranch area in the Eagle Ford.
- 2012 Capital Budget - Budget is expected *to **increase from the current $475 million to $550 million*** as the company ramps-up activity in the Eagle Ford with ***60 wells on the slate versus 45 this year* with plans to run *4 operated rigs***. Most of the capital budget will be allocated to the development of its core Gates Ranch area.
- **Catalysts In Year Ahead** – 1) ROSE is expected to share results from its horizontal wells in ***Southern Alberta Basin*** 2) Further de-risking and evaluation of economic viability of resources outside its core ***Gates Ranch*** area.
- **2012 Hedging**- Rosetta hedged ~56% of its projected 2012 *oil* output (down from ~61% in 2011) and ~18% of its *natural gas* output (down from 56%)
- **Adjusting Estimates** - We adjusted our 2011-2013 EPS/CFPS estimates to reflect our new crude oil and natural gas price forecasts. Our estimates are now $2.06/$5.74 from $2.01/$5.67 for 2011, $3.82/$9.02 from $3.38/$8.34 for 2012, $6.09/$13.26 from $4.36/$10.57 for 2013
- **Valuation -** We are maintaining our Neutral rating with a $50 12-month PT based on the stock achieving 2012 and 2013 EV/DACF multiples of ~6.6x/5.3x and 298% of proven only NAV based on our "normalized" WTI spot oil and composite spot natural gas prices of $90/Bbl and $4.50/MMbtu, respectively.

EPS	Q1	Q2	Q3	Q4	FY	FC Cons
2010A	0.14A	0.08A	0.17A	0.17A	0.56A	0.56A
2011E	**0.21A**	**0.48A**	**0.61A**	**0.76E**	**2.06E**	**1.98E**
Previous	0.21A	0.48A	0.61A	0.71E	2.01E	na
2012E	**na**	**na**	**na**	**na**	**3.82E**	**3.46E**
Previous	na	na	na	na	3.38E	na
2013E	**na**	**na**	**na**	**na**	**6.09E**	**5.14E**
Previous	na	na	na	na	4.36E	na

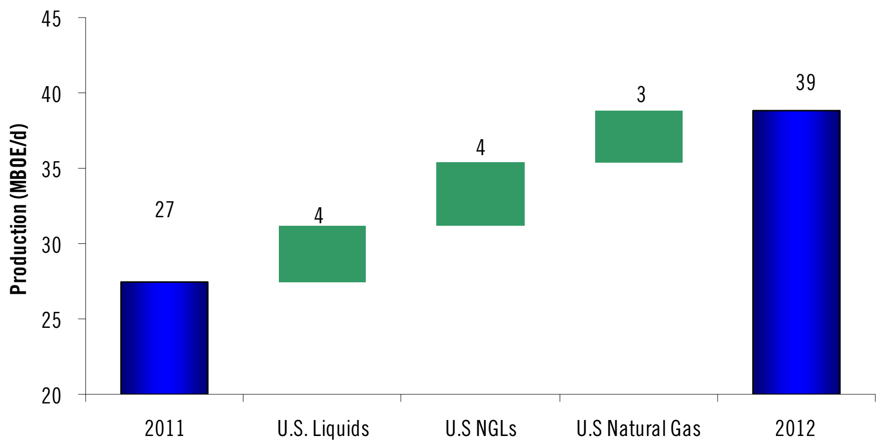
Source: Company Reports and dataCentral, CIR. FC Cons: First Call Consensus.

Figure 71. Rosetta Production Growth in 2011



Source: Company Reports, Citi Investment Research and Analysis

Figure 72. Rosetta Expected Production Growth in 2012



Source: Company Reports, Citi Investment Research and Analysis

Company Focus

- Company Update
- Estimate Change

Neutral	2
Price (09 Dec 11)	US$36.79
Target price	US$40.00
Expected share price return	8.7%
Expected dividend yield	0.0%
Expected total return	**8.7%**
Market Cap	US$12,815M

Price Performance
(RIC: SWN.N, BB: SWN US)

Southwestern Energy Co (SWN)

Robust Growth in 2012 Again Driven by the Fayetteville, While Marcellus Volumes Become More Impactful

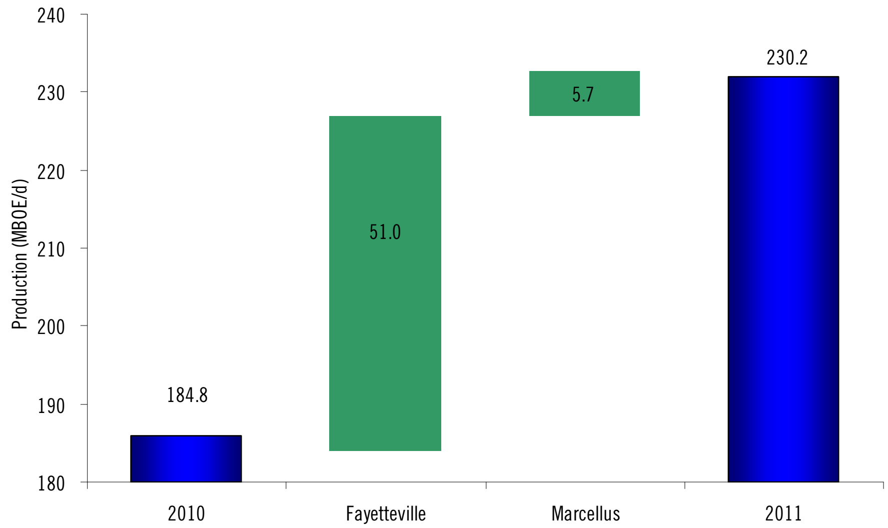
- **2012 Production Outlook** – Output next year is expected to average 1.65 Bcfe/d, up 20% from this year, with growth once again driven primarily by the Fayetteville play, while the company's Marcellus operations should also begin to contribute to output growth in a more significant fashion in 2012. Thus, output from the Fayetteville should grow by over 20% next year. Natural gas is projected to continue accounting for virtually 100% of Southwestern's output.
- **2012 Capital Budget** – Even though the company has yet to disclose its formal 2012 capital budget, with the announcement expected any day now, we currently project E&D spending to tick up 6% to $1.9 billion, with other PP&E spending flat at $0.3 billion, resulting in a total budget uptick of 5% to $2.2 billion. Fayetteville rig count is likely to be unchanged next year at the current level of 19 rigs (12 horizontals plus seven spudders), so given that we do not forecast significant inflation in the play, we project Fayetteville spending to remain flat. Meanwhile, the company now expects to add two additional rigs in the Marcellus mid-next year, bringing the total rig count in the play to four, or an average for 2012 of three rigs. Thus, our $100 million assumed capex uptick next year versus this year simply reflects one additional rig, on average for the year, operating in the Marcellus Shale, in line with management's indication that operating one rig for a year costs ~$100 million. While spending on the company's New Ventures division is likely to tick up next year, Southwestern has previously indicated that it intends to offset any uptick in this area with an anticipated decrease in midstream spending. Next year's budget estimate roughly matches our discretionary cash flow projection.
- **Catalysts In Year Ahead** – (1) Continued efficiency gains in the Fayetteville as more wells are drilled in five days or less following the implementation of the company's cutting-edge one-bit technology; (2) More significant contribution to output from the company's budding position in the Marcellus Shale; (3) Well results from Southwestern's initial drilling campaign in its newly-disclosed Lower Smackover Brown Dense Play; (4) Announcements with respect to yet undisclosed plays in which the company continues to accumulate acreage.
- **2012 Hedging –** Thus far, SWN has hedged 44% and 27% of projected 2012 and 2013 volumes, respectively, although during its Q3'11 conference call, management commented that it is hoping for winter price spikes to provide an opportunity for additional hedging.

EPS	Q1	Q2	Q3	Q4	FY	FC Cons
2010A	0.49A	0.35A	0.46A	0.43A	1.73A	1.73A
2011E	**0.39A**	**0.48A**	**0.50A**	**0.49E**	**1.86E**	**1.88E**
Previous	0.39A	0.48A	0.50A	0.57E	1.95E	na
2012E	**na**	**na**	**na**	**na**	**2.31E**	**2.18E**
Previous	na	na	na	na	2.59E	na
2013E	**na**	**na**	**na**	**na**	**2.67E**	**2.54E**
Previous	na	na	na	na	2.79E	na

Source: Company Reports and dataCentral, CIR. FC Cons: First Call Consensus.

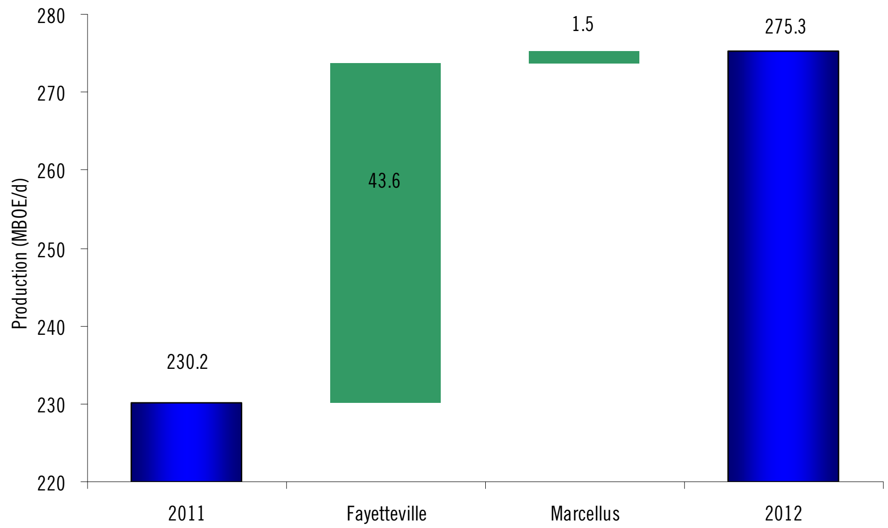
- **Adjusting Estimates** - We are revising our 2011, 2012 and 2013 EPS/CFPS estimates to $1.86/$4.95, $2.31/$5.97 and $2.67/$6.88, respectively (from $1.95/$5.09, $2.59/$6.42 and $2.79/$7.07, respectively) based on our revised oil price forecast.
- **Valuation -** Maintain Neutral rating and $40 PT, which equates to 2012/2013 EV multiples of 6.8x/5.9x our debt-adjusted cash flow estimates and 188% of proven-only NAV. Our price target is based on 'normalized' WTI spot crude oil and composite spot natural gas prices of $90/Bbl and $4.50/MMBtu, respectively.

Figure 73. Southwestern Projected Production By Region in 2011



Source: Citi Investment Research and Analysis

Figure 74. Southwestern Projected Production By Region in 2012



Source: Citi Investment Research and Analysis

Company Focus

- Company Update
- Estimate Change

Buy	1
Price (09 Dec 11)	US$12.41
Target price	US$18.00
Expected share price return	45.0%
Expected dividend yield	2.2%
Expected total return	**47.2%**
Market Cap	US$12,797M

Price Performance
(RIC: TLM.N, BB: TLM US)

Talisman Energy Inc (TLM)

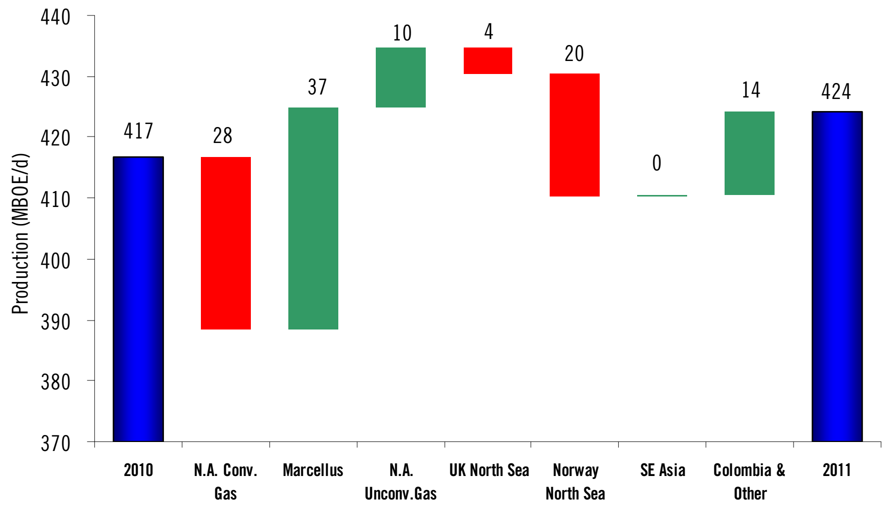
Eagle Ford and SE Asia to Drive Growth; Portfolio Realignment is Possible

- **2012 Production Outlook** – Most of next year's production growth will be essentially driven by core ***North American shale plays***, primarily ***Eagle Ford***, with a lesser contribution from ***South-East Asia's Jambi Merang*** and ***Kitan*** projects and ***Yme project*** in the ***North Sea***. Although TLM hasn't provided its full year guidance yet. We expect the company's growth in 2012 to average 458 MBOE/d, or a ~8% y-o-y uptick over our 2011 estimate of 424 MBOE/d.
- **2012 Capital Budget** — Similar to most of its peers, Talisman plans to scale back "dry" gas activity in North America next year, but surprisingly this will likely entail ***less drilling in the Marcellus shale***, which currently accounts for nearly 20% of its total production and will be at the upper-end of its targeted range this year. This move will also likely entail ***less drilling at the B.C. Montney*** shale play. Instead, ***capital will be redirected to the Eagle Ford shale***, where momentum is building, ***and Colombia.***
- **Catalysts In Year Ahead** - In Colombia, results from the Huron-2 appraisal well, are expected mid-2012. Kurdistan– Kurdamir-2 to spud in Q4 after Topkhana-1 well results in November. In Poland's Baltic Shale Play, Talisman is drilling the first of three initial wells, Lewino-1, with results expected next year.
- **International Projects** - After series of delays ***Yme project*** offshore Norway is expected to ***startup mid-year adding 23 MBbbl/d at peak***, however this would be offset by natural declines from offshore fields. Talisman will also have a full year of output from ***Kitan*** offshore Australia (***10 MBbl/d***) and ***Jambi Merang*** in Indonesia ***(5 MBbl/d).***
- **Potential Asset Sales** – During its third quarter results, TLM admitted that ***North Sea assets could be up for sale*** this year given the recent volatility in the production and the company's large exposure to the region.
- **Adjusting Estimates** - We adjusted our 2011-2013 EPS/CFPS estimates to reflect our new crude oil and natural gas price forecasts. Our estimates are now \$0.75/\$3.46 from \$0.76/3.47 for 2011, \$1.52/\$4.43 from \$1.45/4.36 for 2012, \$2.22/\$5.33 from \$1.46/4.57 for 2013
- **Valuation -** We are maintaining our Buy rating with a \$18 12-month PT based on the stock achieving 2012 and 2013 EV/DACF multiples of ~5.3x/5.2x and 111% of proven only NAV based on our "normalized" WTI spot oil and composite spot natural gas prices of \$90/Bbl and \$4.50/MMbtu, respectively.

