



Natural Gas Bring on the Rigs

Exploration & Production

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April 19, 2013

Passion to Perform



Natural Gas Monthly – Go Forward for April

Bring on the Rigs

The call on the Marcellus, and the shifting structure of US natural gas supply

With the market broadly of the view that the US market enjoys 'infinite' supply of low cost natural gas, and the forward curve in agreement (backwardation) we have taken a closer look at supply trends on a multi-year view. The Marcellus alone is incapable of addressing US demand in 2013/14, in our view. To meet consensus expectations surrounding supply (1.0 Bcf/d, 1.5% yoy declines in 2013e) the market needs to add rigs. At current productivity outside of the Marcellus (total production/rig), we see higher activity (~25 dry gas rigs) needed to support 2013/14 demand. We expect this to support deferred NG prices, as \$4.50+/mmbtu prices are likely needed to incentivize supply. Within we outline a multi-year view of Marcellus supply, and the implications for the broader market.

Despite seasonal loosening, the market looks finely balanced with an eye to end-Oct storage

Our recommendation has been to not chase levered equities following a late-winter rally, despite more aggressive than consensus expectations surrounding supply restraint (see slide 16). Flat price is likely rangebound this summer (+/- \$4/mmbtu), with gas to coal switching the risk. Should balances remain tight, storage expectations for October (~3.7 Tcf) will continue to support the curve. We see upside to DB commodities research 2014 forecast of \$4.25/mmbtu. The downside risks are gas to coal switching, the return of nuclear facility outages (~4.3 Bcf/d on a NG equivalent basis in March), and tough yoy weather comps (2012 summer CDDs were 18% above normal).

A more constructive backdrop for the equities

Notwithstanding near-term risks into the shoulder, tighter balances are supportive for the commodity and the equities. This is in stark contrast to the headwinds for domestic crudes (differentials, risks to demand). For the E&Ps, we see on average 10% upside to our 2014 estimates (EPS) from a \$0.50/mmbtu move in the CAL14 strip with more revisions to come post Q1 calls. Expect the potential for increased supply (rig activity) to be a key topic on Q1 conference calls. We are more focused on the time lag to supply response (~6-9 months) and the implication for near-term balances. EQT remains our top pick.

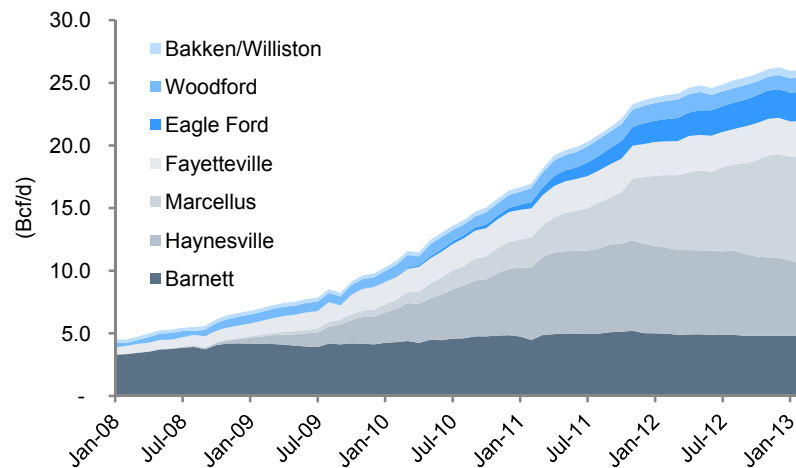


The Great Shift in US Natural Gas Supply

The key debate for US supply; Where on the cost curve does demand sit?

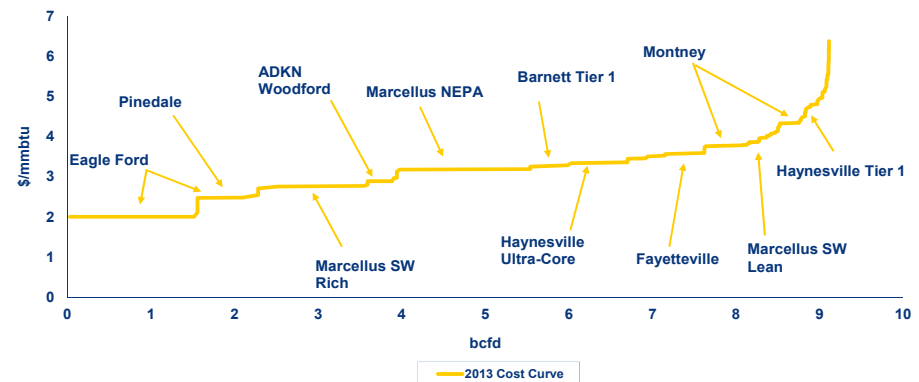
- The Marcellus has radically shifted the cost curve for US gas. Gas from the Northeast (and associated gas from liquids drilling) consists of the low cost base that will anchor US supply over the coming decade
- With a large and de-risked supply base in North America, the key driver will be demand and where on the cost curve this places the market. Simply, does commodity price need to rise to incentivize supply from the next highest marginal cost dry gas basins? (Fayetteville, Haynesville)
- With the forward curve in backwardation (CAL15 pricing \$0.03/mmbtu below prompt) the market is implying little in terms of 'non-Marcellus' dry gas activity is needed to balance the market

Marcellus ~70% of Supply Growth in 2012



Source: Wood Mackenzie, Deutsche Bank

Cost Curve Long and Flat



Source: Wood Mackenzie, Deutsche Bank

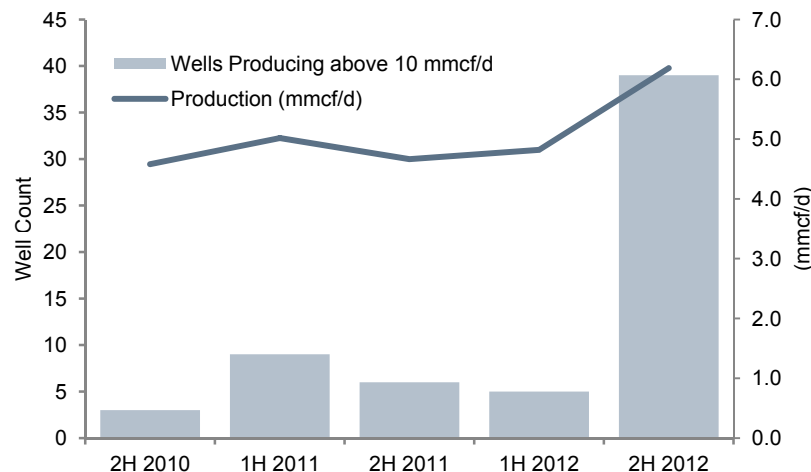


Marcellus Production Still Getting Better

Yet to see the peak in Marcellus well productivity

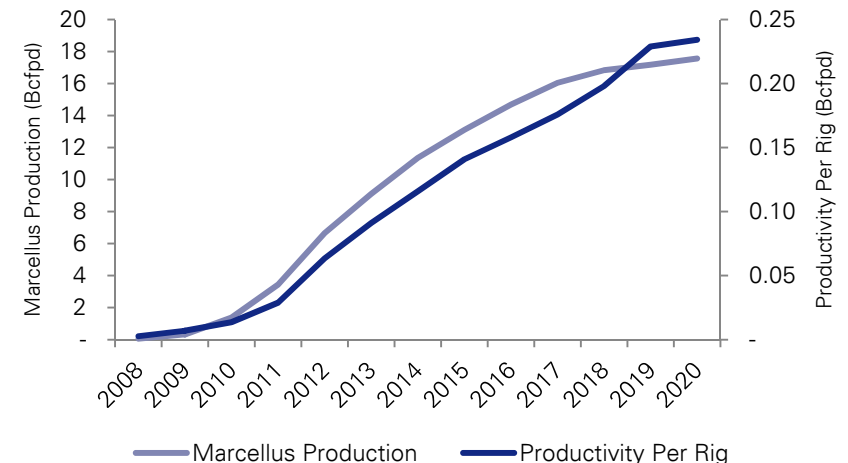
- Marcellus wells continue to register improved performance. Not only has the average IP rate improved over time, but the number of high productivity wells continued to rise in 2H12. The jump in the number of large wells drilled is driven by the increased drilling in Susquehanna county (70% of high productivity wells).
- In our data set; only Susquehanna (70%), Greene (23%), Wyoming (5%) and Lycoming (3%) counties have drilled wells producing greater than 10 mmcf/d, with the majority operated by Cabot (COG, not covered) and EQT.
- Our model of Marcellus production utilizes increasing rig productivity peaking at an implied rate of 0.23 Bcfe/d.

IP Rates vs. High Productivity Wells



Note: Sample set include wells producing less than 92 days.
Source: PADEP, Deutsche Bank

Marcellus Rig Productivity



Source: Deutsche Bank

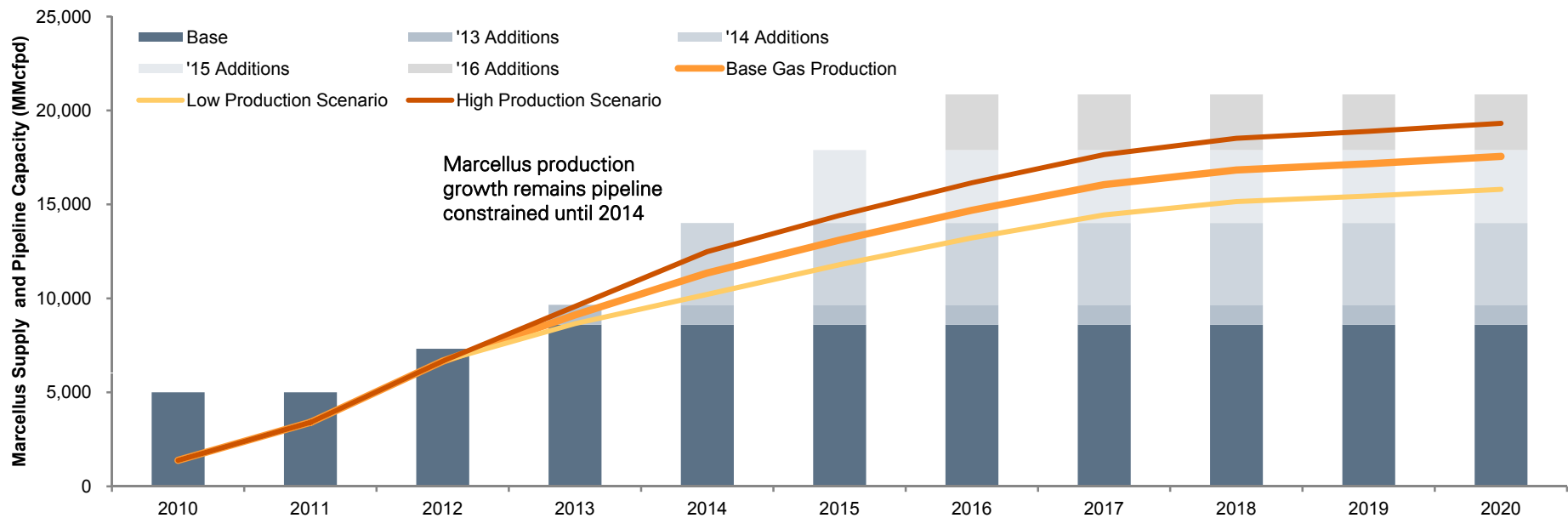


Infrastructure the Driver of Marcellus Growth

Northeast Supply Model Expectation

- While existing infrastructure and declining imports from outside basins has allowed Marcellus production to grow from ~1.4 Bcf/d in 2010 to ~6.6 Bcf/d in 2012, we see '13-'15 growth primarily a function of capacity additions, with ~3 Bcf/d and ~0.7 Bcf/d of new takeaway anticipated to be in service by 1Q14 in the Northeast and Southwest, respectively. See *appendix for key pipeline projects*.
- Our Marcellus supply estimate calls for 35-40% growth in 2013 to ~9.1 Bcf/d (mostly in 2H13, when new capacity comes online), increasing to 11.4 Bcf/d in 2014 and 13.1 Bcf/d in 2015.
- Our model assumes an average Northeast well of 7.2 Bcfe and Southwest well of 6.5 Bcfe (EURs), both economic at \$4/mmbtu prices.