EPS	Q1	Q2	Q3	Q4	FY	FC Cons
2010A	0.12A	0.13A	0.02A	0.08A	0.35A	0.33A
2011E	**0.15A**	**0.16A**	**0.16A**	**0.28E**	**0.75E**	**0.79E**
Previous	0.15A	0.16A	0.16A	0.29E	0.76E	na
2012E	**na**	**na**	**na**	**na**	**1.52E**	**1.31E**
Previous	na	na	na	na	1.45E	na
2013E	**na**	**na**	**na**	**na**	**2.22E**	**1.65E**
Previous	na	na	na	na	1.46E	na

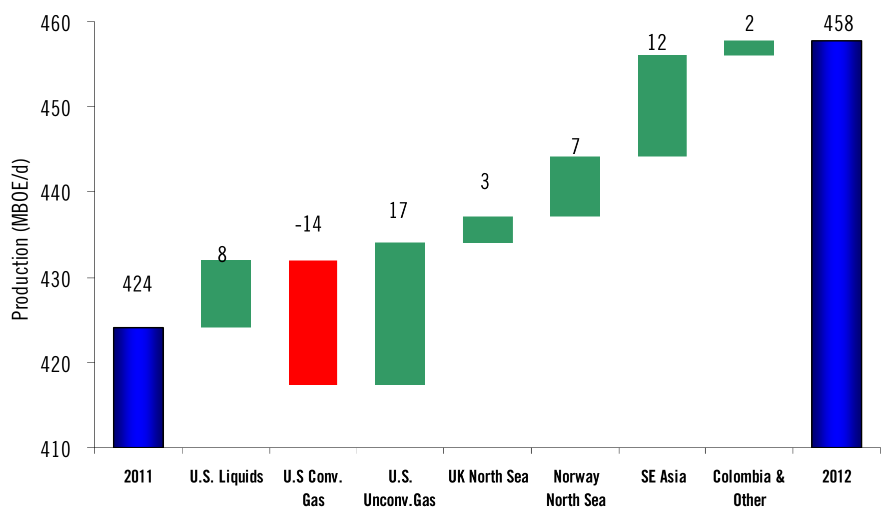
Source: Company Reports and dataCentral, CIR. FC Cons: First Call Consensus.

Figure 75. Talisman Production Growth by Region in 2011



Source: Company Reports, Citi Investment Research and Analysis

Figure 76. Talisman Expected Production Growth by Region in 2012



Source: Company Reports, Citi Investment Research and Analysis

Company Focus

Ultra Petroleum Corp. (UPL)

Marcellus to Drive 20% Growth in 2012 on Expected Debottlenecking

- Company Update
- Estimate Change

Neutral	2
Price (09 Dec 11)	US$34.42
Target price	US$40.00
Expected share price return	16.2%
Expected dividend yield	0.0%
Expected total return	**16.2%**
Market Cap	US$5,257M

Price Performance
(RIC: UPL.N, BB: UPL US)

- **2012 Production Outlook** – Ultra's preliminary growth guidance calls for output to grow by 20%-38%, up from 20%-25% previously. The surge in output projected for 2012 is premised on the assumption that the inventory of wells awaiting completion or pipeline hook-up in the Marcellus, which has continued to swell throughout this year, will be worked off starting early next year. Thus, management projects that output from the play will at least double again next year, and that it could increase by as much as 150%. Meanwhile, Pinedale output is projected to increase at a much slower low-to-mid single digit pace. We are conservatively modeling a 20% company-wide uptick next year, given the recent history of the Marcellus bottlenecks persisting and actually continuing to worsen long after the company originally projected that they would be resolved. Thus, the Marcellus is expected to account for ~30% of Ultra's total production next year, up from just 17% this year. Natural gas is projected to continue accounting for ~97% of Ultra's output.

- **2012 Capital Budget** – Given the massive inventory of wells awaiting completion or infrastructure in the Marcellus Shale (62 net), management believes that it will be able to grow production at a faster pace next year while actually spending slightly less. Consequently, while an official budget won't be finalized until late this year or early next year, the preliminary indication is for spending of $600 million in the Marcellus, $500 in the Pinedale, and ~$100 million on New Ventures and midstream. Thus, we model a total capital budget of $1.2 billion next year (down 11% from this year), which slightly exceeds our cash flow forecast of $1.1 billion, and is consistent with management's assertion that it is committed to living within cash flow. However, management noted for the first time that it has midstream assets that it would consider monetizing if necessary and which could be valued at around $200 million.

- **Catalysts/New Plays** – (1) Continued efficiency gains in the Pinedale as the company continues to reduce drilling times, offsetting inflationary pressures; (2) Resolution to the infrastructure and permitting bottlenecks which have plagued Ultra's progress in the Marcellus; (3) Initial drilling results from the company's new Niobrara position, located south of industry's activity in the play to date near Colorado Springs; (4) Potential announcement of other new plays.

- **2012 Hedges -** Thus far, UPL has hedged 45% of projected 2012 natural gas volumes. 2013 and liquids volumes remain unhedged.

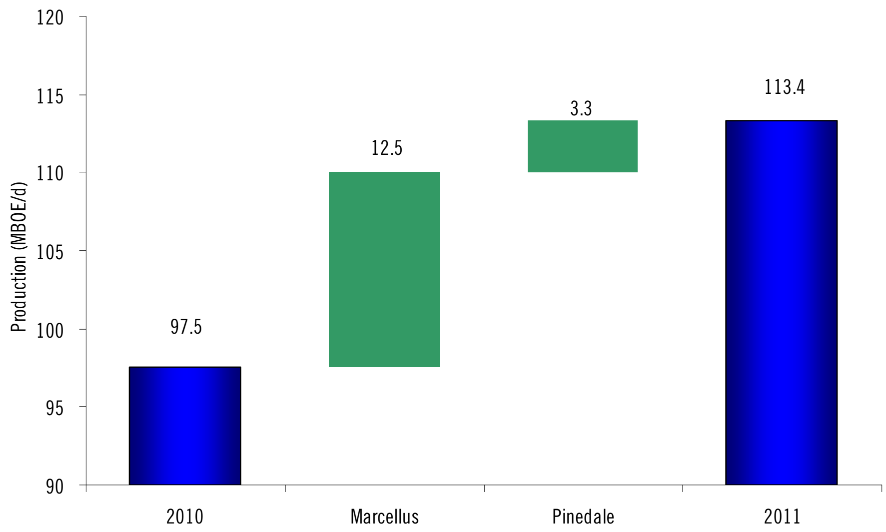
EPS	Q1	Q2	Q3	Q4	FY	FC Cons
2010A	0.55A	0.54A	0.60A	0.50A	2.18A	2.18A
2011E	**0.59A**	**0.66A**	**0.72A**	**0.65E**	**2.62E**	**2.59E**
Previous	0.59A	0.66A	0.72A	0.72E	2.69E	na
2012E	**na**	**na**	**na**	**na**	**2.60E**	**2.52E**
Previous	na	na	na	na	2.81E	na
2013E	**na**	**na**	**na**	**na**	**3.15E**	**3.14E**
Previous	na	na	na	na	3.17E	na

Source: Company Reports and dataCentral, CIR. FC Cons: First Call Consensus.

- **Adjusting Estimates** – We are revising our 2011, 2012 and 2013 EPS/CFPS to $2.62/$6.11, $2.60/$6.57 and $3.15/$7.84, respectively (from $2.69/$6.22, $2.81/$6.91 and $3.17/$7.87, respectively) based on our revised oil price forecast.

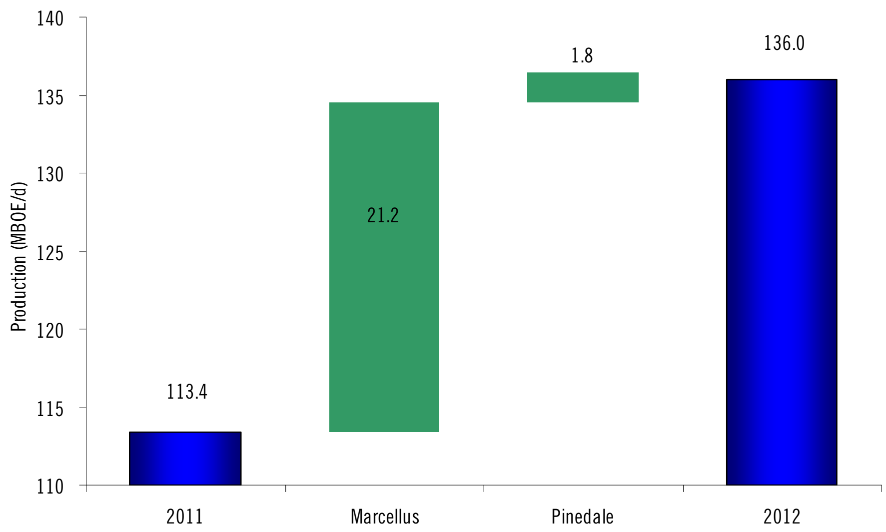
- **Valuation -** Maintain Neutral rating and $40 PT, which equates to 2012/2013 EV multiples of 6.9x/6.2x our debt-adjusted cash flow estimates and 165% of proven-only NAV. Our price target is based on 'normalized' WTI spot crude oil and composite spot natural gas prices of $90/Bbl and $4.50/MMBtu, respectively.

Figure 77. Ultra Petroleum Projected Production By Region in 2011



Source: Citi Investment Research and Analysis

Figure 78. Ultra Petroleum Projected Production By Region in 2012



Source: Citi Investment Research and Analysis

Anadarko Petroleum Corp

Company description

Anadarko Petroleum Corporation explores for, develops and produces natural gas, crude oil and natural gas liquids with about 2.3 billion barrels of oil equivalent (BOE) of proved reserves. It also produces hard minerals from land grant holdings, and owns and operates midstream assets to gather, treat and process natural gas. The company is has about 60% of its reserves and production as natural gas, and 40% as crude oil. Anadarko was founded in 1959 with headquarters in The Woodlands, Texas.

In the U.S., Anadarko operates both onshore including the Rockies and Southern region (which includes the Marcellus, Haynesville and Eagleford shale areas), as well as offshore in the deepwater Gulf of Mexico. Internationally, Anadarko has an extensive operation in Algeria including the in-development El Merk project, as well as production at Bohai Bay in China. In Ghana, Anadarko (along with its partners) is developing the Jubilee project. Anadarko is a prolific deepwater explorer hold exploration acreage and conducting extensive exploration in the deepwater Gulf, Brazil, Ghana, Mozambique, China, Sierra Leone, Liberia as well as other countries.

Investment strategy

We rate Anadarko Buy (1) based on the upside to our current price target. Anadarko is unique among its peers in maintaining a high-risk but high-potential exploration program around the globe and has posted exceptional success over the past year. Consequently, the company has significant potential in both discoveries already notched and prospects, many of which have been enhanced by its recent successes, yet to be drilled. At the same time, like many of its peers, the company also possesses meaningful upside potential in North American shale plays. And even though Anadarko is expected to generate more moderate production growth near-term, its inventory of mega projects essentially assures strong growth longer term. Finally, Anadarko has well above average sensitivity to changes in crude oil prices and below average sensitivity to changes to natural gas prices, which we are much more cautious on near term. Therefore, as we look forward to continued success with the exploration drill bit we assign Anadarko a Buy rating.

Valuation

Our $120 price target is based on APC's stock achieving an EV multiple of 8.8x/7.7x our 2012/2013 debt-adjusted cash flow estimates based on 'normalized' WTI spot oil and composite spot gas prices of $90.00/Bbl and $4.50/MMBtu, respectively, and ~132% of proved-only NAV.

Risks

Risks to achieving our target price include:

Volatile Commodity Prices – Anadarko is sensitive to changes in the prices of crude oil, and natural gas. Their exposure is substantially reduced due to extensive hedging of expected natural gas and crude oil production in 2010, but a portion of their production is unhedged.

Political Risks – Anadarko operates or explores in developing countries such as Algeria, Ghana, Sierra Leone, Liberia, Cote d'Ivoire, Mozambique and thus is subject to political risks including changes in operating terms, taxes, or expropriation.

Expensive Long-Term Projects – Anadarko pursues long-term projects which require large capital outlays and several years of development before any cash flows are realized. These projects are subject to substantial uncertainties in terms of projects costs, as well as the timing and amount of eventual returns.

Exploration Risk - Anadarko is conducting or is planning to conduct exploration in several under-explored areas within Mozambique, Sierra Leone, Liberia, Cote d'Ivoire and elsewhere, and such exploration projects have a high probability of failure.

Apache Corp

Company description

Apache Corporation explores for, develops and produces natural gas, crude oil and natural gas liquids with about 3 billion barrels of oil equivalent (BOE) of proved reserves at year-end 2010. The company is evenly balanced with about half of its reserves and production as natural gas, and half as crude oil. Apache was founded in 1954 with headquarters in Houston, Texas.

In the U.S., Apache operates on the Gulf Coast, as well as the Permian and Anadarko basins, and East Texas. In Canada, Apache operates in British Columbia (including the Horn River area), Alberta and Saskatchewan. Internationally, Apache has extensive operations in Egypt and the U.K. North Sea, and smaller operations in Argentina and Australia. Apache also holds exploration interests in Chile.

In the last few years, Apache has focused on being capital disciplined, spending within cash flow to maintain a strong balance sheet, expanding North American onshore shale production, pursuing development and exploration opportunities internationally, as well as recently taking a 16.25% stake in Chevron's Wheatstone LNG project.

Investment strategy

We rate Apache Buy (1) based on the upside to our current price target in the context of the risk rating. We expect Apache will continue to exhibit solid financial discipline while posting high organic production growth. Apache also has above-average sensitivity to changes in oil prices and well below average sensitivity to changes in natural gas prices. Therefore, we are confident in Apache's ability to continue to create shareholder value and at this juncture, assign a Buy rating.

Valuation

Our $150 per share price target is based on the stock reaching a 5.7x/5.5x multiple of our 2012/2013 debt-adjusted cash flow estimates using our "normalized" forecast of $90.00/Bbl crude, $4.50/MMBtu gas and 96% of NAV.

Risks

Risks to our target price include:

Volatile Commodity Prices – Apache is sensitive to changes in the prices of crude oil, and natural gas. Their exposure to natural gas is reduced through a combination of hedges and long-term fixed-price contracts, but most of their crude production is unhedged and subject to market price volatility.

Political Risks – Apache operates in developing countries such as Argentina, Chile and Egypt and thus is subject to political risks including changes in operating terms, taxes, or expropriation.

Expensive Long-Term Projects – Apache pursues long-term projects which require large capital outlays and several years of development before any cash flows are realized. These projects are subject to substantial uncertainties in terms of projects costs, as well as the timing and amount of eventual returns.

If the impact on the company from any of these factors proves to be less than we anticipate, the stock could materially outperform our target. Conversely, if the impact on the company from any of these factors proves to be greater than we anticipate, the stock could underperform our target price.

Canadian Natural Resources Ltd

Company description

Canadian National Resources Limited (CNRL) explores for, develops and produces natural gas, crude oil and natural gas liquids with about 4.5 billion barrels of oil equivalent (BOE) of proved reserves. The company has about two-thirds of its production as crude oil, and one-third as natural gas. CNRL was founded in 1973 with headquarters in Calgary, Canada.

Canada accounts for most of CNRL's production and reserves with the company holding over 18 million acres in British Columbia, Alberta, and Saskatchewan, and is the second-largest Canadian producer of natural gas. It holds extensive conventional gas assets as well as a sizeable position in the emerging Montney shale area. To produce crude oil, CNRL owns and operates their flagship Horizon Oil Sands Projects in Alberta, the Primrose thermal project, as well as heavy crude production at Pelican Lake and elsewhere in Western Canada. Internationally, CNRL owns and operates assets in the UK North Sea. It also operates in offshore Africa – Cote d'Ivoire and Gabon, with exploration planned in offshore South Africa.

In the last few years, CNRL has focused on successfully starting up the Horizon project, and utilizing free cash flow to pay down debt to improve balance sheet metrics. The company has long-term potential to expand Horizon as well as expand and develop thermal assets at Primrose, Kirby and five other potential locations.

Investment strategy

We rate Canadian National Resources Buy (1) based on the upside to our current price target. CNQ has built a very attractive highly oil-oriented, long reserve life portfolio with significant expansion potential. We believe that the firm provides an excellent vehicle for investors to position themselves for secularly higher oil prices and structurally limited supply. With 95% of its production coming from either Canada or the U.K., the company has broad upside potential without any of the political risk inherent in many other oil companies that operate in unstable countries.

Valuation

Our $50 price target is based on CNQ's stock achieving an EV multiple of 7.6x/7.0x our 2012/2013 debt-adjusted cash flow estimates based on 'normalized' WTI spot oil and composite spot gas prices of $90.00/Bbl and $4.50/MMBtu, respectively, and ~161% of NAV.

Risks

Risks to our target price include:

Horizon Facility Fire - CNQ recently had a fire at its Horizon Oil Sands project and production has been suspended. At this juncture the exact timing and regulatory approval for production restart is uncertain..

Volatile Commodity Prices – CNQ is sensitive to changes in the prices of crude oil, and natural gas. They have some commodity hedges in place, but the majority of their natural gas and crude oil production is unhedged and subject to market price volatility.

Expensive Long-Term Projects – CNQ pursues long-term oil projects which require large capital outlays and several years of development before any cash flows are realized. These projects are subject to substantial uncertainties in terms of projects costs, as well as the timing and amount of eventual returns.

Environmental Risks – CNQ's existing and proposed oil sand and thermal oil assets in Canada could be subject to both increased scrutiny as well as new rules to mitigate environmental impact. These changes could substantially increase costs, decrease viability, or block certain projects.

If the impact on the company from any of these factors proves to be less than we anticipate, the stock could materially outperform our target. Conversely, if the impact on the company from any of these factors proves to be greater than we anticipate, the stock could underperform our target price.

Chesapeake Energy Corp

Company description

We rate Chesapeake Energy Corporation Buy (1). Chesapeake possesses significant upside potential to its proven reserve base. Over the last couple of years, the go-forward visibility of Chesapeake's cash flows has improved greatly as the company has rounded out its portfolio with a diverse mix of natural gas and liquids/oil-focused shale gas assets. At the same time, given Chesapeake's increasing leverage to liquids and crude oil prices, with liquids contributing nearly 20% of the company's current output, up from just 8% in 2008, Chesapeake has attained a greater degree of diversification, which has in turn resulted in higher stability of its go-forward cash flows.

Investment strategy

We rate Chesapeake Energy Corporation Buy. Chesapeake possesses significant upside potential to its proven reserve base. Over the last couple of years, the go-forward visibility of Chesapeake's cash flows has improved greatly as the company has rounded out its portfolio with a diverse mix of natural gas and liquids/oil-focused shale gas assets. At the same time, given Chesapeake's increasing leverage to liquids and crude oil prices, with liquids contributing nearly 20% of the company's current output, up from just 8% in 2008, Chesapeake has attained a greater degree of diversification, which has in turn resulted in higher stability of its go-forward cash flows.

Valuation

Our $32 price target is based on CHK's stock achieving an EV multiples of 8.0x/7.3x our 2012/2013 debt-adjusted cash flow estimates based on 'normalized' WTI spot oil and composite spot gas prices of $90.00/Bbl and $4.50/MMBtu, respectively, and ~100% of proven-only NAV.

Risks

Risks to our target price include:

Balance Sheet Risk -The overriding constraint on CHK’s output is its debt-laden balance sheet. CHK is currently one of the most financially levered large-cap E&P companies, though it is taking steps to reduce financial leverage.

Deal Execution Risk - As part of its stated operating strategy, Chesapeake acquires leasehold positions in natural gas plays and markets these positions to other industry players at prices above its cost basis. Chesapeake may amass a larger position than it can prudently sell or develop.

Drilling and Operational Risk - With future production growth pinned on natural gas shale plays, disappointing drilling results could impact Chesapeake's share price. However, if results exceed our estimates, this would constitute an upside risk to our target price.

If the impact on the company from any of these factors proves to be greater/less than we anticipate, the stock could materially underperform/outperform our target price.

Cobalt International Energy

Company description

Cobalt International Energy is an exploration company focused on the Gulf of Mexico and West Africa. Currently, the company has no proven reserves or production as up until now, it has been in the "access," or lease acquisition phase of its development. However, with that phase now largely complete, the company is shifting gears to the drilling of its massive portfolio. We look for results from two high-impact wells from each West Africa and in the Gulf of Mexico late this year/early next year to be the next catalysts for the stock. The company is headquartered in Houston, TX.

Investment strategy

We rate Cobalt Buy/High Risk (1H) based on the upside to our current price target in the context of the risk rating. Cobalt has no debt, it is fully funded through 2013 and we believe that it could farm down interests in some of its acreage to cover capital spending beyond then. Further, we believe that the market is giving very little value to the prospects that will be drilled post 2012, and thus there could be significant upside.

Valuation

Our $18 per share price target is based on the stock achieving a ~100% of our risked NAV estimate based on a "normalized" spot crude oil price of $90/Bbl. Since the company does not currently generate cash flow and will not begin to do so for at least the next four years, multiple analysis is not applicable to the shares.

Risks

We rate Cobalt High Risk based on a combination of quantitative and qualitative risk assessments compared to other stocks covered by Citi Investment Research.

- Early drilling results - Given that Cobalt does not currently have a single operated discovery, we believe that investors will be watching the company's early results with a great degree of scrutiny. While it has a broad inventory of high-impact prospects, it is uncertain how patient investors will be if the initial drilling program does not deliver a significant discovery.

- Issues with bringing a discovery to production - Once Cobalt makes a discovery, it will be key for it to demonstrate the ability to smoothly bring the discovery on line. Any potential delays or unforeseen problems that might hint at inexperience with securing the necessary equipment, contractors, and agreements, will likely be negatively perceived by investors.

- Funding/capital markets risk - Even though Cobalt is well funded through the end of 2013, there will still inevitably be a lag between the time when the current sources of liquidity runs out and the company's initial cash flow generation. Thus, should capital markets conditions be poor at the time when Cobalt next needs to access capital, the company will likely find decreased investor appetite to fund development activity or a continued high risk exploration program.

If the impact on the company from any of these factors proves to be greater/less than we anticipate, we believe the stock will likely have difficulty achieving our target price or could outperform it.

Concho Resources Inc

Company description

Concho Resources explores for, develops and produces crude oil and natural gas, predominantly from the Permian Basin areas of New Mexico and West Texas. Concho is the largest oil producer in New Mexico and holds ~440k net Permian acres including ~145k net in the emerging Avalon Shale/Bone Spring horizontal oil plays. Nearly two-thirds of CXO’s current production is crude oil with high-BTU natural gas accounting for most of the rest. Concho was founded in April 2004, went public in July 2007 and is headquartered in Midland, Texas.

Investment strategy

We rate Concho Buy based on the upside to our current price target. Since its founding less than 7 years ago, Concho has grown both organically and though a slew of successfully executed acquisitions into a major Permian Basin player. The Company has high quality liquids-asset base and we expect it to continue to post strong production and earnings growth in 2011 and beyond.

Valuation

Our 12-month price target of $92.00 per share is based on the company trading at a premium multiple to our E&P group, based on higher investor premium for U.S. onshore oil producers, of 8.0x/6.8x our 2012/2013 debt-adjusted cash flow estimates and ~166% of NAV based on “normalized” WTI spot crude oil and composite spot natural gas prices of $90.00/Bbl and $4.50/MMBtu, respectively.

Risks

Risks to our target price include:

1) Although we believe Concho to be richly valued limiting its attractiveness, we note that its current ~$12 billion enterprise value makes it potentially "acquirable" by an oil major. However we note that such a transaction would likely be dilutive for the purchaser given the valuation disparity.

2) The company holds 145k net acres in the emerging TX Delaware Basin horizontal oil plays. If production and oil recoveries from this area were markedly greater than currently understood, this could be an upside surprise, although if they were less, this could lead to a downside surprise.

3) Geographical concentration — All of Concho's production comes from the Permian Basin areas of New Mexico and West Texas. The company may face competition for equipment and personnel and is vulnerable to infrastructure disruptions in the region.

If the impact on the company from any of these factors proves to be less than we anticipate, the stock could materially outperform our target. Conversely, if the impact on the company from any of these factors proves to be greater than we anticipate, the stock could underperform our target price.

Denbury Resources, Inc.

Company description

Denbury Resources explores for, develops, and produces crude oil and natural gas in two regions - the Gulf Coast including Mississippi, Louisiana, Texas and Alabama, and the Rockies (Wyoming). It specializes in CO2-driven tertiary oil recovery that sweeps remaining oil from mature, conventional fields. It controls its own CO2 source, an old volcano located near Jackson, MS as well as its 835-mile proprietary pipeline network. Denbury was founded in 1951 with headquarters in Plano, Texas.

Investment strategy

We rate Denbury Neutral. We believe that Denbury is effectively executing its strategy of focusing on tertiary oil recovery. The company has a clear competitive advantage in this niche over the vast majority of other E&Ps and even majors, through its control of both a CO2 source as well as means of distribution. Via its extensive holdings of mature conventional oil fields, it can grow tertiary output at double-digit rates for the foreseeable future. However, it is a relatively high-cost producer with above-average debt levels and an extensive hedging program that, although it protects downside, also substantially limits near-term upside above $100/Bbl. The company's stock already trades at a substantial valuation premium to the group and therefore we believe that its tertiary oil advantage is already reflected in its share price.

Valuation

Our $18.00 price target is based on the stock achieving 7.7x/7.1x our 2012/2013 debt-adjusted cash flow estimates based on ‘normalized' WTI spot oil and composite spot natural gas prices of $90/Bbl and $4.50/MMBtu, respectively, and 81% of proved reserves only NAV.

Risks

Risks to our price target include:

Volatile Commodity Prices – Denbury, especially due to the high operating costs associated with tertiary oil recovery, is sensitive to changes in the prices of crude oil, and to a lesser extent, natural gas. Their exposure is substantially reduced due to an extensive hedging program, but a portion of their anticipated future production in unhedged.

Single CO2 Source – Currently, all of the CO2 Denbury requires for tertiary oil extraction (which account for about one-half of its total production) comes from its Jackson Dome facility. Thus, Denbury is vulnerable to any CO2 supply disruptions at this location.

If the impact on the company from any of these factors proves to be less than we anticipate, the stock could materially outperform our target. Conversely, if the impact on the company from any of these factors proves to be greater than we anticipate, the stock could underperform our target price.

Devon Energy Corp

Company description

Oklahoma City-based Devon Energy is one of the largest producing independent North American E&P companies with current output of near 4 Bcfe/d. The company is in the process of re-focusing to solely operate onshore North America, planning to exit the offshore Gulf of Mexico and International regions during 2010. Both before and after the planned divestitures, Devon's production mix will approximate two-thirds natural gas and one-third oil. Devon's near-term production growth is derived from six main assets - the Barnett, Haynesville, Cana-Woodford, Arkoma-Woodford and Horn River natural gas shale plays and the Jackfish Canadian oil sands project.

Investment strategy

Overall, we believe that Devon's strategic repositioning in 2010 boded well for its operations and long term growth potential, while its strong balance sheet prepares it well for a potential downturn in the short term. We like Devon's diversified asset base, exposure to liquids rich regions and cash cushion that allows it both financial stability and flexibility to take advantage of opportunities as they arise. We also note the upside potential from the company's recently announced positions in the emerging New Ventures plays which have not yet been incorporated into our model. Therefore, we have a Buy rating on the stock.

Valuation

Our $75 price target is based on the company achieving a multiple of 5.6x/5.5x our 2012/2013 total company debt-adjusted cash flow estimates based on "normalized" WTI spot crude oil and composite spot natural gas prices of $90.00/Bbl and $4.50/MMBtu, respectively and ~83% of NAV.

Risks

Risks to our price target include:

Drilling Results - With future production growth pinned on US shale plays, disappointing drilling results, particularly in the Haynesville, Horn River and Cana-Woodford shale plays could impact Devon's share performance.

Volatile Commodity Prices - Hydrocarbon prices have shown increasing volatility in recent years, as well as cash flow and earnings. This volatility tends to significantly impact sector stock performance. Devon has mitigated some commodity price risk by assuming historically high levels of hedging into 2010.

If the impact on the company from any of these factors proves to be less than we anticipate, the stock could materially outperform our target. Conversely, if the impact on the company from any of these factors proves to be greater than we anticipate, the stock could underperform our target price.

EnCana Corp

Company description

EnCana Corporation has recently re-positioned itself as a "pure-play" North American natural gas producer, by spinning off their crude oil production, and refinery assets in a new company Cenovus. The "new" EnCana holds about 14 Tcf of proved natural gas reserves, controls about 15 million net acres in North America, with about 99% of production from natural gas or natural gas liquids. EnCana was formed in 2002 with the merger of PanCanadian Energy and Alberta Energy Company, with headquarters in Calgary, Canada.

In Canada, EnCana will remain the largest producer of natural gas with extensive land holdings in British Columbia and Alberta, encompassing both conventional assets as well as sizeable positions in the Horn River and Montney shale plays. EnCana also owns and will operate the in-development Deep Panuke project in offshore Nova Scotia. In the U.S., EnCana holds natural gas positions in Colorado, Wyoming, Louisiana, and Texas including the Haynesville and Barnett shale.

Investment strategy

We rate EnCana Neutral (2). We continue to be cautious on gas-oriented names and believe that most unconventional players are barely profitable on a full-cycle basis at current low natural gas prices, yet continue to grow production on the basis on half-cycle supply costs and hedge gains.

Valuation

Our $20 price target is based on ECA's stock achieving 2012E/2013E EV/DACF multiples of 4.4x/5.1x respectively and ~151% of proven NAV, based on 'normalized' WTI spot oil and composite spot gas prices of $90.00/Bbl.

Risks

Risks to our target price include:

Volatile Commodity Prices - EnCana is sensitive to changes in the price of natural gas. A portion of their exposure is hedged, however some of their expected natural gas production is unhedged and subject to market price volatility.

Lack Of Diversification - All of the EnCana assets are now related to natural gas production in North America, and so they lack commodity or geographic diversification and will be adversely affected if natural gas prices are low.

If the impact on the company from any of these factors proves to be less than we anticipate, the stock could materially outperform our target. Conversely, if the impact on the company from any of these factors proves to be greater than we anticipate, the stock could underperform our target price.

Endeavour International

Company description

Endeavour International explores for, develops and produces crude oil and natural gas with about 18.7 million barrels of oil equivalent (BOE) of proved reserves at year-end 2010. Approximately 2/3 of the company's current production is derived from natural gas, although the crude/natural gas ratio is expected to equalize by the end of 2012. Endeavour is headquarters in Houston, Texas.

In the U.S., Endeavour operates in the Haynesville Shale in Texas and the Marcellus Shale in Pennsylvania. The company also has acreage in the frontier Heath play in Montana. In the North Sea, Endeavour has stakes in three producing fields (Alba, Bitten and Enoch) with interest in two more fields projected to come online in the coming years (Bacchus and Rochelle).