Marcellus Production Capped by Takeaway Capacity in 2014/15



Source: Wood Mackenzie, Deutsche Bank

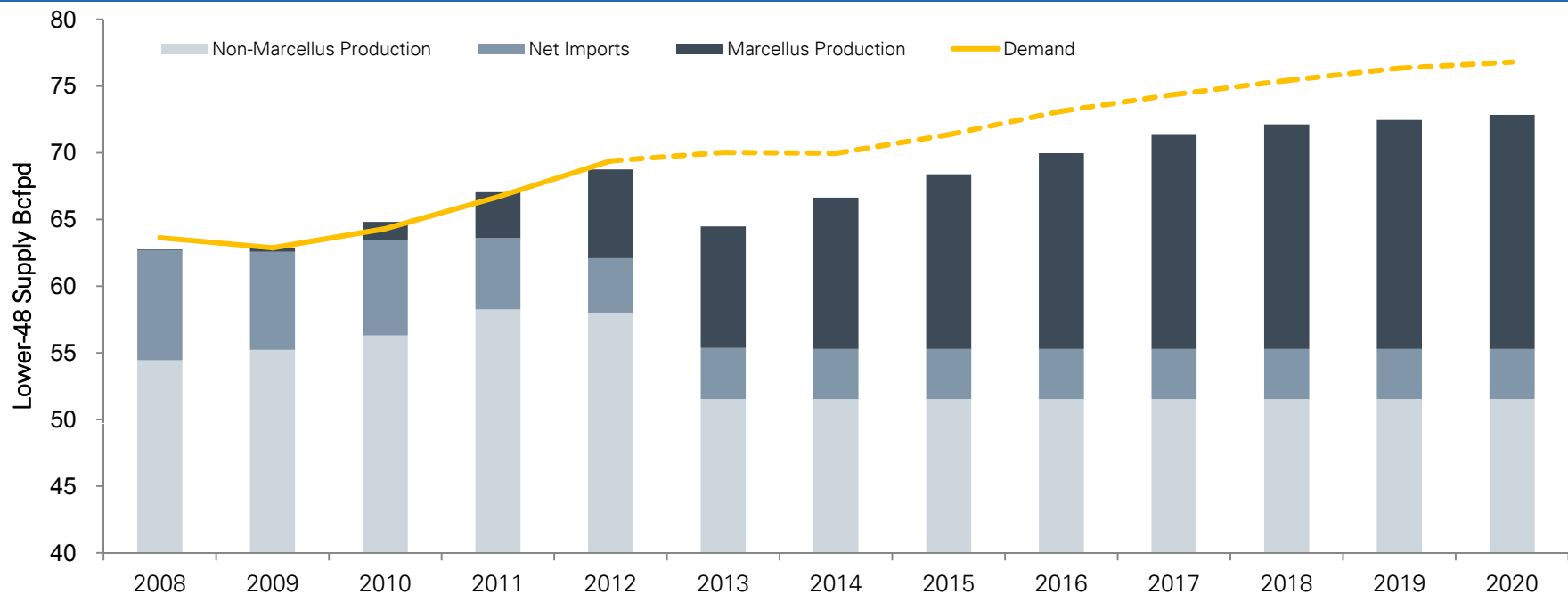
A thought exercise



The “call” on the Marcellus rises to 20 Bcf/d by the end of the decade

- We assume demand from the EIA outlook to 2020, with net imports held flat modestly below 2013 expectations (assumes no impact of LNG export projects).
- We hold the ex-Marcellus rig count (~300) flat at assumed current production per rig of 0.17 Bcf/d (this includes the impact of associated gas supply)
- While productivity in the Marcellus continues to improve, we see production growth as bounded by infrastructure projects (particularly in 2014/15) which drive our multi-year view of Northeast supply
- Under these assumptions we see the market tight in 2013/14 with at least 25 additional dry gas rigs (~8%) needed to balance (at flat assumed production per rig)

Supply Shortfall for a Market Solely Reliant on the Marcellus



Source: Wood Mackenzie, Deutsche Bank

Natural Gas – The Go Forward For April 2013

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Commodity Forecast vs. Futures Market

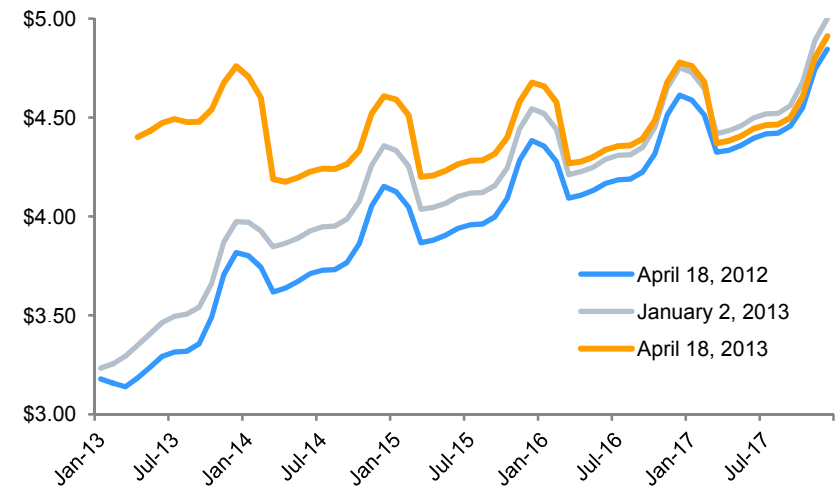


Natural Gas Futures & Forecasts

<i>(\$/mmbtu)</i>	2013	2014	2015	2016
DB Commodity Forecast	3.71	4.25	4.50	4.75
NYMEX Futures	4.12	4.33	4.38	4.46
Bloomberg Consensus	3.70	4.10	4.50	4.68

Source: Bloomberg Finance LP, Deutsche Bank

Natural Gas Forward Curve



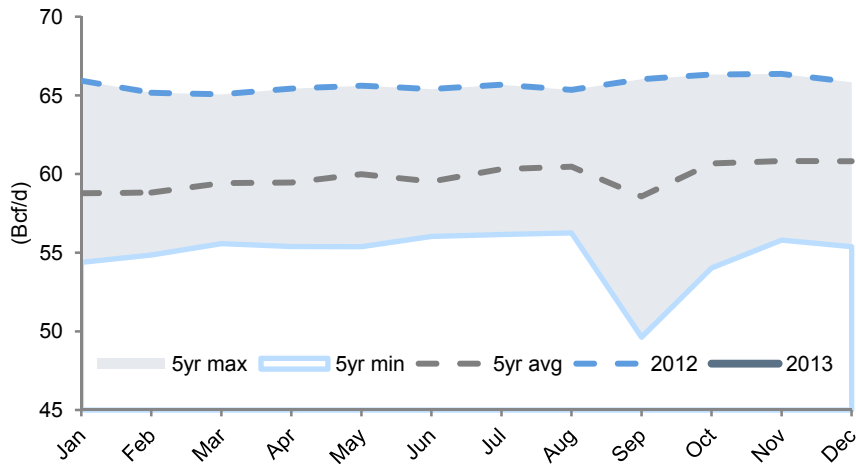
Source: Bloomberg Finance LP, Deutsche Bank

Supply / Demand Balances

North America Production

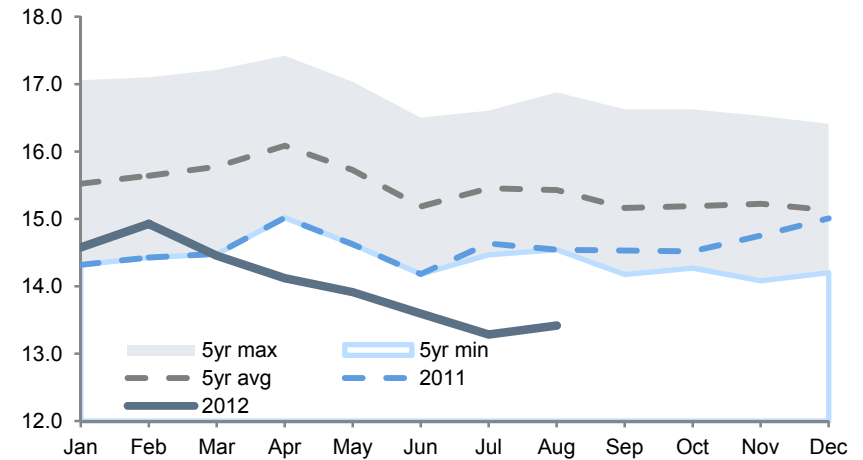


US Dry Natural Gas Production



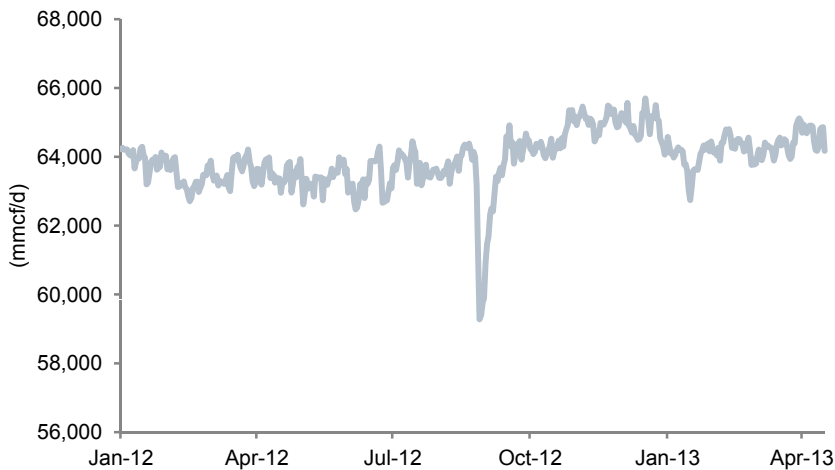
Source: EIA, Deutsche Bank

Canada Natural Gas Production



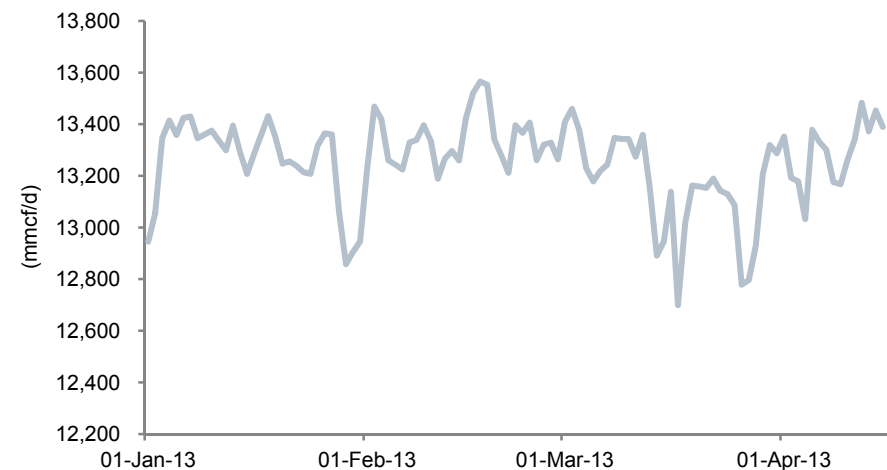
Source: NEB, Deutsche Bank

US Daily Dry Gas Production



Source: www.bentekenergy.com, Deutsche Bank

Canada Daily Dry Gas Production



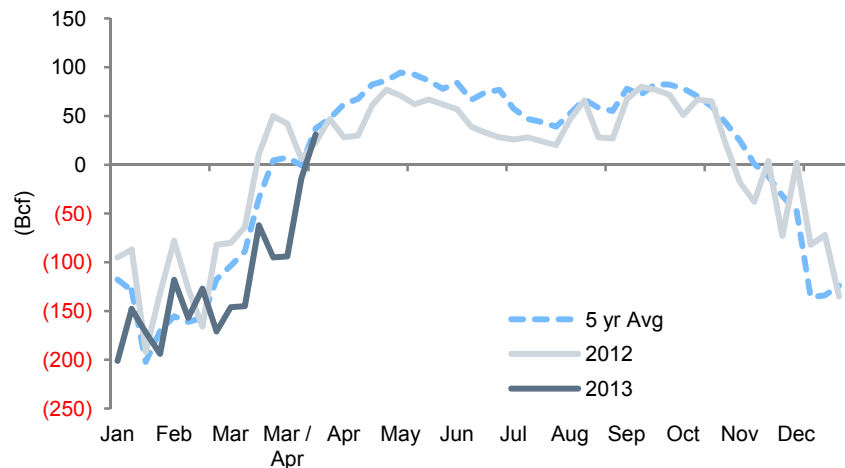
Source: www.bentekenergy.com, Deutsche Bank

Supply / Demand Balances

Storage Injection (Withdrawal)



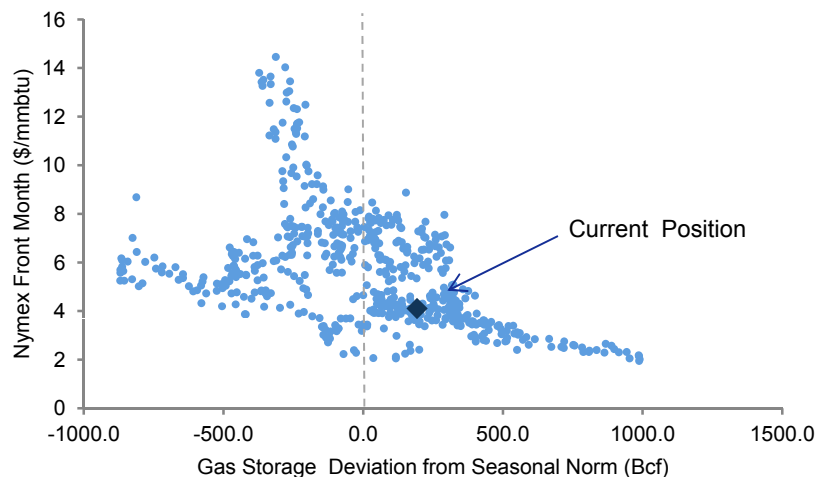
US Natural Gas Injection (Withdrawal)



Source: EIA, Deutsche Bank

- The pace of storage injections (withdrawals) vs. the 5 year average is a key leading indicator for the commodity. Note in 2012 the bottom for the commodity (April) coincided with injections to storage below that of the 5 year average (signaling tighter supply / demand balances)

Price vs. Storage Deviation



Note: Observations from 2002-present
Source: EIA, NOAA, Deutsche Bank

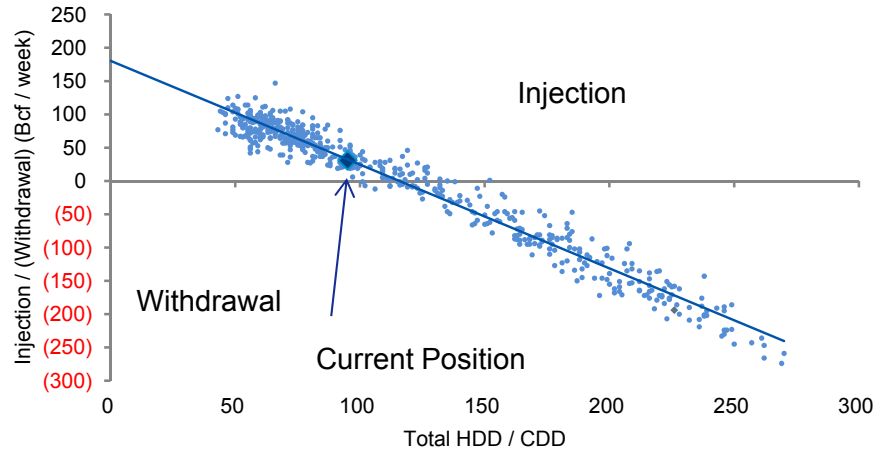
- We see a historical relationship between natural gas in working storage and commodity price. The market has worked to address an oversupply situation, with price incentivizing demand (and less supply) and reducing the yoy storage surplus. With the market grappling with the impact of ample resource in the ground, the reaction of price to narrowing storage surpluses will be of particular interest.

Supply / Demand

Indications of Supply / Demand Trends

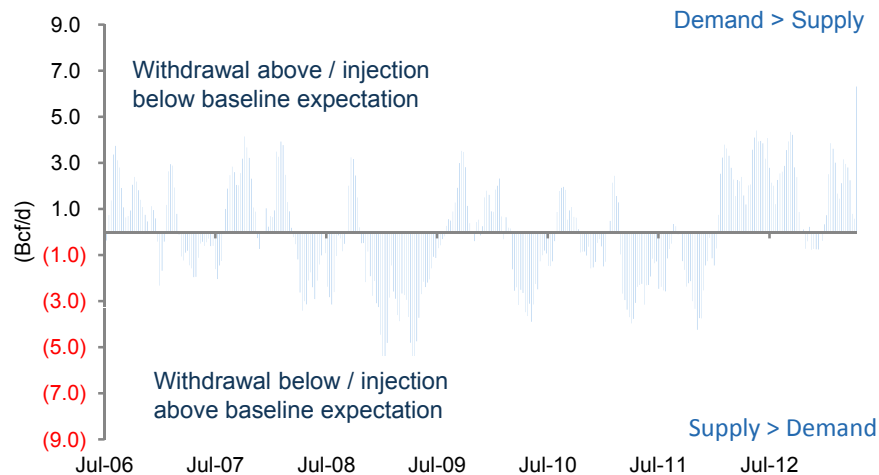


Injection (Withdrawal) vs. HDD / CDD



Source: EIA, NOAA, Deutsche Bank

Injection (Withdrawal) Implied vs. Actual



Source: EIA, Deutsche Bank

- Based on observed weather and storage changes, we derive a least squares regression line. Our data set is based on 12 years (2000-2012) of observations. To further control for outliers we evaluate the delta from expectations on a rolling 4 week basis, and see supply / demand as 0.6 Bcf/d undersupplied (tight) on this basis.

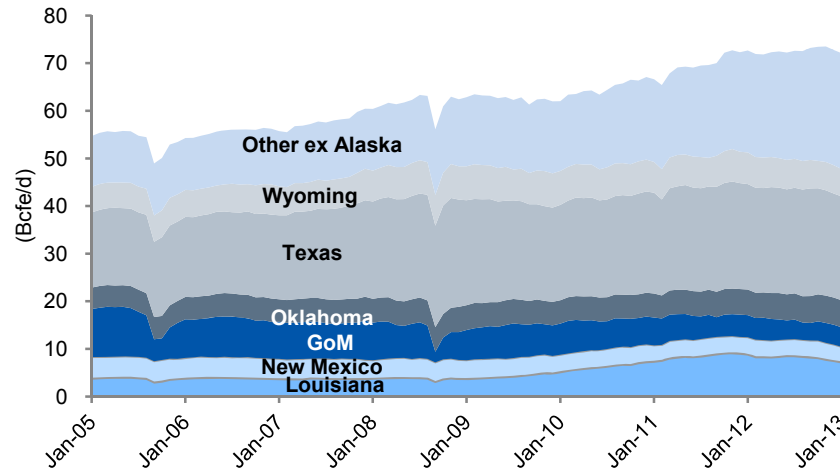
- With the relationship between weather and demand from the electricity generation stack ever changing, this approach will underestimate the intensity of demand at weather (and commodity price) extremes.