Investment strategy

We rate Endeavour Neutral/High Risk based on the upside to our current price target in the context of the risk rating. We are optimistic on Endeavour given its anticipated steep production ramp-up, high leverage to Brent oil prices. We note that once initial volumes come online at Bacchus, Endeavour will be able to generate free cash flows, focus on further development activity and potentially lower its cost of capital by accessing the high yield debt market. However, until this occurs, we expect END's tight capital situation to remain an overhang on both future E&D activity and its share price.

Valuation

Our $9 per share price target is based on the stock reaching a 6.4x/2.9x multiple of our 2012/2013 debt-adjusted cash flow estimates using our "normalized" forecast of $90.00/Bbl crude, $4.50/MMBtu gas and 64% of NAV.

Risks

We rate Endeavour High Risk based on a combination of quantitative and qualitative risk assessments compared to other stocks covered by Citi Investment Research, including:

Potential Project Delays – Much of Endeavour's output growth is expected to be driven by initial production at Bacchus in 1H'12. However, a number of factors, including operational issues, political developments and weather delays, cam potentially delay field start-up.

Volatile Commodity Prices – Endeavour is sensitive to changes in the prices of crude oil and natural gas. Although a portion of their exposure to both commodities is reduced through hedging contracts, a part of output it still subject to market price volatility.

Expensive Long-Term Projects – Endeavour pursues long-term projects which require large capital outlays and several years of development before any cash flows are realized. These projects are subject to substantial uncertainties in terms of projects costs, as well as the timing and amount of eventual returns.

If the impact on the company from any of these factors proves to be less than we anticipate, the stock could materially outperform our target. Conversely, if the impact on the company from any of these factors proves to be greater than we anticipate, the stock could underperform our target price.

EOG Resources Inc

Company description

EOG Resources is a leading independent exploration & production company that explores for, develops and produces natural gas, crude oil and natural gas liquids. The company's key operating regions are the Barnett oil and gas plays, the Bakken, East Texas, Appalachia, the Mid-Continent, Canada, Trinidad, and the U.K. North Sea.

Investment strategy

We rate EOG Resources Buy. Overall, we note that well results this quarter in the Eagle Ford shale continue to yield further credence to EOG's claim of 900 MMBOE (nearly 50% of its total year-end proven reserve base) of reserve potential while possible downspacing and future recovery improvements (currently assumes 4% of OOIP) could raise this estimate. Second, following consistent production results over the first three quarters of this year, concern has eased regarding the company's ability to hit its production guidance for the year. We are modeling ~11% in 2012 and 10% in 2013, all driven by North America oil and liquids. Also, EOG's margins are expanding as its shifts to higher-priced liquids plays out and as its pricing realizations improve.

Valuation

Our $110 price target equates to a 2012/2013 EV/DACF multiples of 6.1x/5.6x and 133% of proven reserve only NAV using our "normalized" WTI and composite spot price deck of $90.00/Bbl and $4.50/MMBtu, respectively.

Risks

Risks to our target price include:

Drilling Results - Disappointing drilling results, particularly in EOG's key operating areas in the Eagle Ford, Barnett Combo play, the Bakken, the Haynesville shale, the Marcellus shale and the Horn River Basin, could impact EOG's share performance.

Volatile Commodity Prices - Hydrocarbon prices have shown increasing volatility in recent years, as well as cash flow and earnings. This volatility tends to significantly impact sector stock performance.

If the impact on the company from any of these factors proves to be less than we anticipate, the stock could materially outperform our target. Conversely, if the impact on the company from any of these factors proves to be greater than we anticipate, the stock could underperform our target price.

Newfield Exploration Co.

Company description

Newfield Exploration is a Houston-based Exploration and Production company with key operations in the Woodford shale, the Monument Butte oil field, the liquids-rich Granite Wash, the Bakken oil shale, offshore Gulf of Mexico and Malaysia. The company also is a recent entrant in the Eagle Ford shale and the Alberta Basin.

Investment strategy

We rate Newfield Resources with a Buy rating and with a 12-month price target of $48.00 per share. Newfield is well positioned to post 6-10% production growth over at least the next two years, largely driven by domestic crude oil volumes, which should be up 20%+ per annum. Newfield fits within our preference for the more oil-leveraged names with above-average growth and economic returns.

Valuation

Our $48 price target is based on the company achieving multiples of 5.4x and 5.0x our 2012 and 2013 DACF, respectively, based on “normalized” 2011 WTI spot crude oil and composite spot natural gas prices of $90.00/Bbl and $4.50/MMBtu, respectively, and ~88% of proven NAV.

Risks

Risks to our price target include:

Drilling Results - Disappointing drilling results, particularly in NFX's key operating areas in the Woodford shale, Monument Butte, the Granite Wash, the Bakken, offshore Gulf of Mexico, the Eagle Ford shale, the Alberta Basin or the Marcellus shale could impact NFX's share performance.

Gulf of Mexico uncertainties - Increased regulation, higher costs and possible delays in the Gulf of Mexico could impact NFX's GOM operations.

Volatile Commodity Prices - Hydrocarbon prices have shown increasing volatility in recent years, as well as cash flow and earnings. This volatility tends to significantly impact sector stock performance.

If the impact on the company from any of these factors proves to be less than we anticipate, the stock could materially outperform our target. Conversely, if the impact on the company from any of these factors proves to be greater than we anticipate, the stock could underperform our target price.

Nexen Inc

Company description

Nexen Inc. explores for, develops and produces natural gas, crude oil and natural gas liquids with about 1 billion barrels of oil equivalent (BOE) of proved reserves at year-end 2010. Nexen is heavily-oriented towards crude oil with about 90% of its reserves and 85% of production as liquids, while the remaining as natural gas. Nexen was originally founded at Canadian Occidental Petroleum Limited (CanOxy) in 1971, majority owned by Occidental Petroleum of California, but the name was changed to Nexen in 2001 after Occidental fully divested its ownership. Headquarters are in Calgary, Canada.

In Alberta, Canada, Nexen owns 65% of, and operates the Long Lake Steam-Assisted Gravity Drainage (SAGD) crude oil project. Additionally, the company holds a 7.23% non-operating interest in the Syncrude Oil Sands Project. In British Columbia, Canada, Nexen holds an 90,000 acre position and is producing natural gas at the Horn River shale play. In the offshore U.S., Nexen has both operated and non-operated interests in various Shelf and Deepwater Gulf of Mexico wells.

Internationally, Nexen has substantial assets in the North Sea area and continues to produce, develop and explore additional resources there. Other smaller operations are in Columbia and Nigeria.

Investment strategy

We rate Nexen Buy based on the upside to our current price target in the context of the risk rating. We expect higher crude oil prices to be a positive catalyst for Nexen given than more than 80% of the company's production comes from oil projects. We note additional upside potential from the company's growing footprint in the Horn River Shale, stabilizing output at Lond River and potential in the Gulf of Mexico that we feel have not yet been fully reflected in the share price.

Valuation

Our $20 price target is based on NXY's stock achieving 2012/2013 EV/DACF multiples of 4.1x/3.5x and 64% of NAV using on our $90/Bbl and $4.50/MMBtu normalized price deck. Although we note that this valuation reflects a substantial discount to the rest of our peer group, we expect NXY to maintain this discount until the company provides more clarity on its operations in the North Sea and Canadian oil sands, which comprise nearly 1/2 of the company's 2011 production.

Risks

Risks to our price target include:

Volatile Commodity Prices – Nexen is highly sensitive to changes in the prices of crude oil, and natural gas. Only a small portion of their expected production is hedged, with most production subject to market price volatility.

Political Risks – Nexen operates in developing countries including Yemen, Columbia and Nigeria and thus is subject to political risks including changes in operating terms, taxes, or expropriation. About 15% of current production is from Yemen, a country with considerable political instability, and where their current contract that expires at the end of 2011 may not be extended.

Technical Risks – Nexen is utilizing a new technology, OrCrude, licensed from their partner OPTI Canada Inc. at their Long Lake project. This technology is yet to be fully proven, as even through production has began at Long Lake, output remains well below capacity and has encountered numerous delays and technical issues.

If the impact on the company from any of these factors proves to be less than we anticipate, the stock could materially outperform our target. Conversely, if the impact on the company from any of these factors proves to be greater than we anticipate, the stock could underperform our target price.

Noble Energy Inc

Company description

Noble Energy is a Houston-based independent energy company engaged in oil and gas exploration and production. Operations are located in the U.S. Rockies, Mid-Continent, and onshore and offshore Gulf of Mexico, while international operations are focused offshore West Africa, Israel, the North Sea and China.

Investment strategy

We rate Noble Energy Buy. Overall, Noble has a host of domestic and international development projects that should significantly boost production over the next 18 months, including the Galapagos project offshore Gulf of Mexico, the Noa and Tamar fields offshore Israel, and Aseng field offshore Africa. We acknowledge Noble's success with the drill bit and upside exploration exposure and assign the company a Buy rating.

Valuation

Our $110 price target is based on Noble's share achieving a 2012E/2013E EV/DACF multiple of 7.8/7.7x and a Price/NAV ratio of 108% based on our "normalized" WTI spot crude oil and composite spot natural gas prices of $90.00/Bbl and $4.50/MMBtu, respectively.

Risks

Risks to our price target include:

Exploration Results - Noble allocates ~20% of its capital budget to its exploration program. Exploration results, particularly in the deepwater Gulf of Mexico, offshore West Africa and offshore Israel, may impact on NBL's share price.

Volatile Commodity Prices - Hydrocarbon prices have shown increasing volatility in recent years, as well as cash flow and earnings. This volatility tends to significantly impact sector stock performance. NBL has mitigated some commodity price risk by assuming high levels of hedging into 2010.

If the impact on the company from any of these factors proves to be less than we anticipate, the stock could materially outperform our target. Conversely, if the impact on the company from any of these factors proves to be greater than we anticipate, the stock could underperform our target price.

Range Resources Corp

Company description

Range Resources is a Fort Worth, Texas-based independent Exploration and Production company. The company's key operating area is the Marcellus shale in Pennsylvania, while it also operates in the Nora field in Virginia in addition to traditional oil and gas properties in the Mid-Continent, Appalachia and the Southwestern US. Range's production mix is ~76% natural gas and ~24% crude oil or natural gas liquids.

Investment strategy

We rate Range Resource with a Buy based on the upside to our current price target. Overall, we believe that Range Resources has established an enviable position in one of the key future, if not among the highest resource potential, shale plays in North America. The company's Marcellus shale position should allow it to continue to post industry leading returns and production growth for several years into the future. Our recent industry-wide F&D study highlighted RRC's superior and improving Reserve Replacement Efficiency (RRE), or our simple measure of economic returns, which has historically correlated to a premium EV/DACF multiple. Also, following the recent acquisition of HK by BHP, we believe that RRC's stock will continue to reflect a strong premium to proven NAV and comparable metrics to HK's take-out price could value RRC at $80-100 /share although we are not making a case for RRC to be acquired in the near term.

Valuation

Our $70 target is based RRC's stock achieving 2012/2013 EV/DACF multiples of 12.0x/9.9x respectively, and ~198% of proven NAV using "normalized" WTI spot oil and composite spot gas prices of $90.00/Bbl and $4.50/MMBtu.

Risks

Risks to our target price include:

Regulatory Risk - With future growth pinned largely on the Marcellus, Range is significantly exposed the developing natural gas regulatory environment in Pennsylvania. Conversely, political and regulatory risks could subside and relieve pressure on Range's stock.

Funding Risk - Range relies on asset sales, debt or equity issuance to fund continued production growth. Failure to secure these funds could put future growth at risk.

Drilling Results - Disappointing drilling results or positive drilling results, particularly in the Marcellus could impact RRC's share performance.

Volatile Commodity Prices - Hydrocarbon prices have shown increasing volatility in recent years, as well as cash flow and earnings. This volatility tends to significantly impact sector stock performance, both positive and negative. RRC has partially mitigated commodity price risk with high levels of hedging over the next year.

Rosetta Resources

Company description

Rosetta Resources explores for, develops and produces crude oil, natural gas and natural gas liquids (NGL's) across several regions in the U.S. including Texas, Montana and Wyoming. It holds ~65k net acres in the prolific TX Eagle Ford Shale area and this play now accounts for nearly 60% of its total production. It also holds ~300k net acres in the emerging Alberta Basin Bakken oil play (located in Western Montana) where it is conducting exploratory drilling. Rosetta was founded in 2005 and is headquartered in Houston, Texas.

Investment strategy

We rate Rosetta Resources Neutral/High Risk based on limited upside to our current price target in the context of the risk rating. The company has successfully built a sizeable position in the Texas Eagle Ford shale, condensing itself from a scattered dry gas player to a focused liquids-oriented producer. We estimate that nearly one-half of its 2011 production will come from crude oil or NGL's. We do recognize the now potentially longer-term drilling inventory in the Eagle Ford shale but very low prospectivity of its Alberta Bakken exploration acreage. Thus, we believe that its current market valuation is near fair at this juncture and we assign Rosetta a Neutral rating while raising our price target to $50/share to account for the potential in the apparent additional drilling inventory outside of the Gates Ranch area.

Valuation

Our 12-month price target of $50.00 per share is based on the company achieving a multiple of 6.6x and 5.3x our respective 2012/2013 debt-adjusted cash flow estimates and ~298% of proven-only NAV based on "normalized" WTI spot crude oil and composite spot natural gas prices of $90.00/Bbl and $4.50/MMBtu, respectively.

Risks

We rate Rosetta Resources High Risk.

Our risk rating on ROSE is High based on a combination of quantitative and qualitative risk assessments compared to other stocks covered by Citi Investment Research and Analysis.

Volatile Commodity Prices – Rosetta is sensitive to changes in the prices of crude oil, natural gas and natural gas liquids (NGL's). Their exposure is partially reduced due to its hedging program, but a significant portion of their anticipated future production is not hedged.

High Exposure To Single Play – About 80% of its current production comes from the relatively new Texas Eagle Ford Shale play, where long-term results have yet to be definitively established. Additionally, insufficient gathering and processing infrastructure in this emerging area may constrain Rosetta's production.

Small Company Size – Rosetta is significantly smaller than many of its major competitors within the oil & gas sector. Thus, it may have difficulty securing necessary equipment, personnel and financing for its operations.

If the impact on the company from any of these factors proves to be less than we anticipate, the stock could materially outperform our target. Conversely, if the impact on the company from any of these factors proves to be greater than we anticipate, the stock could underperform our target price.

Southwestern Energy Co

Company description

Southwestern Energy is a domestic onshore natural gas-leveraged E&P company primarily focused in the Arkoma Basin (Arkansas and Oklahoma), East Texas, and Appalachia. The company is also focused on creating and capturing additional value at and beyond the wellhead through established natural gas distribution, marketing and transportation businesses and expanding gathering activities.

Investment strategy

We rate Southwestern Energy Neutral (2). Overall, while Southwestern has sharply underperformed the E&P sector this year despite its leading production growth and economic return matrices, we believe the stock is still somewhat fully valued particularly given our outlook for natural gas prices near term. And the company is still among the most sensitive in our coverage group to changes in natural gas prices near term. Thus, while we believe that Southwestern will continue to post top-tier production growth and economic returns, we are maintaining our Neutral rating at this juncture.

Valuation

Our $40 price target is based on Southwestern's stock achieving multiples of 6.8x/5.9x our 2012/2013 debt-adjusted cash flow estimates based on “normalized” WTI spot crude oil and composite spot natural gas prices of $90.00/Bbl and $4.50/MMBtu, respectively and ~188% of proven NAV.

Risks

Risks to our target price include:

Drilling Results - Disappointing drilling results, particularly in the Fayetteville, Haynesville, and Marcellus shale plays, could negatively impact SWN's share performance. Conversely, positive exploration results from its New Ventures group could be favorable for SWN's shares.

Repeatability - SWN has achieved high organic growth and low F&D costs through the exploitation of its Fayetteville shale position. Once the Fayetteville play matures, SWN is at risk of not securing as compelling of opportunities.

Infrastructure Build Out - The overarching bottleneck in developing the Fayetteville play has traditionally been overall takeaway capacity from third party operators. Delays in future expansions of takeaway capacity could delay SWN's production growth.

Volatile Commodity Prices - With 100% natural gas production and minimal hedges in place, SWN is the most natural gas levered name in our universe.

The impact on the company from any of these factors proves to be less than we anticipate, the stock could materially outperform our target. Conversely, if the impact on the company from any of these factors proves to be greater than we anticipate, the stock could underperform our target price.

Talisman Energy Inc

Company description

Talisman Energy Inc. explores for, develops and produces natural gas, crude oil and natural gas liquids with about 1.4 billion barrels of oil equivalent (BOE) of proved reserves at year-end 2010. The company is roughly evenly balanced with about 50% of its production as natural gas, and 50% as crude oil. Talisman was originally part of British Petroleum but became an independent company in 1992 and is headquartered in Calgary, Canada.

Within North America, Talisman holds both conventional and unconventional natural gas assets with a land position exceeding 2 million acres including the Marcellus Shale (Pennsylvania/New York), the Montney Shale (British Columbia), the Utica Shale (Quebec) and recently the Eagle Ford Shale (TX). Internationally, in the North Sea, Talisman owns producing assets on both the U.K. and Norwegian sides, and pursues both development and exploration projects. Talisman has substantial operations in South East Asia including Indonesia, Malaysia and Vietnam and is conducting extensive exploration throughout S.E. Asia as well as in Australia and Papua New Guinea. Talisman also operates in Algeria, and explores in Kurdistan (Northern Iraq), Columbia and Peru.

Talisman is now focused on growth from North American unconventional gas, generating cash flow from mature North Sea assets, and is pursuing large international development and exploration targets.

Investment strategy

We rate Talisman Buy. Talisman has markedly improved the quality of its portfolio both in North America as well as globally and is now well positioned to grow production organically with improved economic returns. The company has also completed all of its planned asset sales, resulting in a more consistent strategy focused on growth with solid footholds in several emerging North America shale plays and upside exposure through the exploration drill bit internationally. Talisman is also still one of the more oil leveraged names in our coverage group

Valuation

Our 12-month price target of $18.00 is based on the company achieving multiples of 5.3x and 5.2x our respective 2012/2013 debt-adjusted cash flow estimates and ~111% of proven-only NAV based on "normalized" WTI spot crude oil and composite spot natural gas prices of $90.00/Bbl and $4.50/MMBtu, respectively.

Risks

Risks to our target price include:

Volatile Commodity Prices – Talisman is sensitive to changes in the prices of crude oil, and natural gas. Only some of their expected natural gas and crude oil exposure is hedged, with the majority unhedged and subject to market price volatility.

Political Risks – Talisman operates in developing countries including Indonesia, Vietnam, Kurdistan, Columbia and Papua New Guinea and thus is subject to political risks including changes in operating terms, taxes, or expropriation.

Exploration Risk – Talisman is conducting exploration in several under-explored areas within Indonesia, Kurdistan, Peru, and Papua New Guinea, and these exploration projects have a high-probability of failure.

If the impact on the company from any of these factors proves to be less than we anticipate, the stock could materially outperform our target. Conversely, if the impact on the company from any of these factors proves to be greater than we anticipate, the stock could underperform our target price.

Ultra Petroleum Corp.

Company description

Ultra Petroleum Corporation (founded in 1979) is a Houston-based independent exploration & production company with about 4.4 Tcfe of proved reserves. Its operations are in two areas: an established position in Wyoming’s Green River Basin and newer positions in Pennsylvania’s Marcellus Shale and Colorado's Niobrara Shale. About 97% of the company’s production is natural gas.

Investment strategy

We rate Ultra Neutral (2). Overall, we believe that Ultra is following a simple yet effective strategy of truly being a low-cost producer of dry natural gas. The company has built sizable positions in two key producing areas - Wyoming's Green River Basin and Pennsylvania's Marcellus Shale which provide visible 15%+ production growth for several years at the very least. Its core Rockies region provides a stable cash flow base with UPL benefiting from a secular improvement in Rockies price realizations following the completion of the REX-East pipeline. Ultra's newer Marcellus position is growing rapidly and is poised to account to about one-third of company production within three years. However, given that 96% of Ultra's production is U.S. natural gas and our concerns about the outlook for the commodity, we believe that its current valuation premium is appropriate and therefore we assign a Neutral rating.

Valuation

Our $40.00 price target is based on the company achieving a multiple of 6.9x/6.2x our 2012/2013 debt-adjusted cash flow estimates and ~165% of NAV based on “normalized” WTI spot crude oil and composite spot natural gas prices of $90.00/Bbl and $4.50/MMBtu, respectively.

Risks

Risks to our target price include:

Regulatory Risk – Ultra operates in only two areas: Rockies and Marcellus. In the Rockies (Wyoming), the company leases federal land and thus is subject to tight government oversight, environment rules, and regulatory scrutiny. In the Marcellus (Pennsylvania), Ultra is significantly exposed to evolving regulations, restrictions and potentially new taxes.

Volatile Commodity Prices – Ultra is highly sensitive to changes in the price of natural gas given that about one-half of its anticipated production during 2010-11 is unhedged.

If the impact on the company from any of these factors proves to be less than we anticipate, the stock could materially outperform our target. Conversely, if the impact on the company from any of these factors proves to be greater than we anticipate, the stock could underperform our target price.

Appendix A-1

Analyst Certification

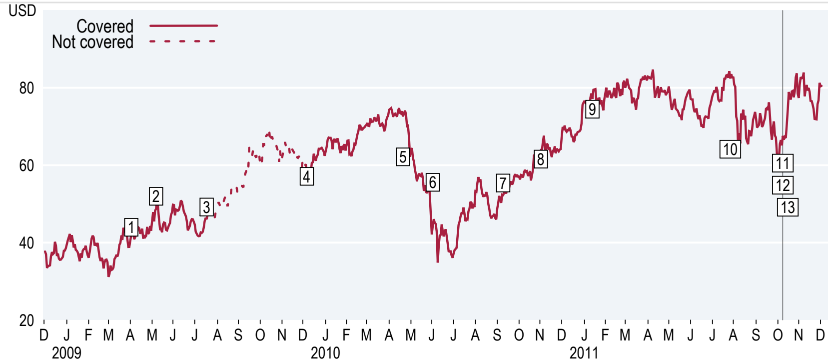
The research analyst(s) primarily responsible for the preparation and content of this research report are named in bold text in the author block at the front of the product except for those sections where an analyst's name appears in bold alongside content which is attributable to that analyst. Each of these analyst(s) certify, with respect to the section(s) of the report for which they are responsible, that the views expressed therein accurately reflect their personal views about each issuer and security referenced and were prepared in an independent manner, including with respect to Citigroup Global Markets Inc and its affiliates. No part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendation(s) or view(s) expressed by that research analyst in this report.

IMPORTANT DISCLOSURES

Anadarko Petroleum Corp (APC)

Ratings and Target Price History
Fundamental Research

Analyst: Robert S Morris
Covered since December 7 2009



	Date	Rating	Target Price	Closing Price
1	2-Apr-09	1H	*49.00	42.05
2	7-May-09	1H	*60.00	48.72
3	17-Jul-09	Coverage terminated		
4	7-Dec-09	1H	*80.00	58.27
5	21-Apr-10	1H	*100.00	72.58
6	2-Jun-10	1H	*75.00	44.36
7	9-Sep-10	1H	*74.00	52.28
8	2-Nov-10	1H	*80.00	63.82
9	13-Jan-11	1H	*95.00	77.14
10	27-Jul-11	1H	*100.00	82.39
11	8-Oct-11	Stock rating system changed		
12	8-Oct-11	*1	100.00	65.12
13	17-Oct-11	1	*120.00	74.44

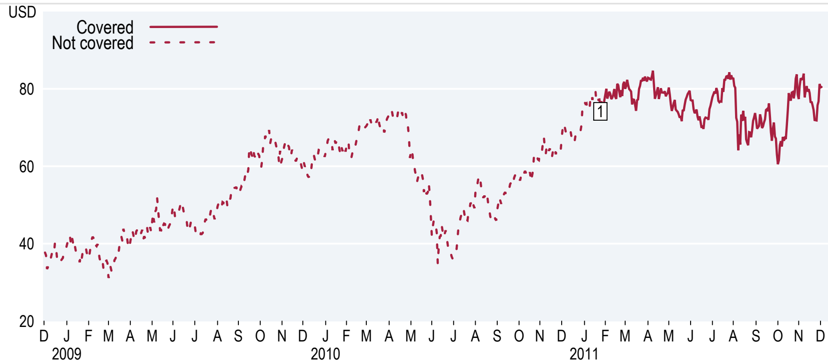
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Anadarko Petroleum Corp (APC)

Ratings and Target Price History
Best Ideas Research
Relative Call (3 Month)

Analyst: Robert S Morris
Covered since December 7 2009



	Date	Rating	Target Price	Closing Price
1	25-Jan-11	*ADD MP	-	75.70

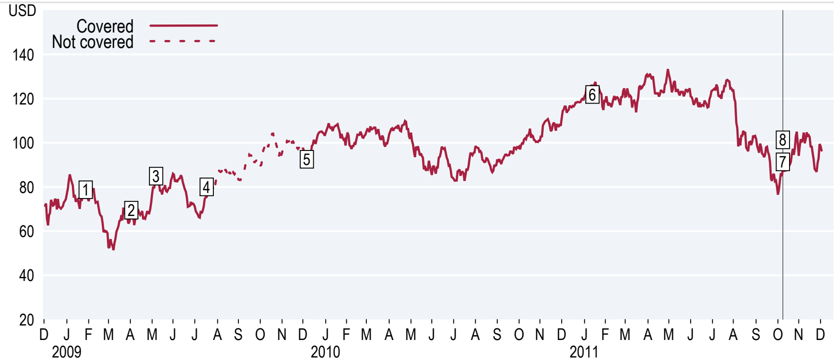
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Apache Corp (APA)

Ratings and Target Price History
Fundamental Research

Analyst: Robert S Morris
Covered since December 7 2009



	Date	Rating	Target Price	Closing Price
1	28-Jan-09	2H	*85.00	78.62
2	2-Apr-09	2H	*75.00	67.92
3	7-May-09	2H	*86.00	81.46

	Date	Rating	Target Price	Closing Price
4	17-Jul-09	Coverage terminated		
5	7-Dec-09	*1M	*130.00	93.34
6	13-Jan-11	1M	*150.00	125.18

	Date	Rating	Target Price	Closing Price
7	8-Oct-11	Stock rating system changed		
8	8-Oct-11	*1	150.00	84.84

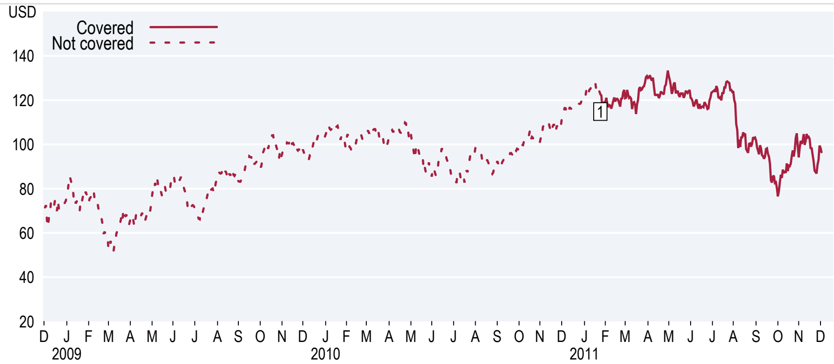
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Apache Corp (APA)

Ratings and Target Price History
Best Ideas Research
Relative Call (3 Month)

Analyst: Robert S Morris
Covered since December 7 2009



	Date	Rating	Target Price	Closing Price
1	25-Jan-11	*ADD MP	-	122.64

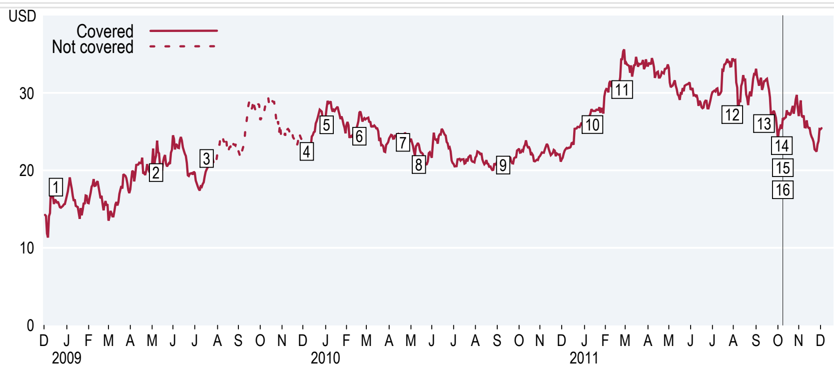
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Chesapeake Energy Corp (CHK)

Ratings and Target Price History
Fundamental Research

Analyst: Robert S Morris
Covered since December 7 2009



	Date	Rating	Target Price	Closing Price
1	17-Dec-08	*2S	*20.00	16.09
2	7-May-09	2S	*25.00	21.92
3	17-Jul-09	Coverage terminated		
4	7-Dec-09	2S	*28.00	22.80
5	4-Jan-10	2S	*32.00	28.09
6	18-Feb-10	2S	*36.00	27.46

	Date	Rating	Target Price	Closing Price
7	21-Apr-10	2S	*30.00	23.68
8	13-May-10	2S	*28.00	23.29
9	9-Sep-10	2S	*26.00	20.91
10	13-Jan-11	2S	*28.00	27.70
11	24-Feb-11	2S	*35.00	34.35
12	29-Jul-11	*2H	*38.00	34.35

	Date	Rating	Target Price	Closing Price
13	13-Sep-11	2H	*34.00	31.49
14	7-Oct-11	*1H	*32.00	25.35
15	8-Oct-11	Stock rating system changed		
16	8-Oct-11	*1	32.00	25.35

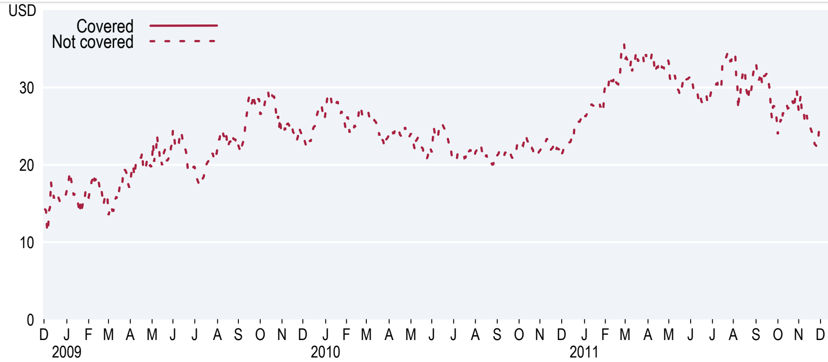
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Chesapeake Energy Corp (CHK)