Supply Trends

EIA-914 Survey

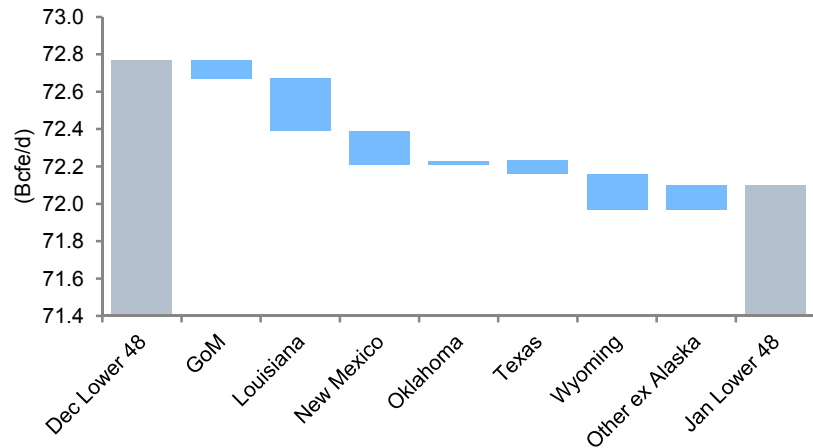


EIA – 914 Gross Gas Withdrawals



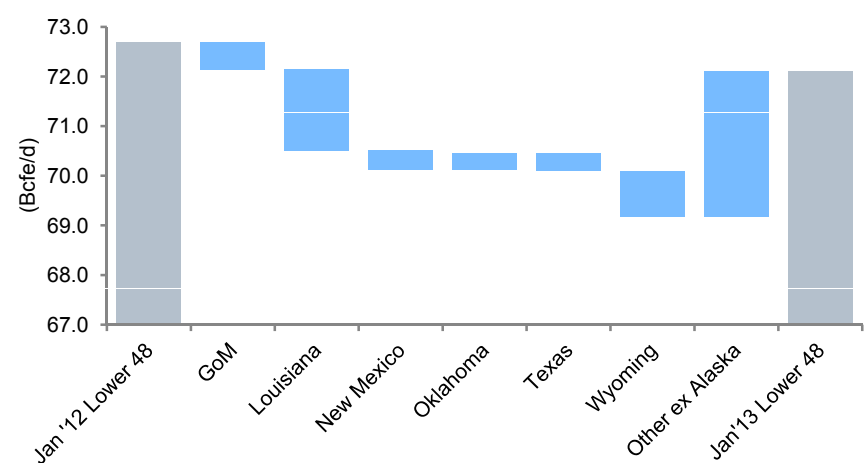
Source: EIA, Deutsche Bank

EIA -914 Month over Month Change



Source: EIA, Deutsche Bank

EIA – 914 Year over Year Change



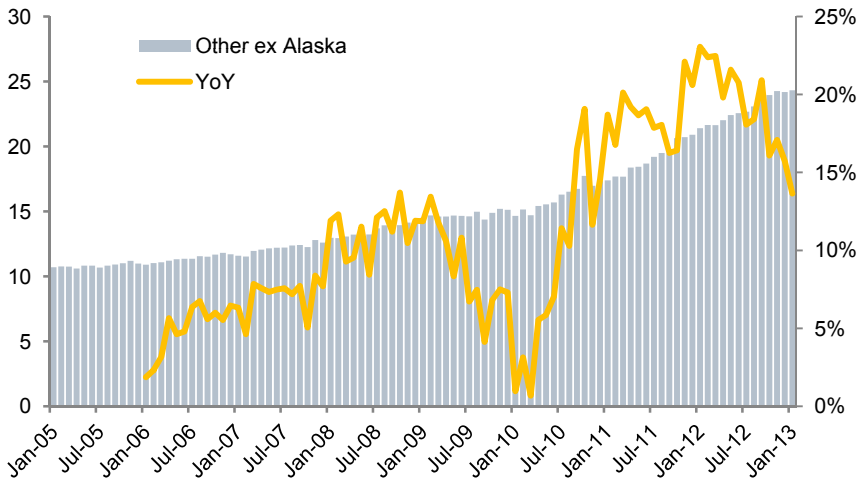
Source: EIA, Deutsche Bank

Supply Trends

EIA-914 Survey

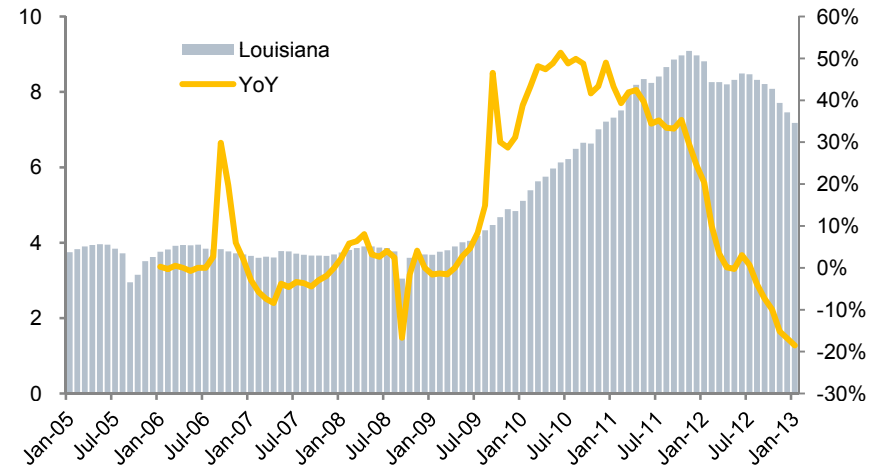


EIA – 914 Other States ex Alaska



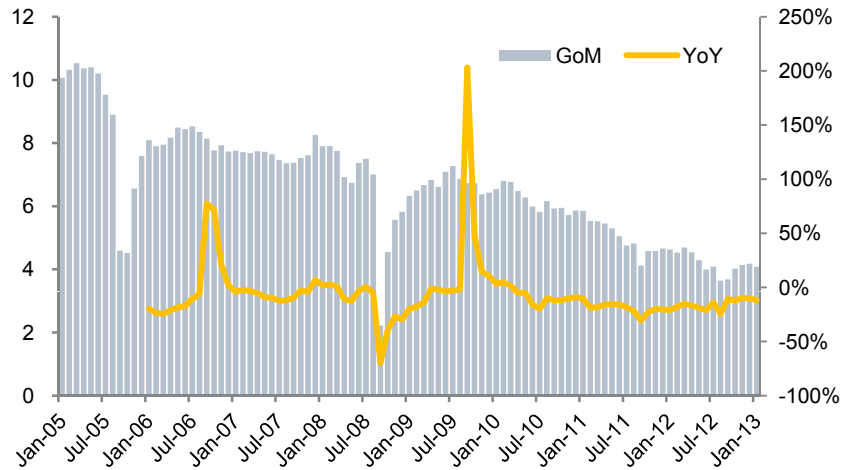
Source: EIA, Deutsche Bank

EIA – 914 Louisiana



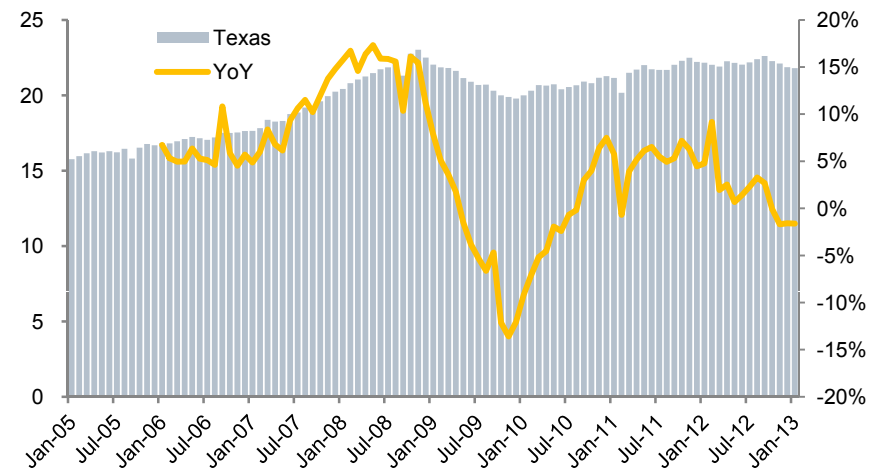
Source: EIA, Deutsche Bank

EIA – 914 Gulf of Mexico



Source: EIA, Deutsche Bank

EIA – 914 Texas



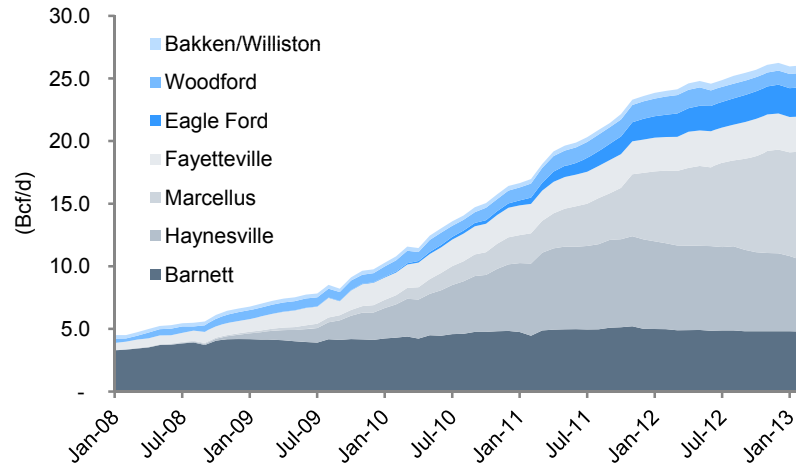
Source: EIA, Deutsche Bank

Supply Trends

Production by Type / Shale and Forecasts

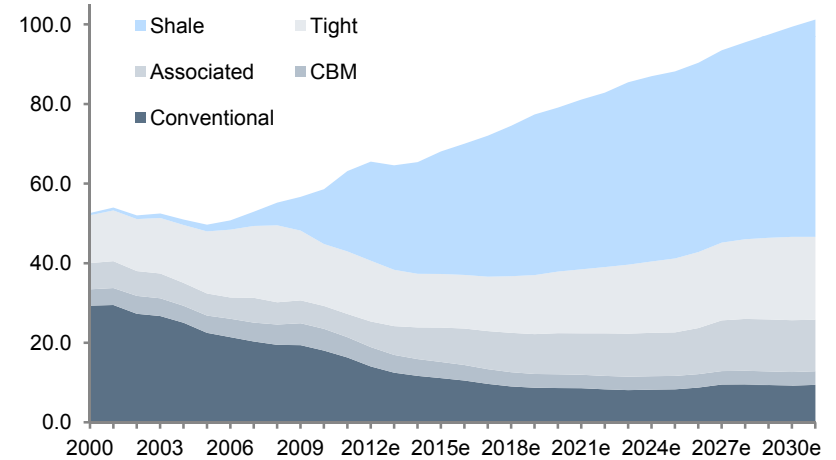


Production by Major Shale



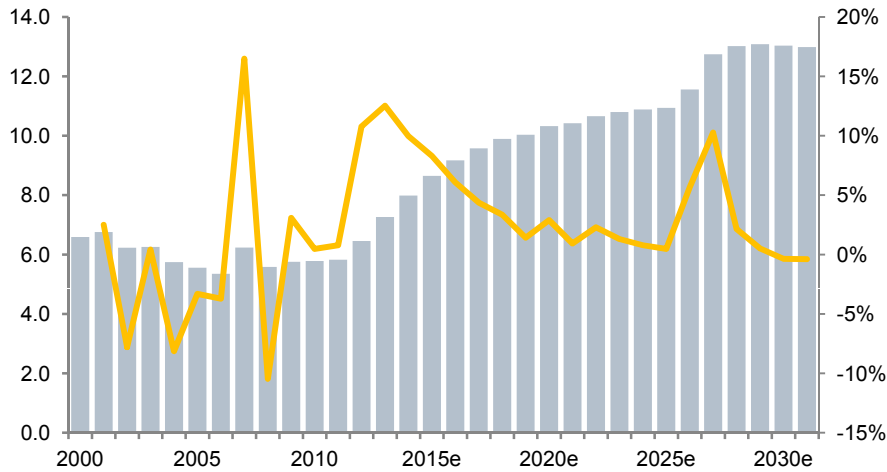
Source: Wood Mackenzie, Deutsche Bank

Production and Forecast by Type



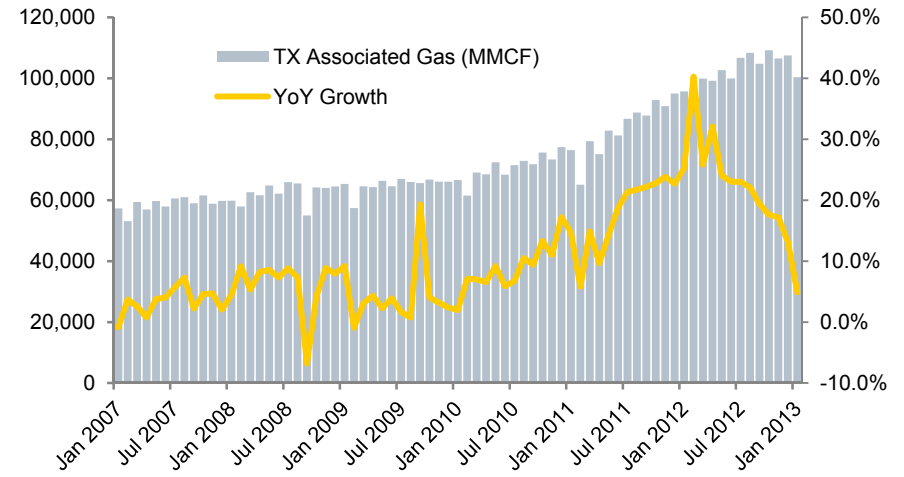
Source: Wood Mackenzie, Deutsche Bank

Associated Gas Production and Forecast



Source: Wood Mackenzie, Deutsche Bank

Texas Associated Gas Production



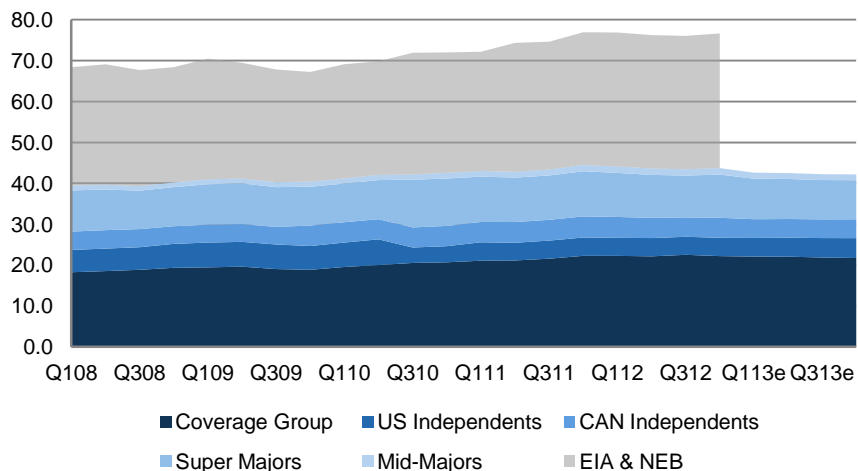
Source: Texas RRC, Deutsche Bank

Supply Trends

DB North American Natural Gas Producer Survey



Observed & Reported Production (Bcf/d)

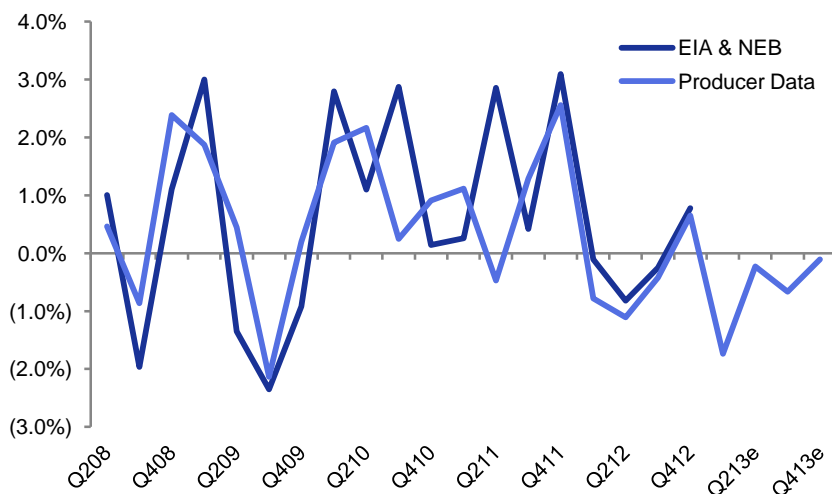


Source: FactSet, EIA, NEB, Deutsche Bank

- Our survey covers 85 public companies reported and projected production from DB estimates (for producers covered by DB Equity Research) and consensus expectations.

- The survey captures ~60% of dry gas production numbers reported by EIA and NEB (Canada's National Energy Board), after applying an ~8% adjustment to US company figures to account for mineral right royalties (Canadian producers report production gross of crown royalties).

Observed & Reported Growth Rates



Source: FactSet, EIA, NEB, Deutsche Bank

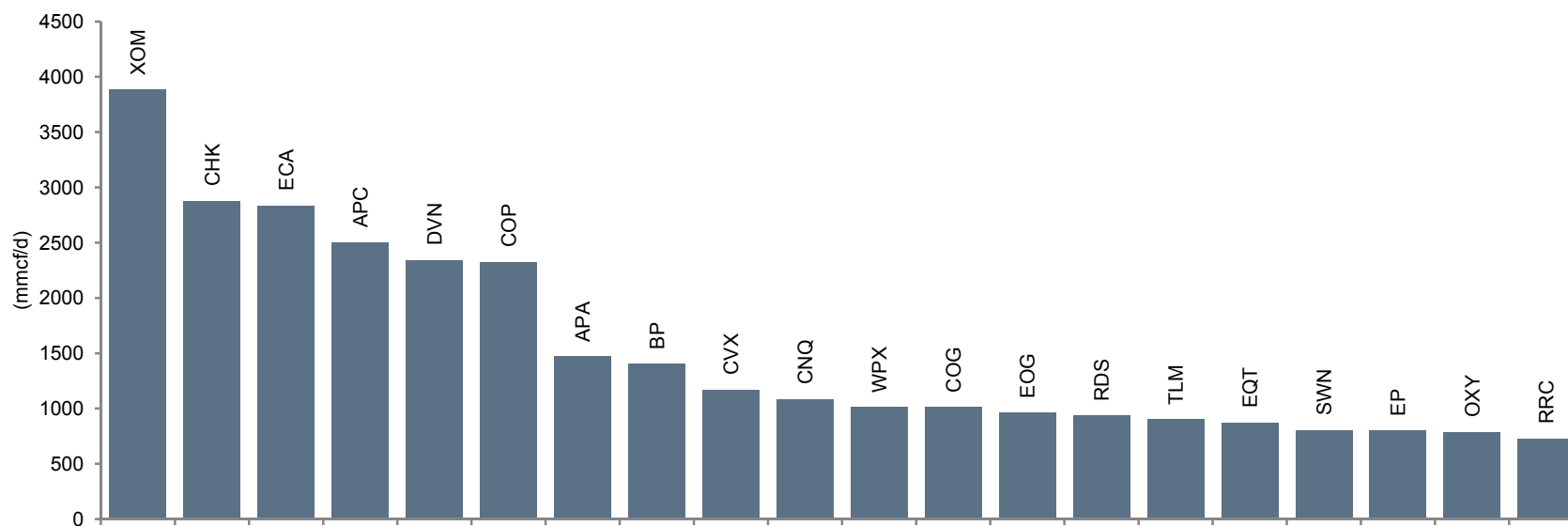
- We see production for our sample down 1 Bcf/d in 2013 (1.3 Bcf/d 4Q vs. 4Q). The driver is declines amongst the Super Majors while production for the Independents is down a more modest 0.4 Bcf/d.