Ratings and Target Price History
Best Ideas Research
Relative Call (3 Month)

Analyst: Robert S Morris
Covered since December 7 2009



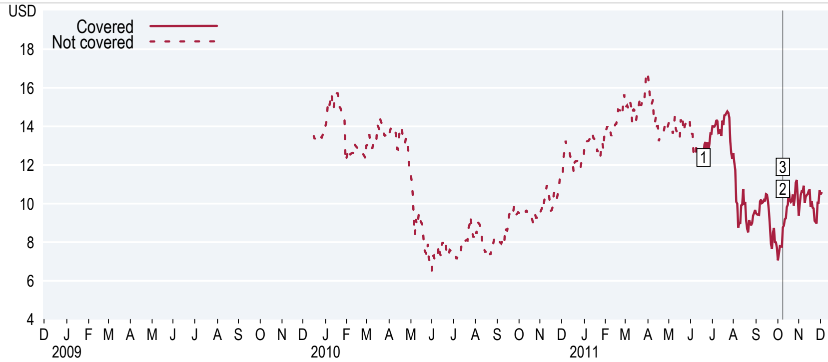
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Cobalt International Energy (CIE)

Ratings and Target Price History
Fundamental Research

Analyst: Robert S Morris
Covered since June 20 2011



	Date	Rating	Target Price	Closing Price
1	20-Jun-11	*1S	*18.00	12.58

	Date	Rating	Target Price	Closing Price
2	8-Oct-11	Stock rating system changed		

	Date	Rating	Target Price	Closing Price
3	8-Oct-11	*1H	18.00	7.77

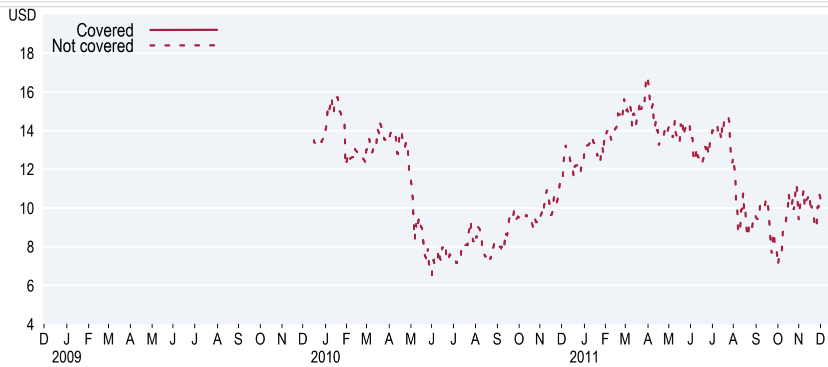
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Cobalt International Energy (CIE)

Ratings and Target Price History
Best Ideas Research
Relative Call (3 Month)

Analyst: Robert S Morris
Covered since June 20 2011



* Indicates change

Rating/target price changes above reflect Eastern Standard Time

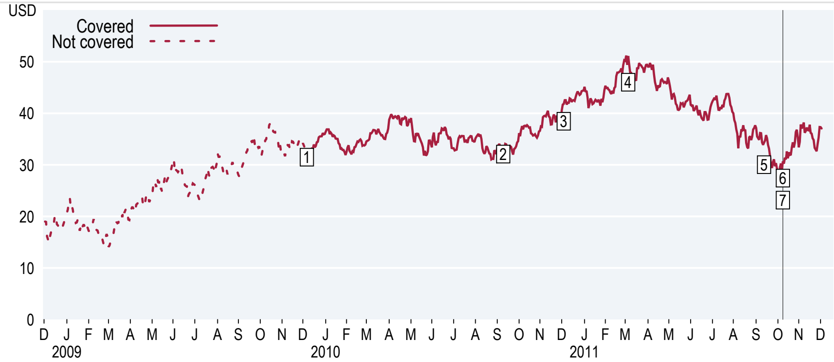
Canadian Natural Resources Ltd (CNQ)

Ratings and Target Price History

Fundamental Research

Analyst: Robert S Morris

Covered since December 7 2009



	Date	Rating	Target Price	Closing Price
1	7-Dec-09	*1H	*42.50	32.68
2	9-Sep-10	1H	*40.00	33.29
3	3-Dec-10	1H	*48.00	41.82
4	4-Mar-11	1H	*60.00	51.12
5	13-Sep-11	1H	*50.00	34.31
6	8-Oct-11	Stock rating system changed		
7	8-Oct-11	*1	50.00	29.13

* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Canadian Natural Resources Ltd (CNQ)

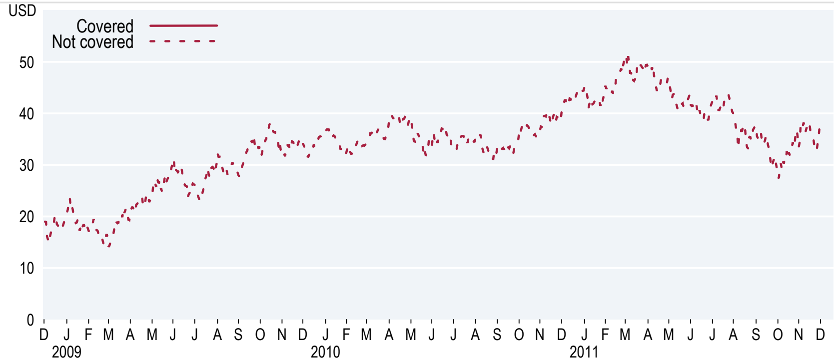
Ratings and Target Price History

Best Ideas Research

Relative Call (3 Month)

Analyst: Robert S Morris

Covered since December 7 2009



* Indicates change

Rating/target price changes above reflect Eastern Standard Time

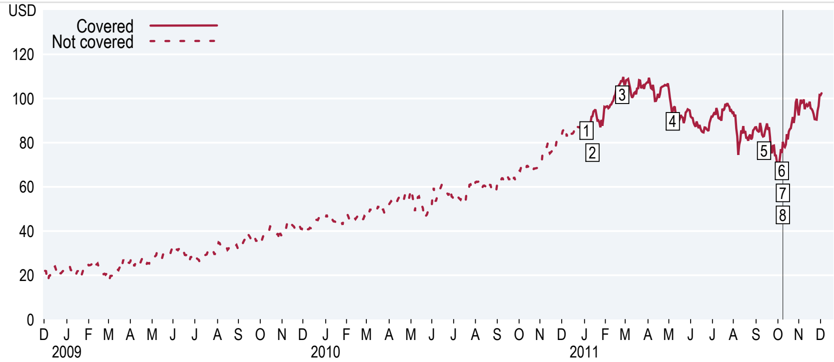
Concho Resources Inc (CXO)

Ratings and Target Price History

Fundamental Research

Analyst: Robert S Morris

Covered since July 18 2011



	Date	Rating	Target Price	Closing Price
1	5-Jan-11	*3H	*81.00	86.51
2	13-Jan-11	3H	*83.00	91.97
3	24-Feb-11	3H	*95.00	107.53
4	6-May-11	*2H	95.00	94.34
5	13-Sep-11	2H	*92.00	83.01
6	7-Oct-11	*1H	92.00	75.35
7	8-Oct-11	Stock rating system changed		
8	8-Oct-11	*1	92.00	75.35

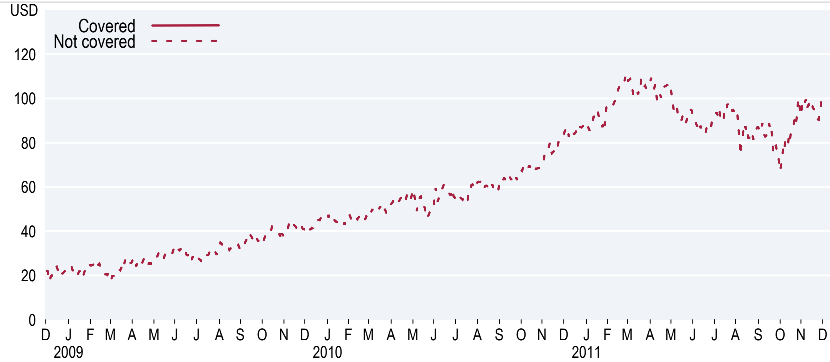
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Conccho Resources Inc (CXO)

Ratings and Target Price History
Best Ideas Research
Relative Call (3 Month)

Analyst: Robert S Morris
Covered since July 18 2011



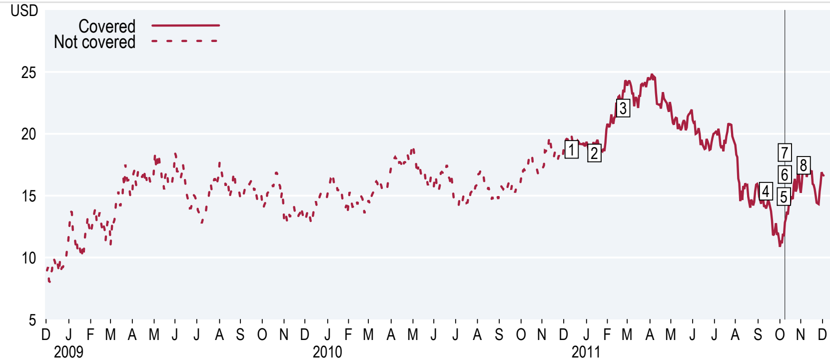
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Denbury Resources, Inc. (DNR)

Ratings and Target Price History
Fundamental Research

Analyst: Robert S Morris
Covered since December 13 2010



	Date	Rating	Target Price	Closing Price
1	13-Dec-10	*2H	*20.00	19.77
2	13-Jan-11	2H	*21.00	19.06
3	23-Feb-11	2H	*24.00	23.56
4	13-Sep-11	2H	*17.00	13.96
5	7-Oct-11	2H	*12.75	11.72
6	8-Oct-11	Stock rating system changed		
7	8-Oct-11	*2	12.75	11.72
8	4-Nov-11	2	*18.00	17.38

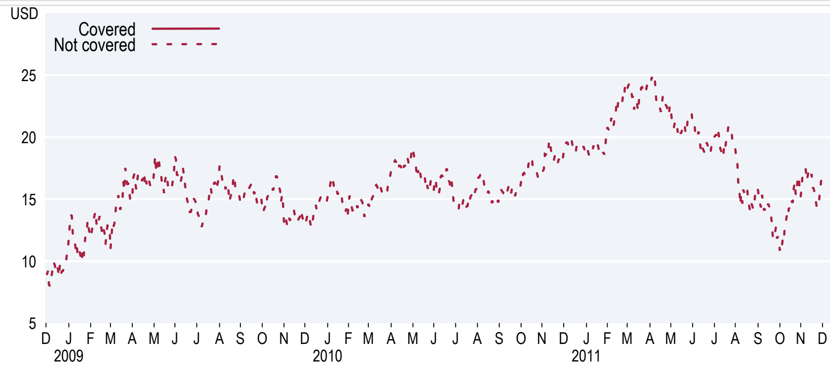
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Denbury Resources, Inc. (DNR)

Ratings and Target Price History
Best Ideas Research
Relative Call (3 Month)

Analyst: Robert S Morris
Covered since December 13 2010



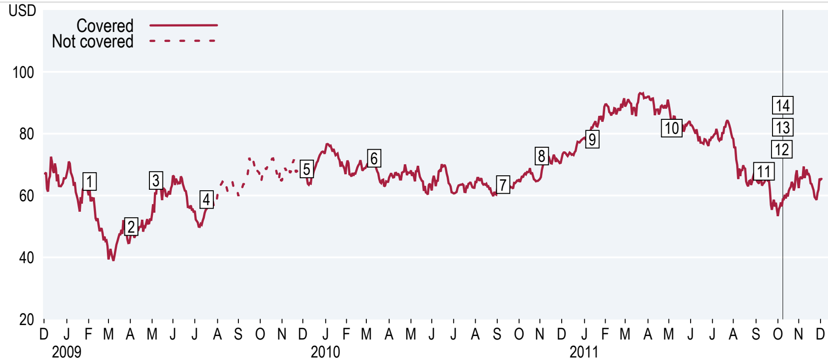
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Devon Energy Corp (DVN)

Ratings and Target Price History
Fundamental Research

Analyst: Robert S Morris
Covered since December 7 2009



	Date	Rating	Target Price	Closing Price
1	3-Feb-09	2H	*70.00	61.91
2	2-Apr-09	2H	*55.00	48.40
3	7-May-09	2H	*70.00	60.34
4	17-Jul-09	Coverage terminated		
5	7-Dec-09	*2M	*75.00	65.79
6	11-Mar-10	2M	*78.00	72.04
7	9-Sep-10	2M	*68.00	62.86
8	3-Nov-10	2M	*72.00	68.22
9	13-Jan-11	2M	*82.00	81.94
10	5-May-11	2M	*90.00	83.46
11	13-Sep-11	2M	*75.00	64.13
12	7-Oct-11	*1M	75.00	56.48
13	8-Oct-11	Stock rating system changed		
14	8-Oct-11	*1	75.00	56.48

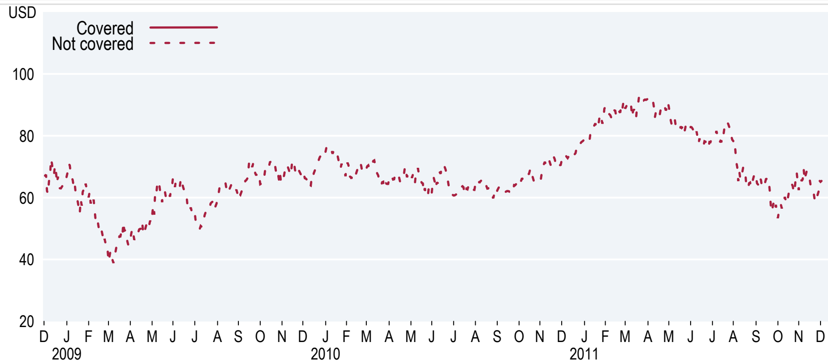
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Devon Energy Corp (DVN)

Ratings and Target Price History
Best Ideas Research
Relative Call (3 Month)

Analyst: Robert S Morris
Covered since December 7 2009



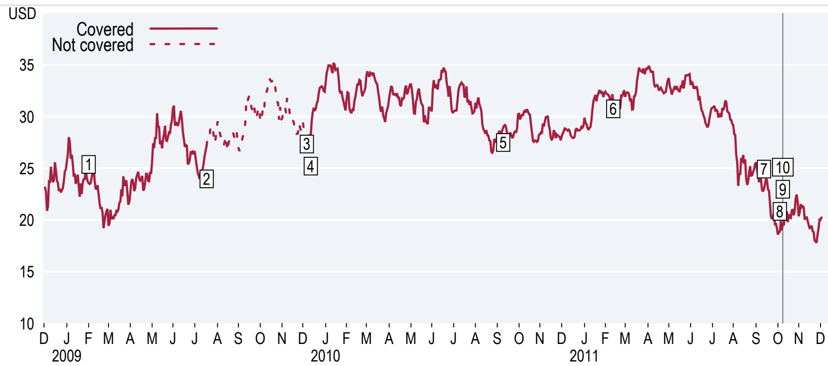
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