Supply Trends

DB North American Natural Gas Producer Survey



Top 20 North American NG producers account for 73% of 2013e surveyed production



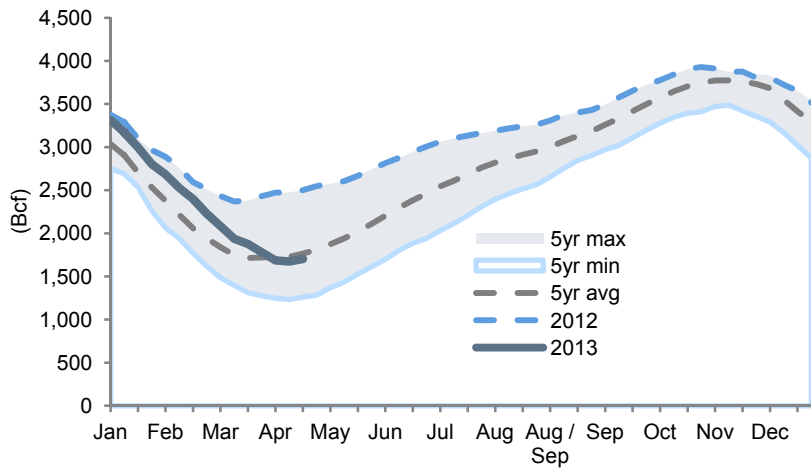
Source: FactSet, Deutsche Bank

Supply Trends

Natural Gas Storage

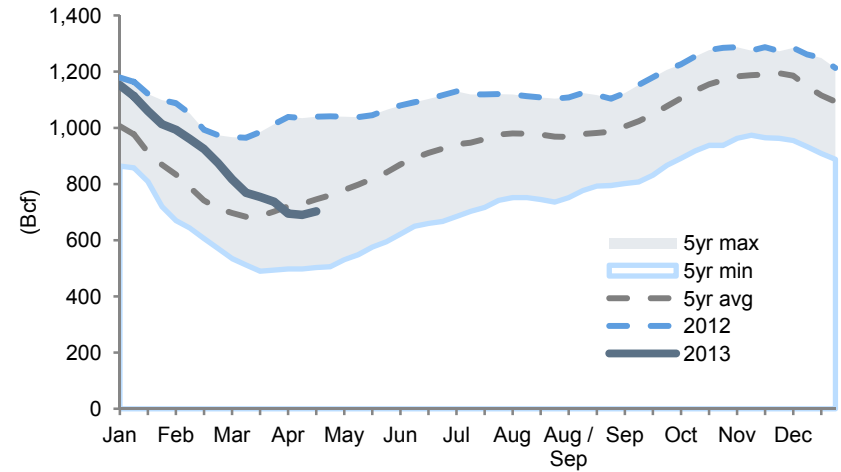


US Natural Gas Storage



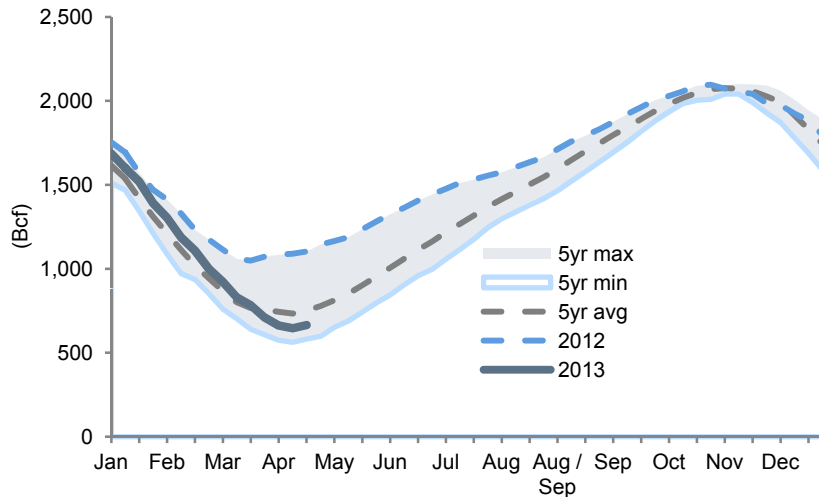
Source: EIA, Deutsche Bank

Producing Region Storage



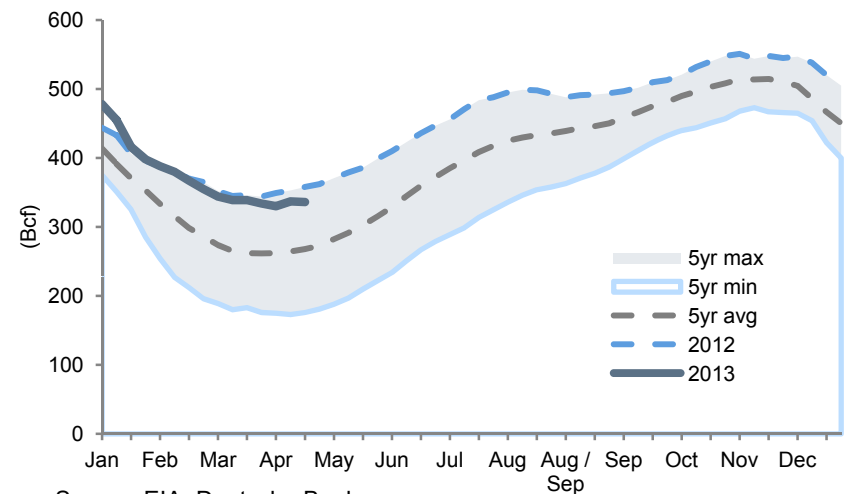
Source: EIA, Deutsche Bank

Consuming East Storage



Source: EIA, Deutsche Bank

Consuming West Storage



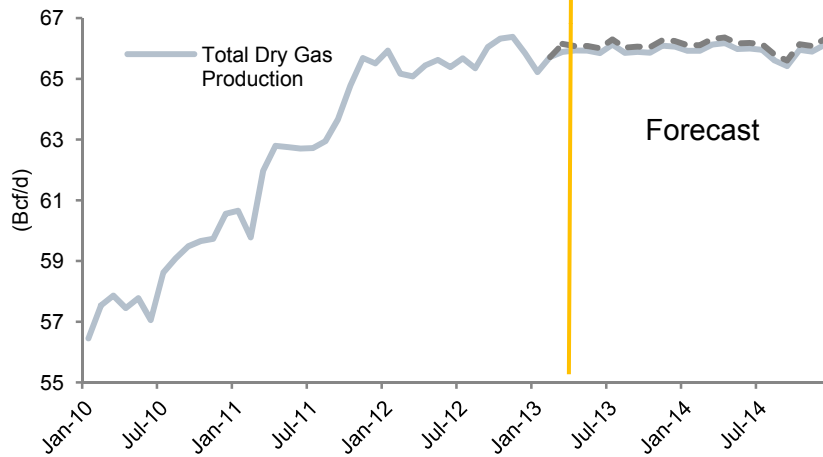
Source: EIA, Deutsche Bank

Supply Trends

EIA Short Term Energy Outlook (STEO) Forecast

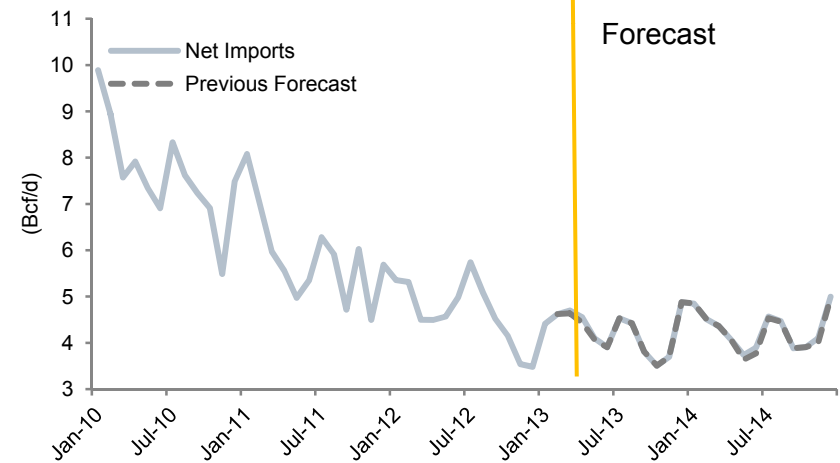


US Dry Gas Production



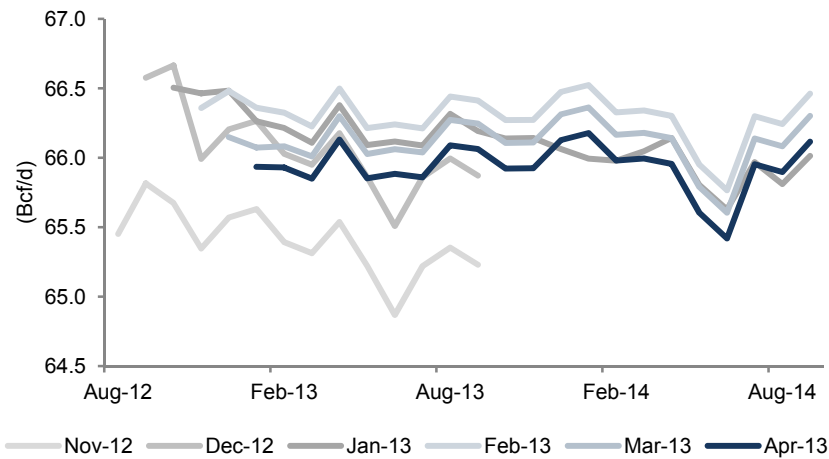
Source: EIA, Deutsche Bank

Net Imports



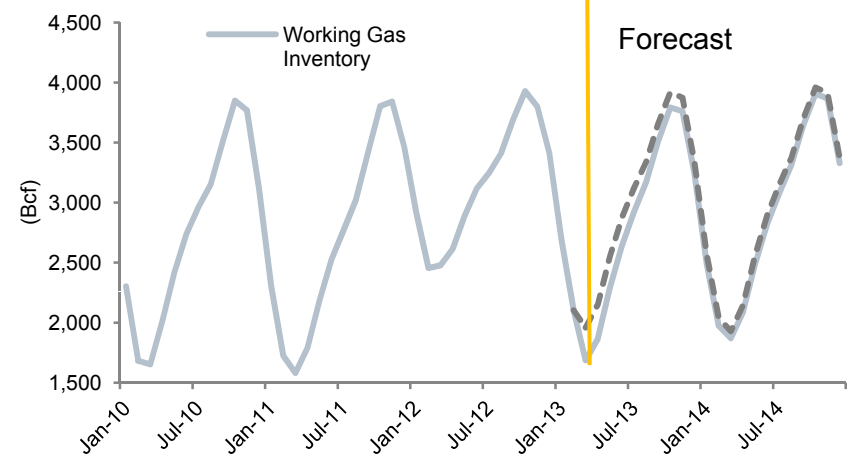
Source: EIA, Deutsche Bank

Production Forecast Revisions



Source: EIA, Deutsche Bank

Natural Gas Storage Forecast



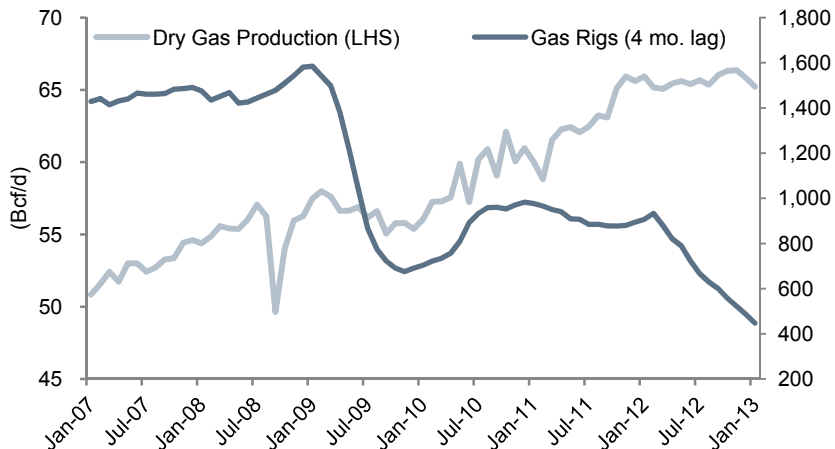
Source: EIA, Deutsche Bank

Supply Trends

Natural Gas Directed Rig Count

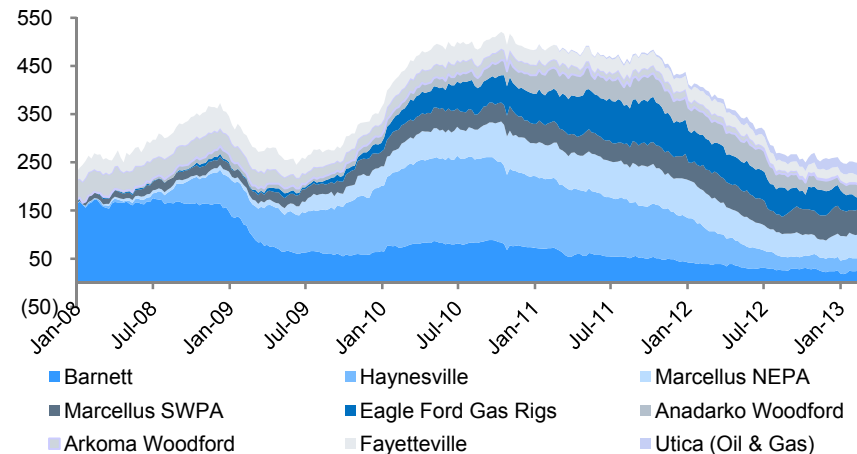


US Dry Gas Production vs. Gas Rigs



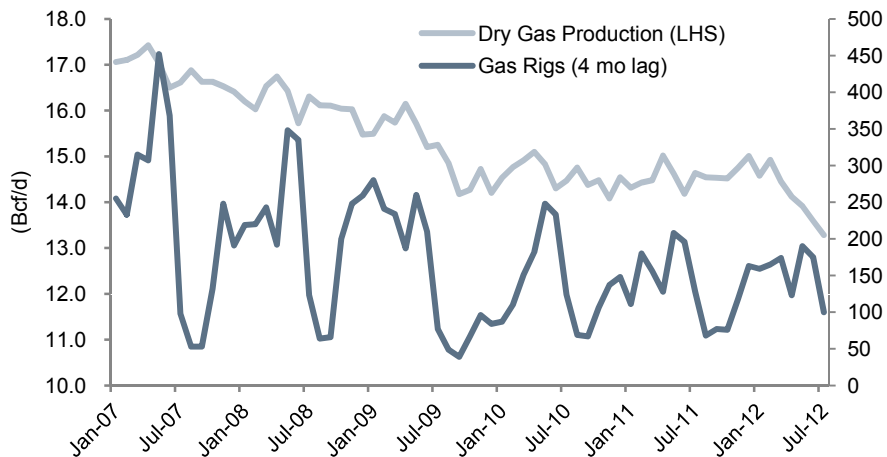
Source: EIA, Baker Hughes, Deutsche Bank

Rig Count by Basin



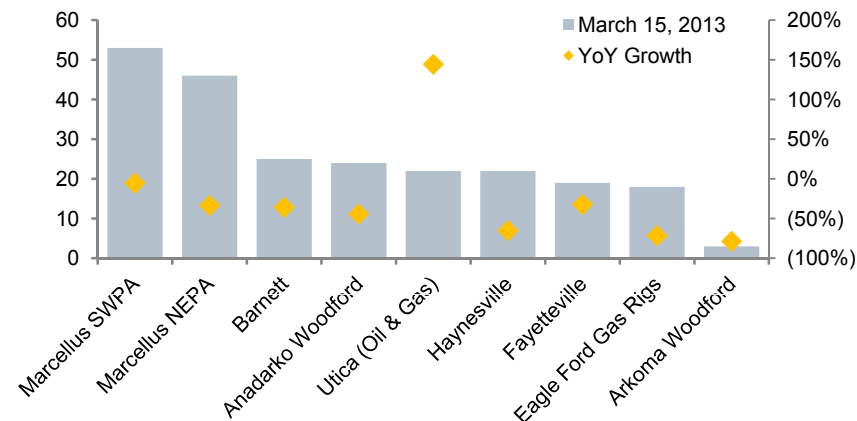
Source: Wood Mackenzie, SmithBits, Deutsche Bank