EnCana Corp (ECA)

Ratings and Target Price History
Fundamental Research

Analyst: Robert S Morris
Covered since December 7 2009



	Date	Rating	Target Price	Closing Price
1	2-Feb-09	2H	*25.15	23.55
2	17-Jul-09	Coverage terminated		
3	7-Dec-09	*2M	*16.05	27.83
4	11-Dec-09	2M	*30.00	28.26
5	9-Sep-10	2M	*28.00	28.94
6	11-Feb-11	2M	*32.00	31.45
7	13-Sep-11	2M	*24.00	23.00
8	5-Oct-11	2M	*20.00	18.87
9	8-Oct-11	Stock rating system changed		
10	8-Oct-11	*2	20.00	18.99

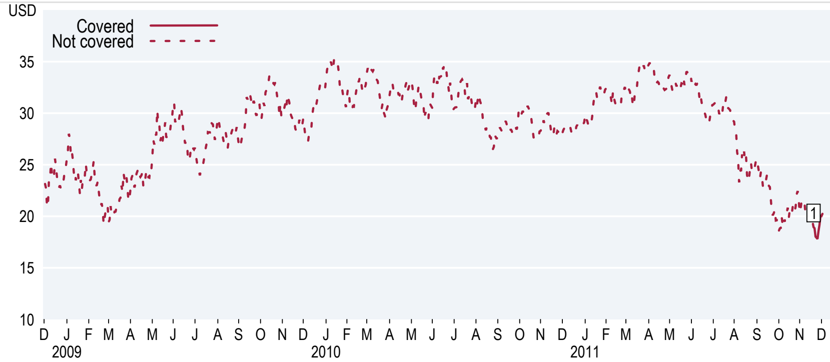
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

EnCana Corp (ECA)

Ratings and Target Price History
Best Ideas Research
Relative Call (3 Month)

Analyst: Robert S Morris
Covered since December 7 2009



	Date	Rating	Target Price	Closing Price
1	20-Nov-11	*ADD LP	-	19.45

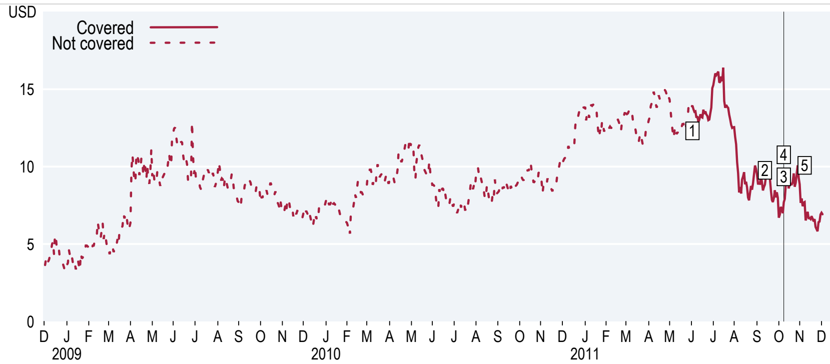
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Endeavour International (END)

Ratings and Target Price History
Fundamental Research

Analyst: Robert S Morris
Covered since June 2 2011



	Date	Rating	Target Price	Closing Price
1	2-Jun-11	*1S	*18.00	13.94
2	13-Sep-11	1S	*16.00	8.84
3	8-Oct-11	Stock rating system changed		
4	8-Oct-11	*1H	16.00	6.99
5	8-Nov-11	*2H	*9.00	7.71

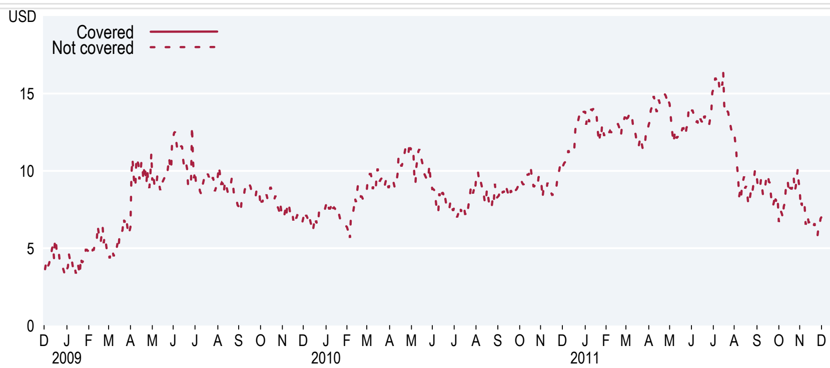
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Endeavour International (END)

Ratings and Target Price History
Best Ideas Research
Relative Call (3 Month)

Analyst: Robert S Morris
Covered since June 2 2011



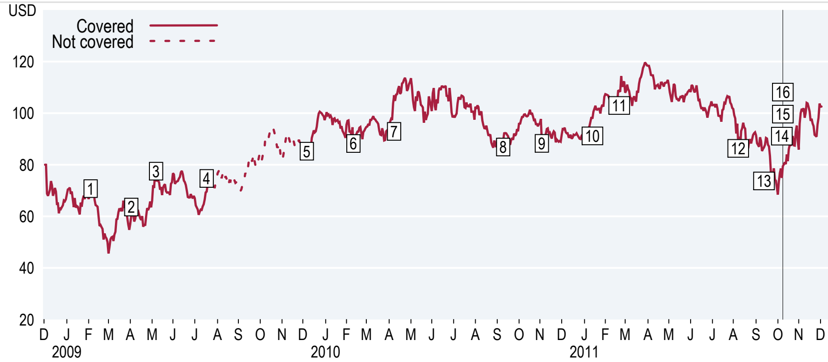
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

EOG Resources Inc (EOG)

Ratings and Target Price History
Fundamental Research

Analyst: Robert S Morris
Covered since December 7 2009



	Date	Rating	Target Price	Closing Price
1	4-Feb-09	1H	*88.00	68.58
2	2-Apr-09	1H	*70.00	60.33
3	7-May-09	*2H	*82.00	73.52
4	17-Jul-09	Coverage terminated		
5	7-Dec-09	*1M	*110.00	87.27
6	10-Feb-10	1M	*102.00	88.24

	Date	Rating	Target Price	Closing Price
7	8-Apr-10	1M	*120.00	106.96
8	9-Sep-10	1M	*110.00	89.37
9	3-Nov-10	*2M	*95.00	88.64
10	13-Jan-11	2M	*105.00	97.86
11	21-Feb-11	2M	*120.00	108.89
12	7-Aug-11	*1M	*130.00	95.92

	Date	Rating	Target Price	Closing Price
13	13-Sep-11	1M	*126.00	86.75
14	7-Oct-11	1M	*110.00	74.90
15	8-Oct-11	Stock rating system changed		
16	8-Oct-11	*1	110.00	74.90

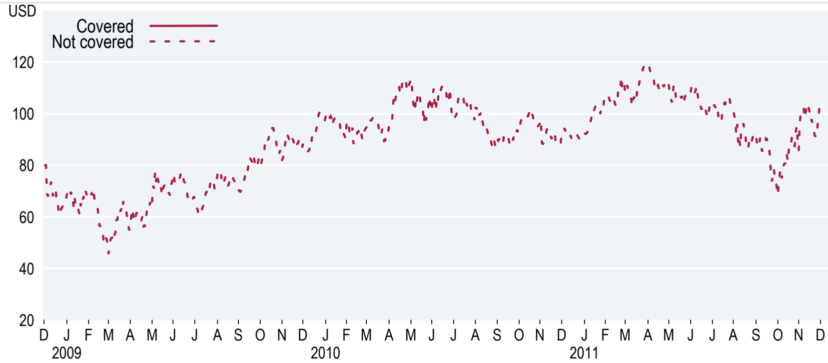
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

EOG Resources Inc (EOG)

Ratings and Target Price History
Best Ideas Research
Relative Call (3 Month)

Analyst: Robert S Morris
Covered since December 7 2009



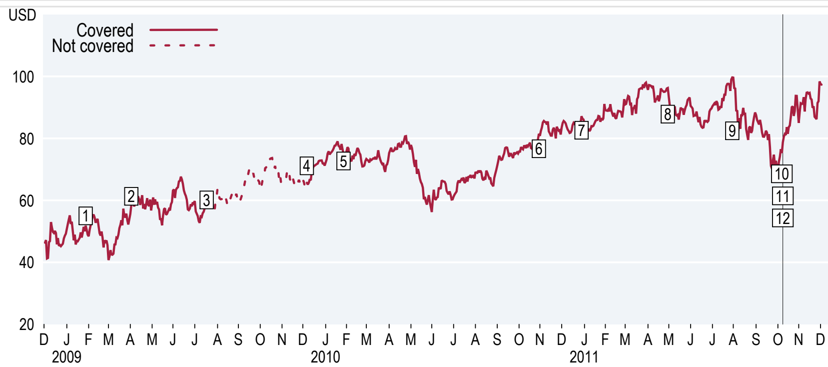
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Noble Energy Inc (NBL)

Ratings and Target Price History
Fundamental Research

Analyst: Robert S Morris
Covered since December 7 2009



	Date	Rating	Target Price	Closing Price
1	28-Jan-09	2H	*55.00	51.82
2	2-Apr-09	2H	*62.00	58.39
3	17-Jul-09	Coverage terminated		
4	7-Dec-09	*2M	*68.00	65.68

	Date	Rating	Target Price	Closing Price
5	27-Jan-10	2M	*74.00	75.00
6	29-Oct-10	2M	*80.00	81.48
7	29-Dec-10	2M	*90.00	87.16
8	29-Apr-11	2M	*98.00	96.27

	Date	Rating	Target Price	Closing Price
9	29-Jul-11	2M	*110.00	99.68
10	7-Oct-11	*1M	110.00	75.28
11	8-Oct-11	Stock rating system changed		
12	8-Oct-11	*1	110.00	75.28

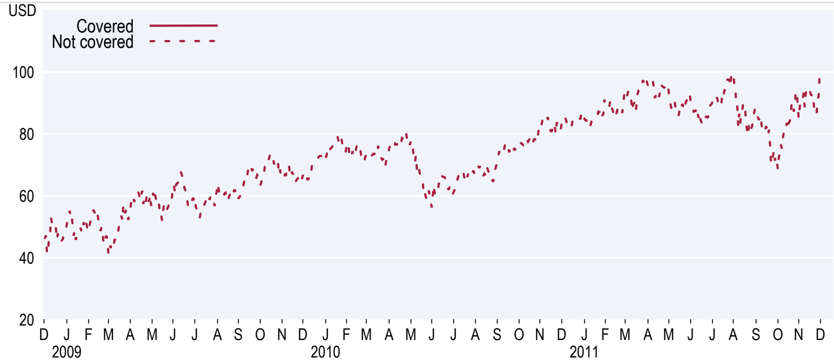
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Noble Energy Inc (NBL)

Ratings and Target Price History
Best Ideas Research
Relative Call (3 Month)

Analyst: Robert S Morris
Covered since December 7 2009



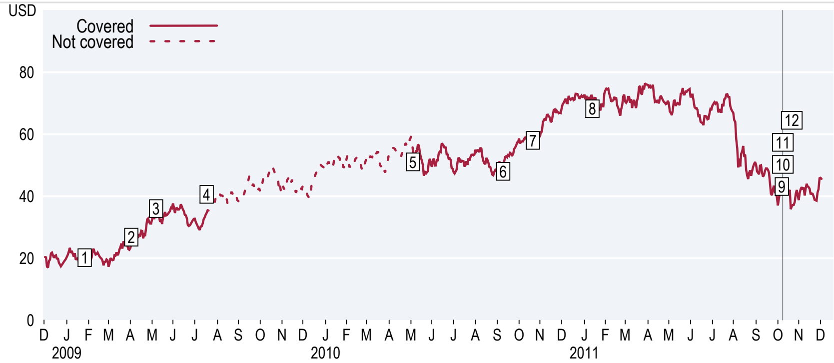
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Newfield Exploration Co. (NFX)

Ratings and Target Price History
Fundamental Research

Analyst: Robert S Morris
Covered since May 6 2010



	Date	Rating	Target Price	Closing Price
1	27-Jan-09	2H	*21.00	18.60
2	2-Apr-09	2H	*26.00	24.50
3	7-May-09	*1H	*42.00	32.96
4	17-Jul-09	Coverage terminated		
5	5-May-10	*1M	*66.00	54.66
6	9-Sep-10	1M	*60.00	50.67
7	21-Oct-10	1M	*68.00	58.91
8	13-Jan-11	*2M	*76.00	71.86
9	7-Oct-11	*1M	*58.00	40.65
10	8-Oct-11	Stock rating system changed		
11	8-Oct-11	*1	58.00	40.65
12	21-Oct-11	1	*48.00	36.73

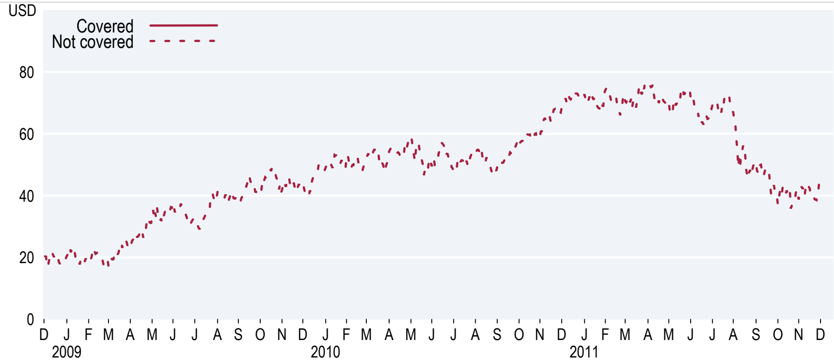
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Newfield Exploration Co. (NFX)

Ratings and Target Price History
Best Ideas Research
Relative Call (3 Month)

Analyst: Robert S Morris
Covered since May 6 2010



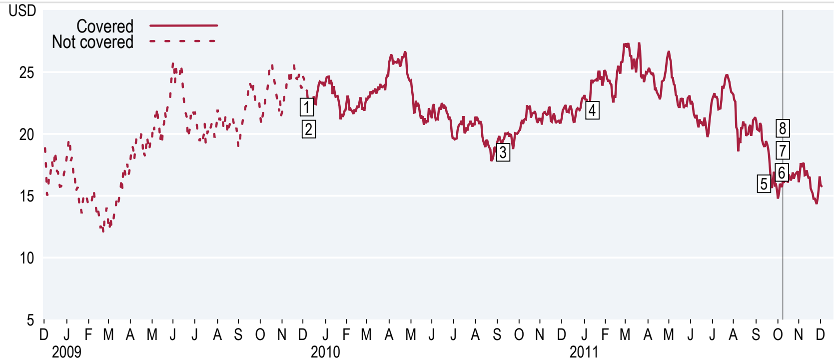
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Nexen Inc (NXY)

Ratings and Target Price History
Fundamental Research

Analyst: Robert S Morris
Covered since December 7 2009



	Date	Rating	Target Price	Closing Price
1	7-Dec-09	*2H	*27.00	23.48
2	9-Dec-09	2H	*26.00	22.66
3	9-Sep-10	2H	*25.00	19.51
4	13-Jan-11	*1H	*30.00	24.12
5	13-Sep-11	1H	*26.00	19.01
6	7-Oct-11	1H	*20.00	15.71
7	8-Oct-11	Stock rating system changed		
8	8-Oct-11	*1	20.00	15.71