Canada Gas Production vs. Gas Rigs



Source: NEB, Baker Hughes, Deutsche Bank

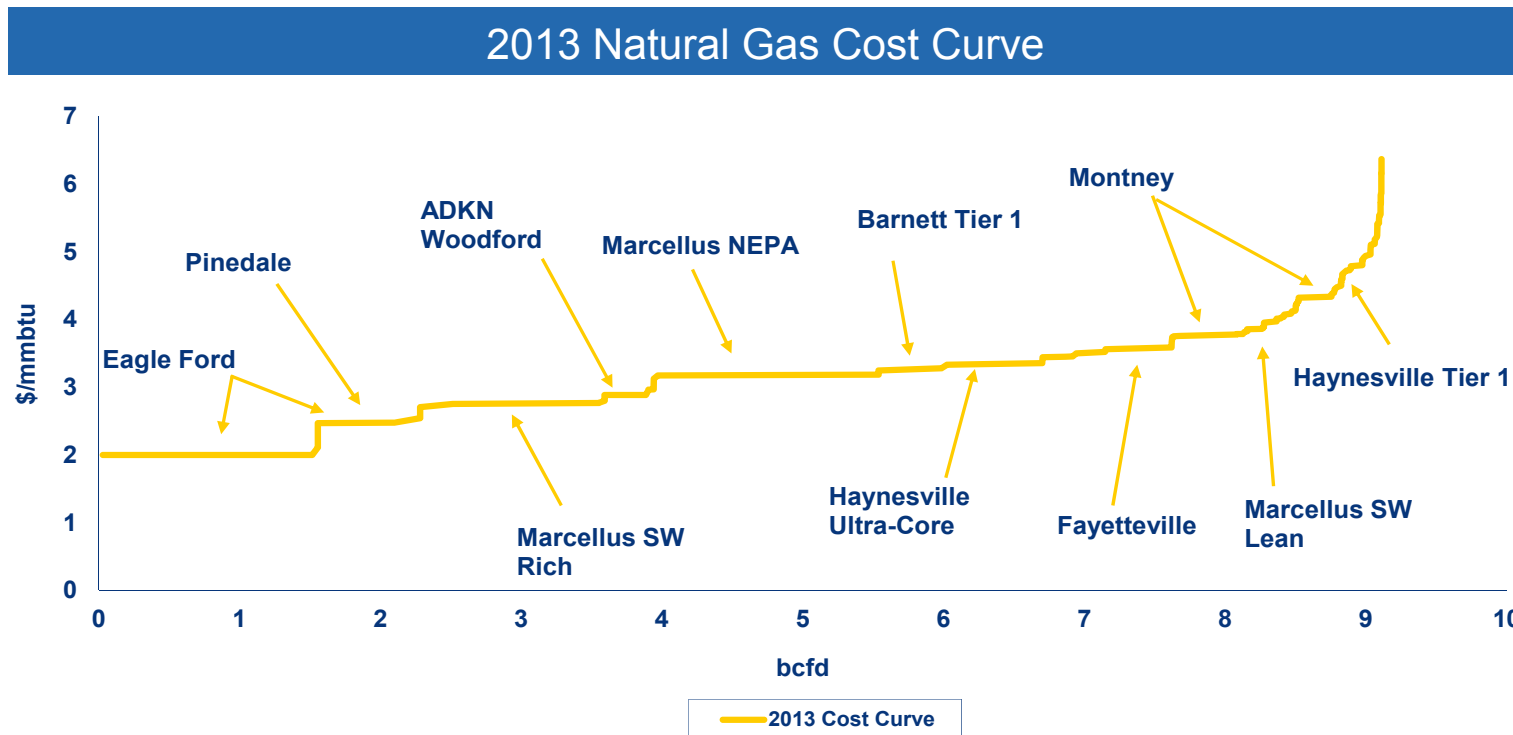
Rig Count by Basin



Source: Wood Mackenzie, SmithBits, Deutsche Bank

Supply Economics

Natural Gas Supply Curve



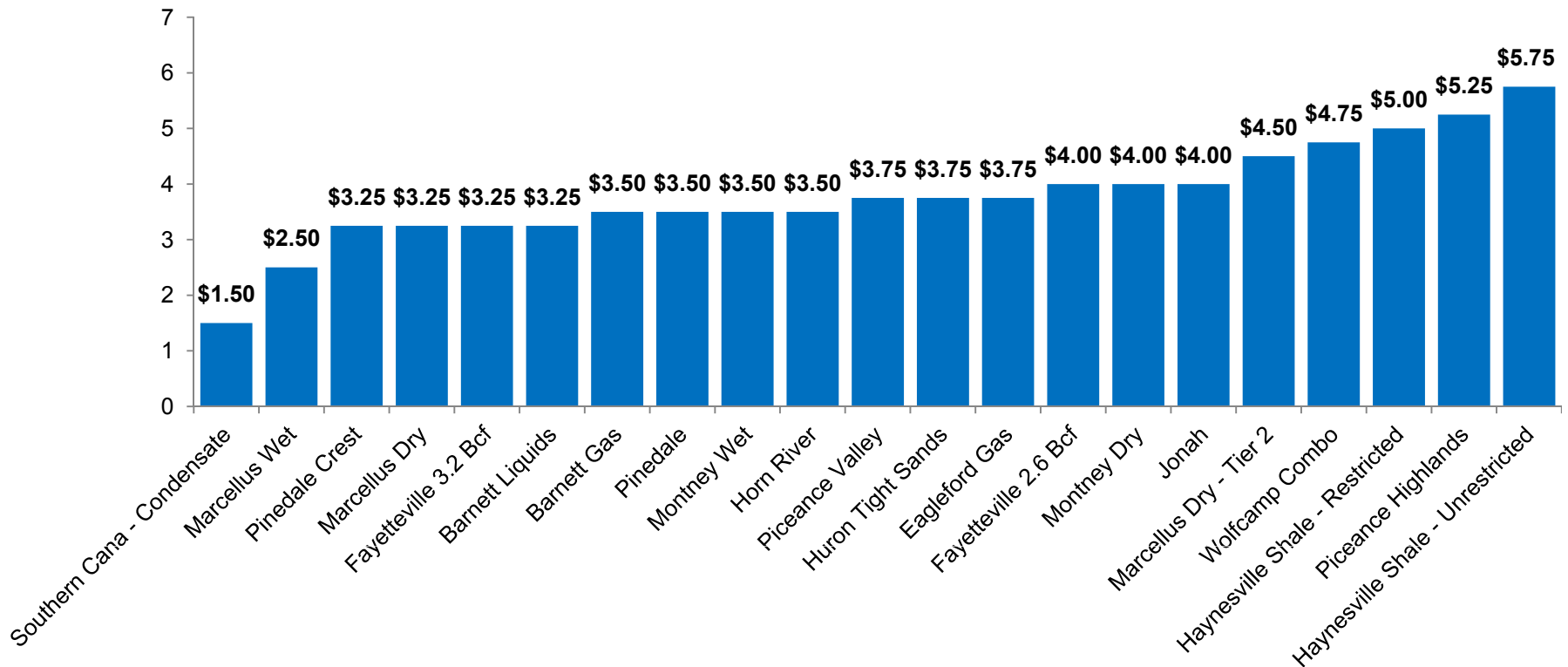
Source: Wood Mackenzie, Deutsche Bank

Supply Economics

DB est. Natural Gas Breakeven Price by Basin



Breakeven Gas Prices for a 10% IRR

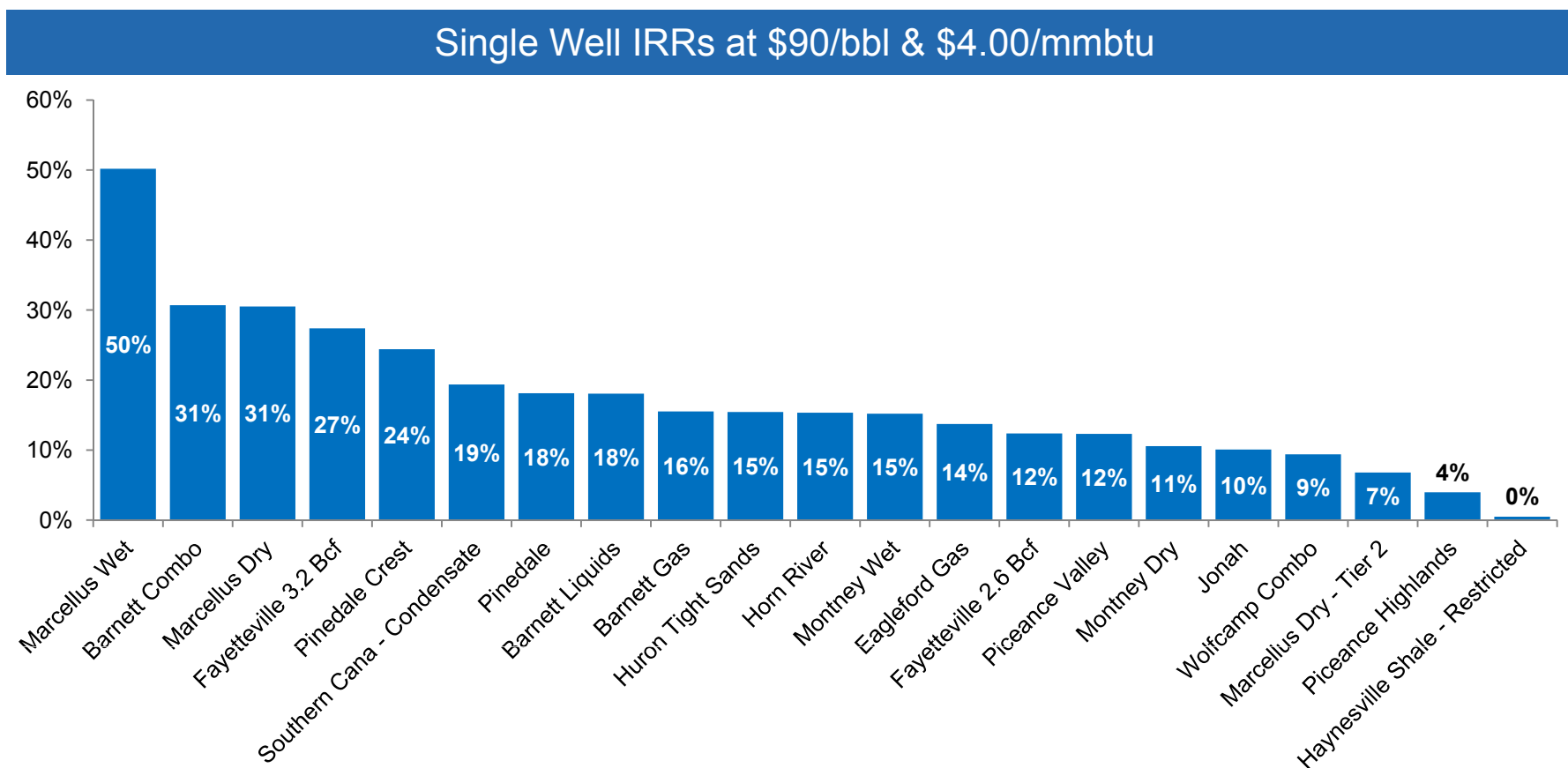


Note: Half-cycle return not including leasehold acquisition expense or allocated costs. Assumes NGL prices at 40% of WTI, regional NG price differential and company disclosed D&C costs and recoveries.

Source: Deutsche Bank

Supply Economics

DB est. Single Well Returns by Basin



Note: Half-cycle return not including leasehold acquisition expense or allocated costs. Assumes NGL prices at 40% of WTI, regional NG price differential and company disclosed D&C costs and recoveries.