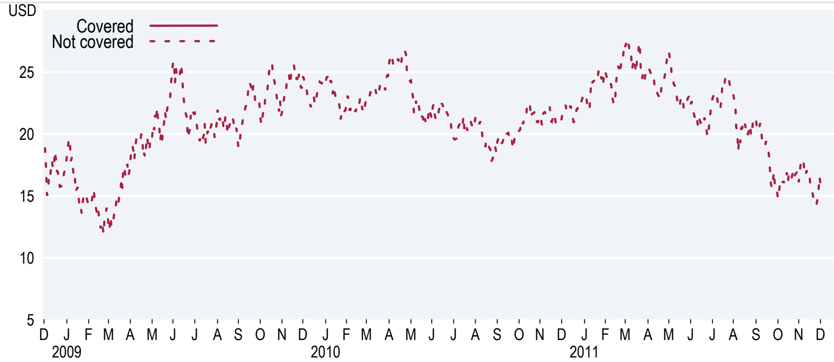
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Nexen Inc (NXY)

Ratings and Target Price History
Best Ideas Research
Relative Call (3 Month)

Analyst: Robert S Morris
Covered since December 7 2009



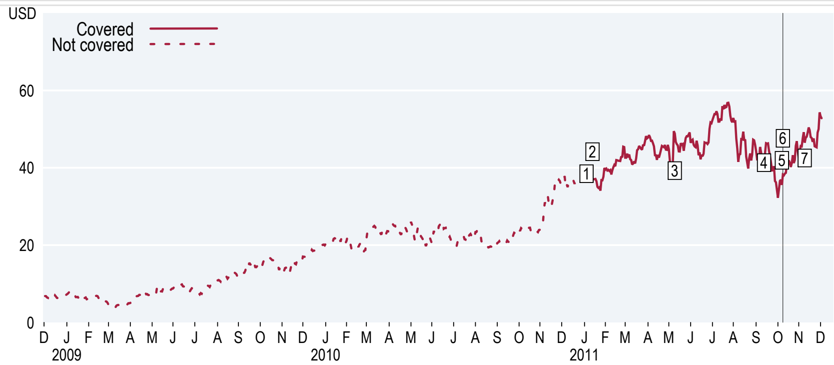
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Rosetta Resources (ROSE)

Ratings and Target Price History
Fundamental Research

Analyst: Robert S Morris
Covered since July 18 2011



	Date	Rating	Target Price	Closing Price
1	5-Jan-11	*2H	*42.00	37.67
2	13-Jan-11	2H	*44.00	36.94
3	10-May-11	*1H	*60.00	48.87
4	13-Sep-11	1H	*55.00	42.54
5	7-Oct-11	*2H	*45.00	35.56
6	8-Oct-11	Stock rating system changed		
7	9-Nov-11	2H	*50.00	46.49

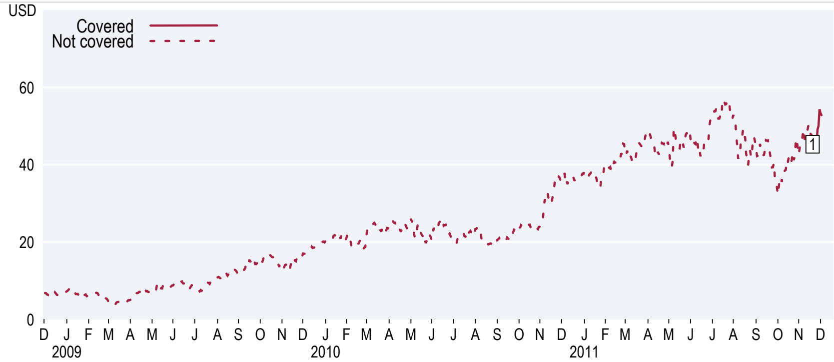
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Rosetta Resources (ROSE)

Ratings and Target Price History
Best Ideas Research
Relative Call (3 Month)

Analyst: Robert S Morris
Covered since July 18 2011



	Date	Rating	Target Price	Closing Price
1	20-Nov-11	*ADD LP	-	47.71

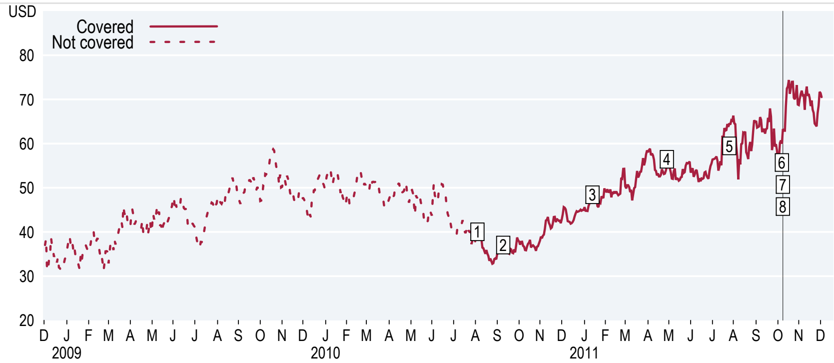
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Range Resources Corp (RRC)

Ratings and Target Price History
Fundamental Research

Analyst: Robert S Morris
Covered since August 5 2010



	Date	Rating	Target Price	Closing Price
1	4-Aug-10	*2H	*42.00	39.46
2	9-Sep-10	2H	*40.00	36.47
3	13-Jan-11	*3H	*44.00	48.16
4	28-Apr-11	3H	*48.00	54.92
5	26-Jul-11	*2H	*65.00	64.59
6	7-Oct-11	*1H	*70.00	59.98
7	8-Oct-11	Stock rating system changed		
8	8-Oct-11	*1	70.00	59.98

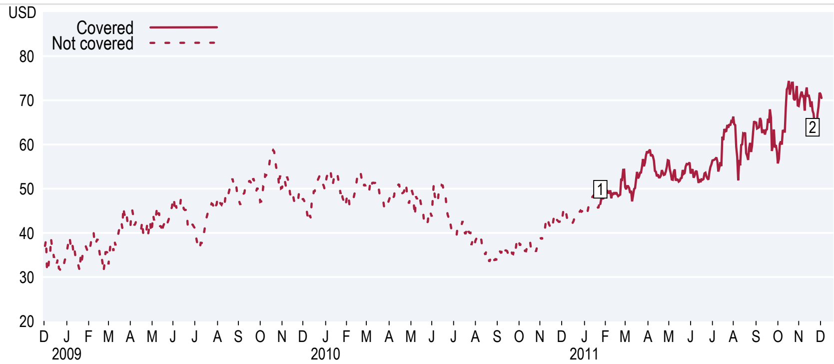
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Range Resources Corp (RRC)

Ratings and Target Price History
Best Ideas Research
Relative Call (3 Month)

Analyst: Robert S Morris
Covered since August 5 2010



	Date	Rating	Target Price	Closing Price
1	25-Jan-11	*ADD LP	-	46.54
2	20-Nov-11	*REM LP	-	69.76

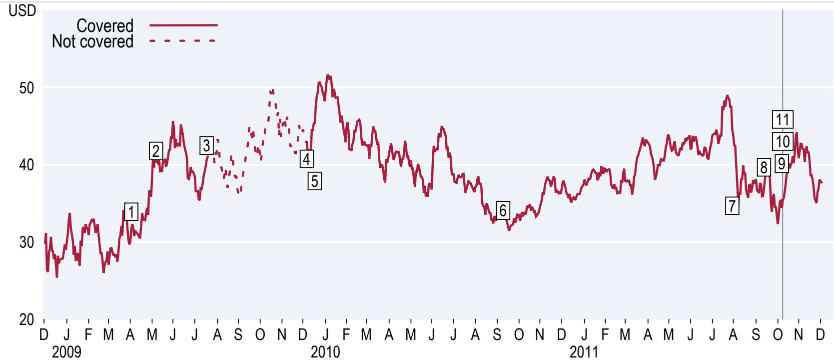
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Southwestern Energy Co (SWN)

Ratings and Target Price History
Fundamental Research

Analyst: Robert S Morris
Covered since December 7 2009



	Date	Rating	Target Price	Closing Price
1	2-Apr-09	1H	*38.00	31.69
2	7-May-09	1H	*50.00	40.26
3	17-Jul-09	Coverage terminated		
4	7-Dec-09	*2H	*52.00	42.93
5	17-Dec-09	2H	*50.00	45.40
6	9-Sep-10	2H	*40.00	32.94
7	29-Jul-11	2H	*45.00	44.56
8	13-Sep-11	2H	*42.00	36.93
9	7-Oct-11	2H	*40.00	34.38
10	8-Oct-11	Stock rating system changed		
11	8-Oct-11	*2	40.00	34.38

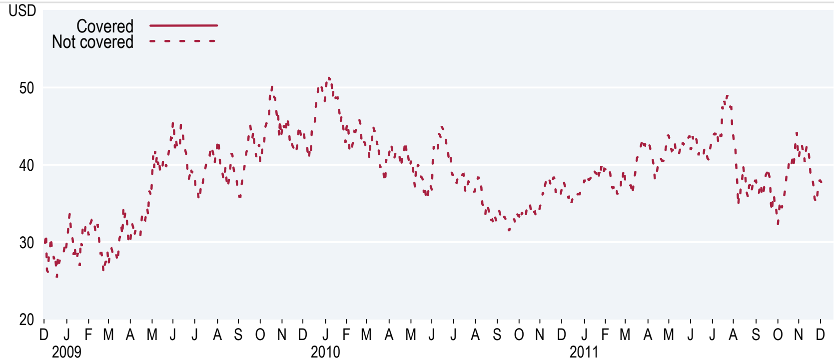
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Southwestern Energy Co (SWN)

Ratings and Target Price History
Best Ideas Research
Relative Call (3 Month)

Analyst: Robert S Morris
Covered since December 7 2009



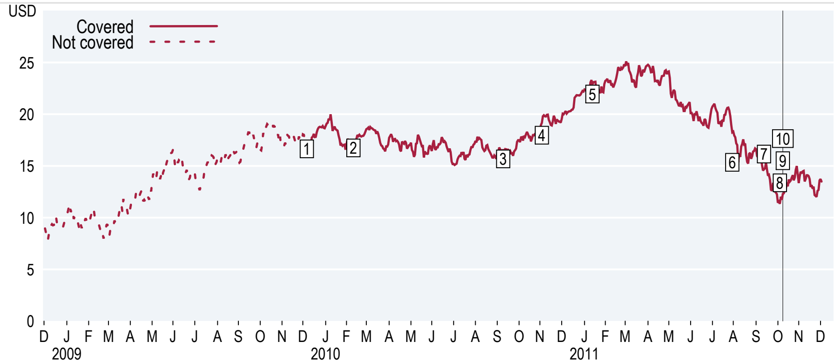
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Talisman Energy Inc (TLM)

Ratings and Target Price History
Fundamental Research

Analyst: Robert S Morris
Covered since December 7 2009



	Date	Rating	Target Price	Closing Price
1	7-Dec-09	*1H	*23.00	17.21
2	10-Feb-10	1H	*21.00	16.74
3	9-Sep-10	1H	*20.00	16.53
4	3-Nov-10	1H	*22.00	19.17
5	13-Jan-11	*1M	*27.00	22.87
6	29-Jul-11	1M	*23.00	18.25
7	13-Sep-11	1M	*22.00	14.68
8	5-Oct-11	1M	*18.00	11.34
9	8-Oct-11	Stock rating system changed		
10	8-Oct-11	*1	18.00	11.73

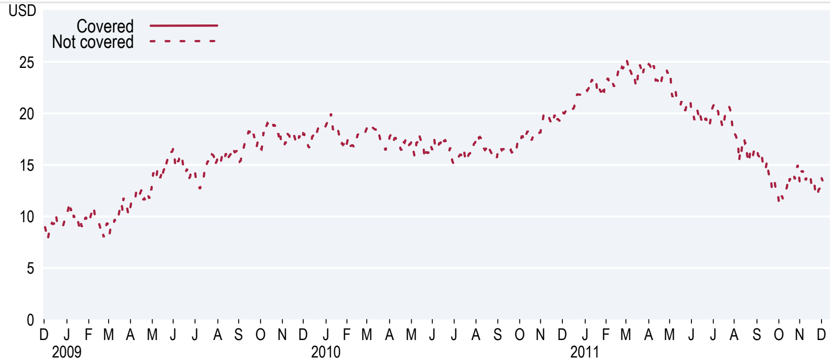
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Talisman Energy Inc (TLM)

Ratings and Target Price History
Best Ideas Research
Relative Call (3 Month)

Analyst: Robert S Morris
Covered since December 7 2009



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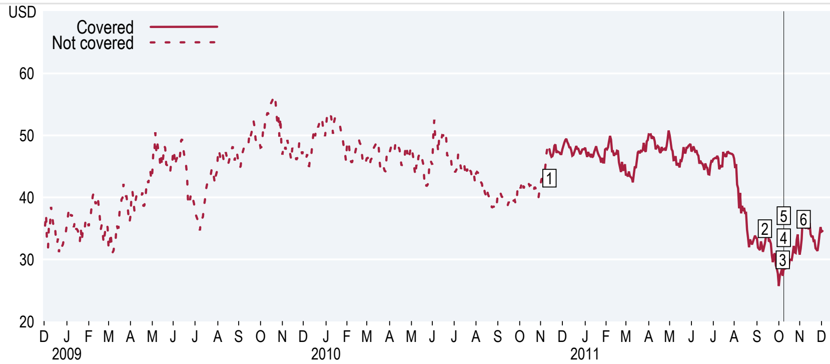
Rating/target price changes above reflect Eastern Standard Time

Ultra Petroleum Corp. (UPL)

Ratings and Target Price History
Fundamental Research

Analyst: Robert S Morris
Covered since November 12 2010



	Date	Rating	Target Price	Closing Price
1	12-Nov-10	*2H	*50.00	47.77
2	13-Sep-11	2H	*38.00	32.59
3	7-Oct-11	2H	*32.00	27.34
4	8-Oct-11	Stock rating system changed		
5	8-Oct-11	*2	32.00	27.34
6	6-Nov-11	2	*40.00	36.47

* Indicates change

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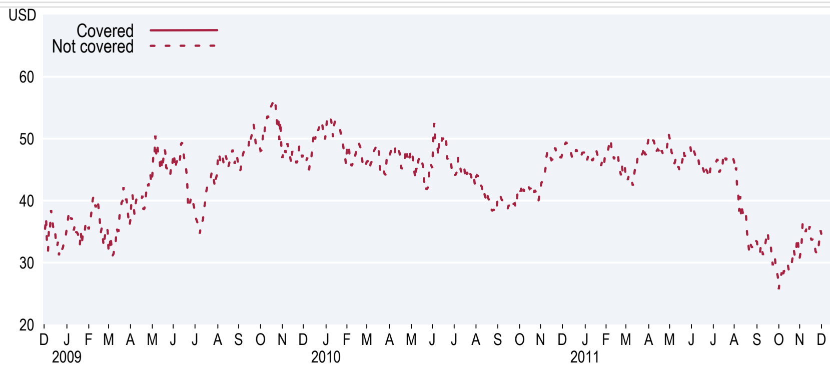
Ultra Petroleum Corp. (UPL)

Ratings and Target Price History
Best Ideas Research
Relative Call (3 Month)

Analyst: Robert S Morris
Covered since November 12 2010



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Data current as of 10 Oct 2011	**Buy**	**Hold**	**Sell**	**Buy**	**Hold**	**Sell**
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