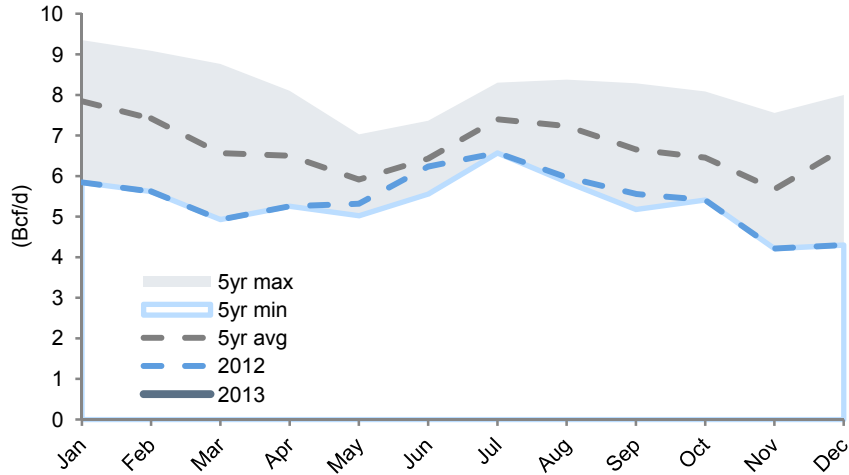
Source: Deutsche Bank

Natural Gas Trade

US Import / Exports

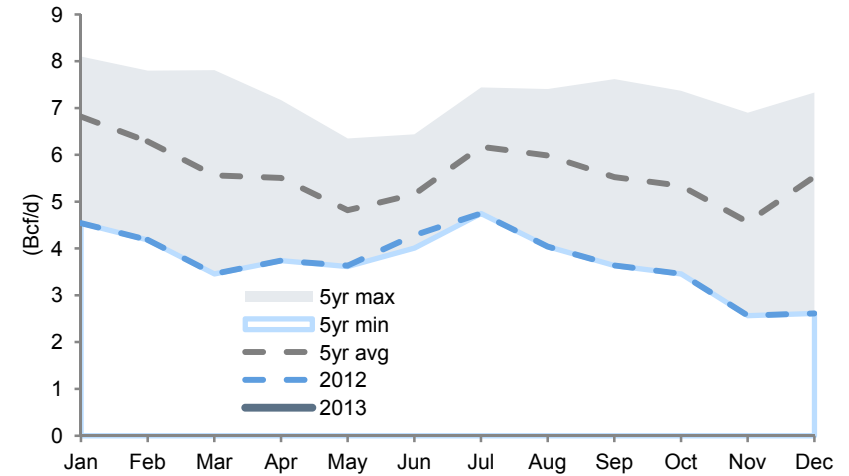


Canada Net Imports



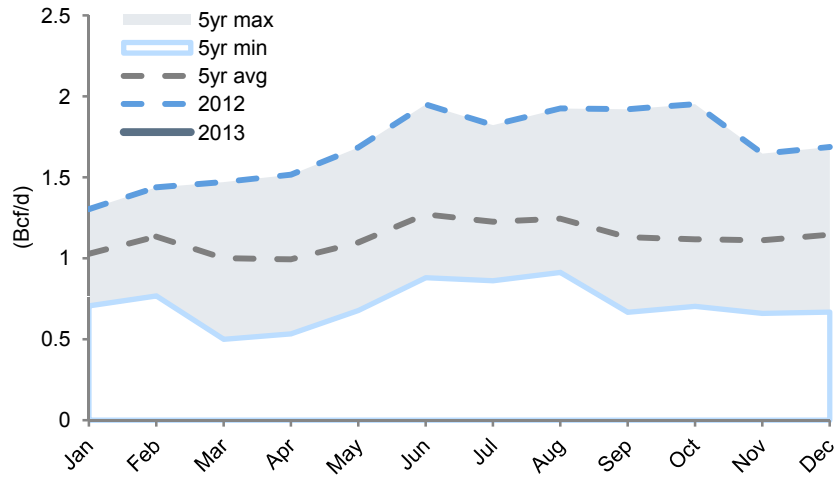
Source: EIA, Deutsche Bank

US Net Pipeline Imports



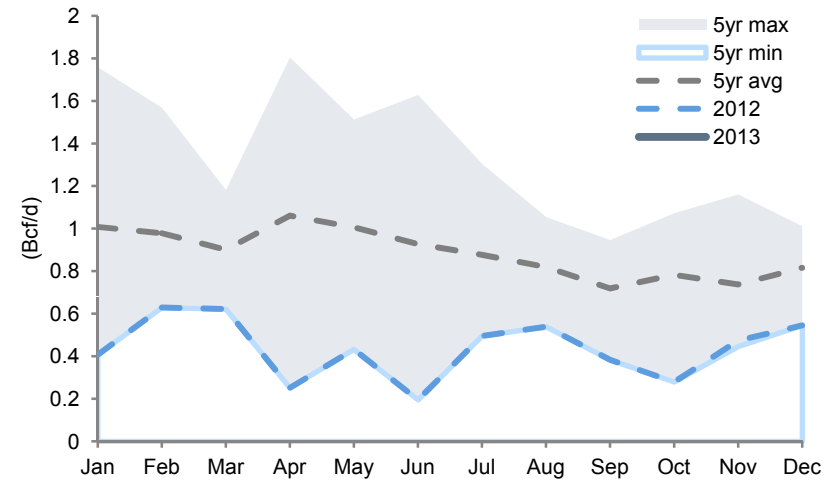
Source: EIA, Deutsche Bank

Mexico Net Exports



Source: EIA, Deutsche Bank

LNG Net Imports



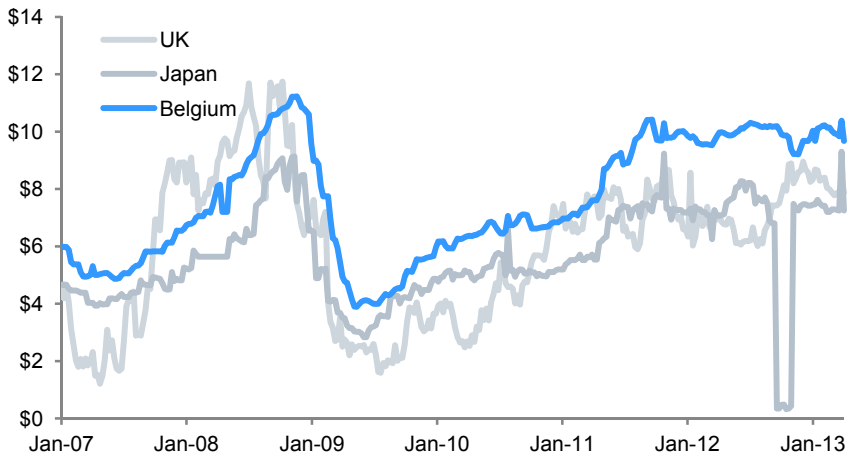
Source: EIA, Deutsche Bank

Natural Gas Trade

LNG Price Netbacks

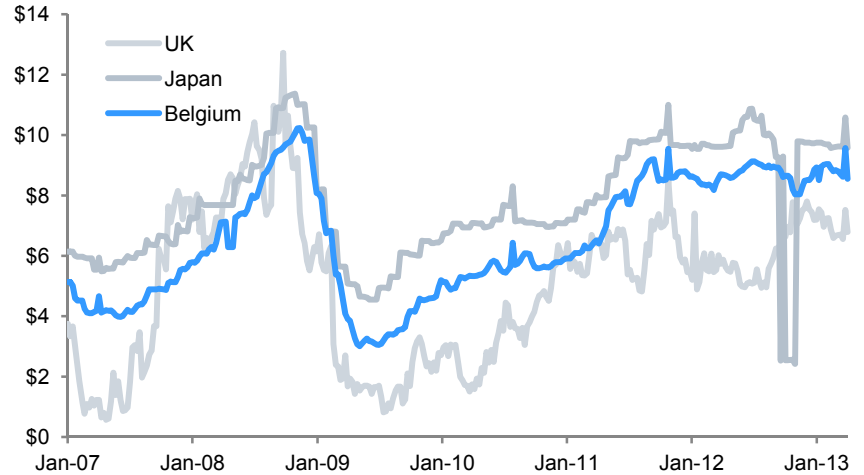


From Liquefaction Plant in Trinidad



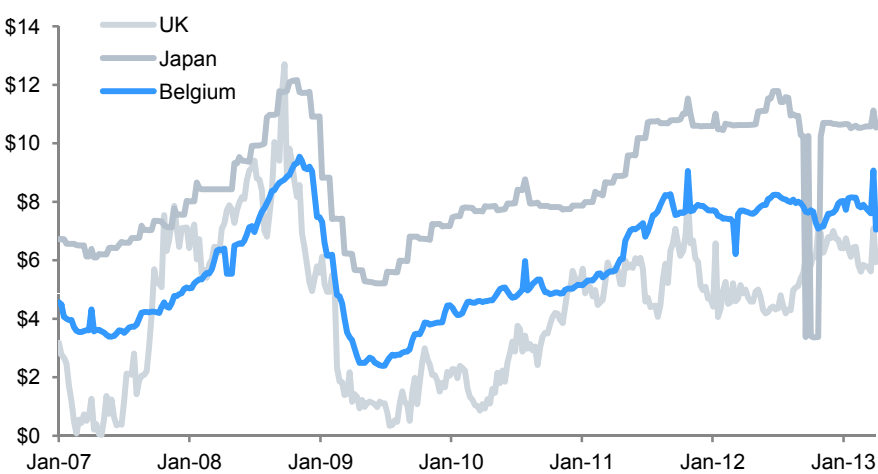
Source: Purvin & Gertz, Deutsche Bank

From Liquefaction Plant in Qatar



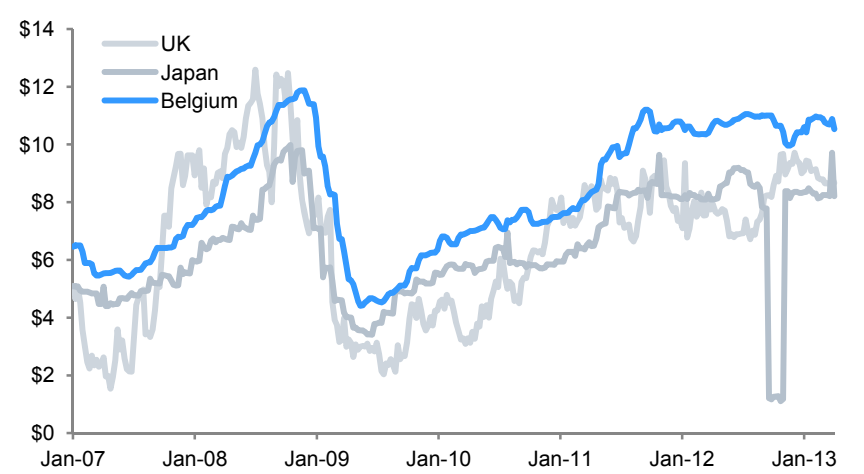
Source: Purvin & Gertz, Deutsche Bank

From Liquefaction Plant in Australia



Source: Purvin & Gertz, Deutsche Bank

From Liquefaction Plant in Algeria



Source: Purvin & Gertz, Deutsche Bank

Natural Gas Trade

North American LNG Export Projects



US LNG Export Projects

Location	Project	Type	Capacity		Regulatory Application Status		
			(mmtpa)	(Bcf/d)	FTA	Non-FTA	FERC
Gulf	Sabine Pass	Brownfield	22.5	3.0	Approved	Approved	Approved
Gulf	Freeport	Brownfield	13.2	1.8	Approved	Pending	Pre-Filed
Gulf	Lake Charles	Brownfield	15.6	2.1	Approved	Pending	Pre-Filed
East Coast	Cove Point	Brownfield	7.8	1.0	Approved	Pending	Pre-Filed
Gulf	Cameron	Brownfield	12.0	1.6	Approved	Pending	Pre-Filed
West Coast	Jordon Cove	Greenfield	9.0	1.2	Approved	Pending	Pre-Filed
West Coast	Oregon LNG	Greenfield	9.6	1.3	Approved	Pending	Pre-Filed
Gulf	Corpus Christi	Greenfield	15.0	2.0	Approved	Pending	Pre-Filed
Gulf	Lavaca Bay LNG	FLNG	4.0	0.5	Approved	Pending	Pre-Filed
Gulf	Gulf Coast LNG	Greenfield	21.0	2.8	Approved	Pending	Yet to Apply
East Coast	Elba Island	Brownfield	4.0	0.5	Approved	Pending	Pending
Gulf	Gulf LNG Energy	Brownfield	11.5	1.5	Approved	Pending	Pending
Gulf	CE FLNG	FLNG	8.0	1.1	Approved	Pending	Yet to Apply
Gulf	Golden Pass	Brownfield	15.6	2.1	Approved	Pending	Yet to Apply
Gulf	South Texas LNG	Greenfield	8.0	1.1	Pending	Pending	Yet to Apply
Alaska	Alaska Valdez	Greenfield	18.0	2.4	Pending	Yet to Apply	Yet to Apply
Gulf	Main Pass Energy Hub	FLNG	24.0	3.2	Approved	Yet to Apply	Yet to Apply
Gulf	Magnolia LNG	Greenfield	4.0	0.5	Pending	Yet to Apply	Yet to Apply

Source: EIA, Bloomberg Finance LP, Deutsche Bank

Natural Gas Trade

North American LNG Export Projects



Canada LNG Export Projects

Location	Project	Type	Capacity		Regulatory
			(mmtpa)	(Bcf/d)	
BC	Kitimat	Greenfield	10.0	1.3	Approved
BC	LNG Canada	Greenfield	24.0	3.2	Pending
BC	BC LNG	Greenfield	0.9	0.1	Approved
BC	Pacific Northwest LNG	Greenfield	7.40	1.0	Yet to Apply
BC	Prince Rupert Ridley Is.	Greenfield	21.00	2.8	Yet to Apply
BC	Port Simpson	Greenfield	tba	tba	Yet to Apply
BC	British Columbia	Greenfield	tba	tba	Yet to Apply
Nova Scotia	Goldboro	Greenfield	5.0	0.7	Yet to Apply

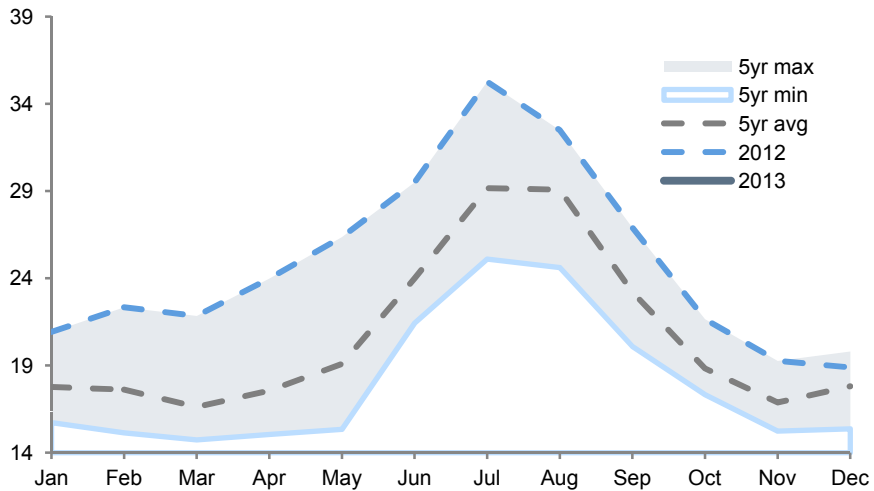
Source: EIA, Bloomberg Finance LP, Deutsche Bank

Demand Trends

US Demand by Sector

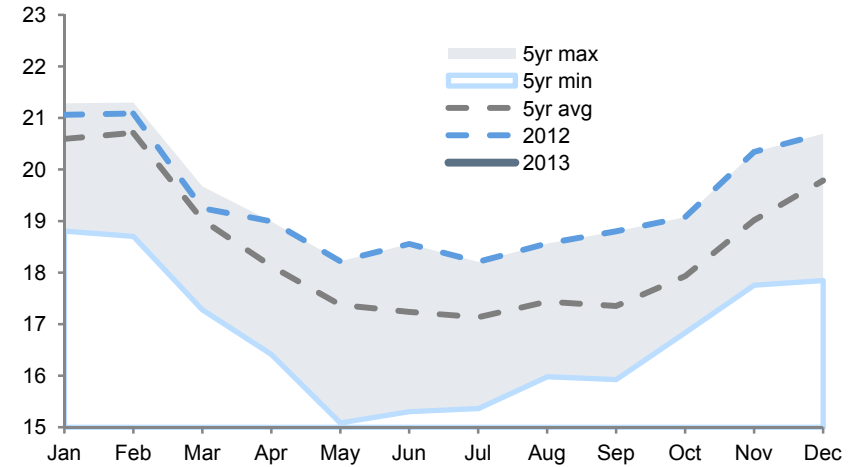


Utilities



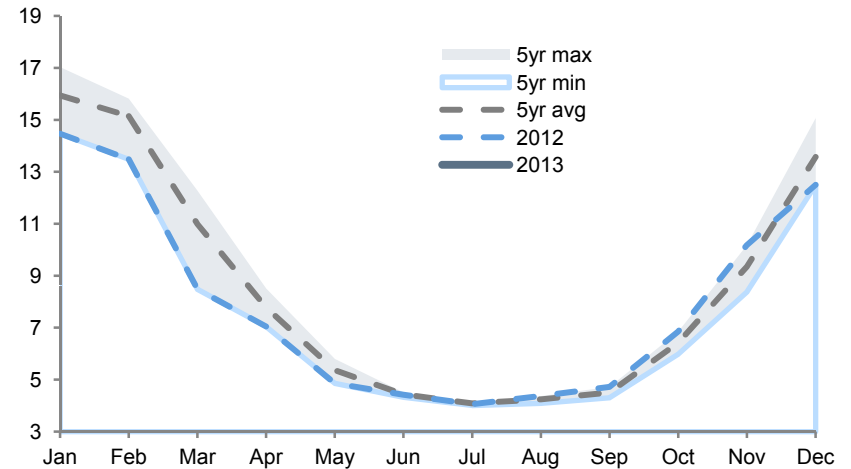
Source: EIA, Deutsche Bank

Industrial



Source: EIA, Deutsche Bank

Residential & Commercial



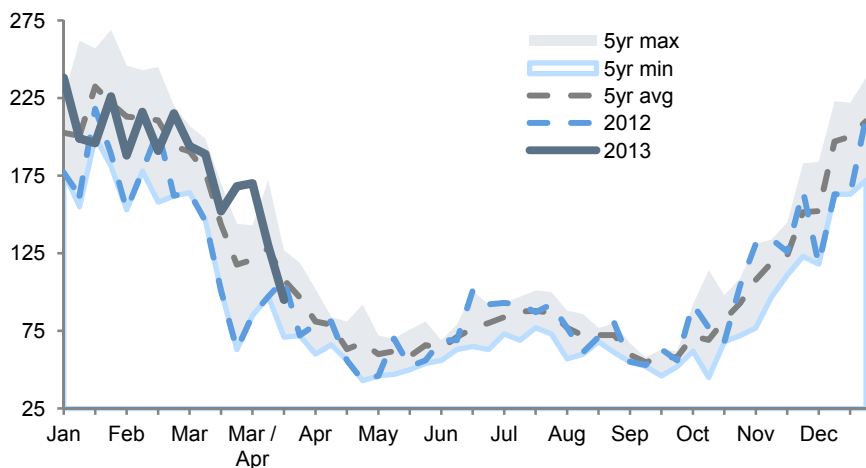
Source: EIA, Deutsche Bank

Demand Trends

Weather – Heating and Cooling Degree Days

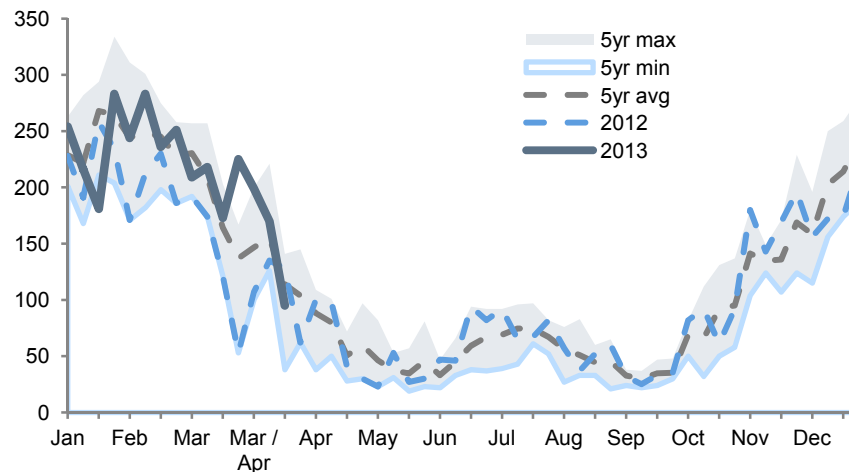


US Total HDD CDD



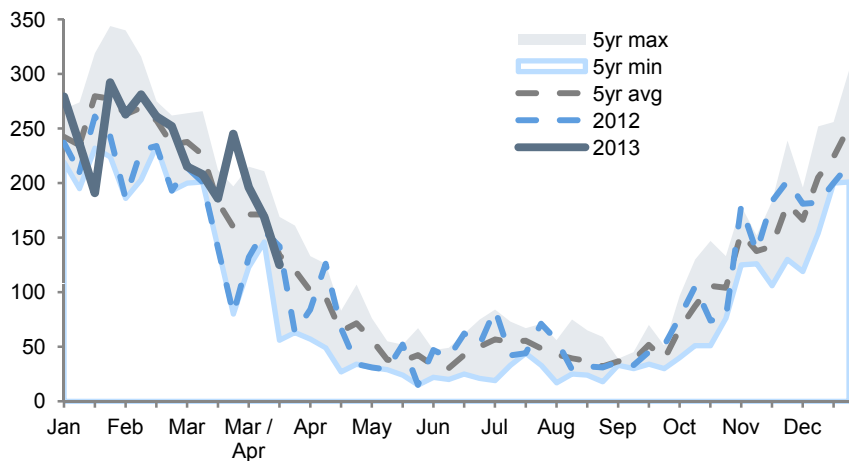
Source: NOAA, Deutsche Bank

Mid Atlantic HDD CDD



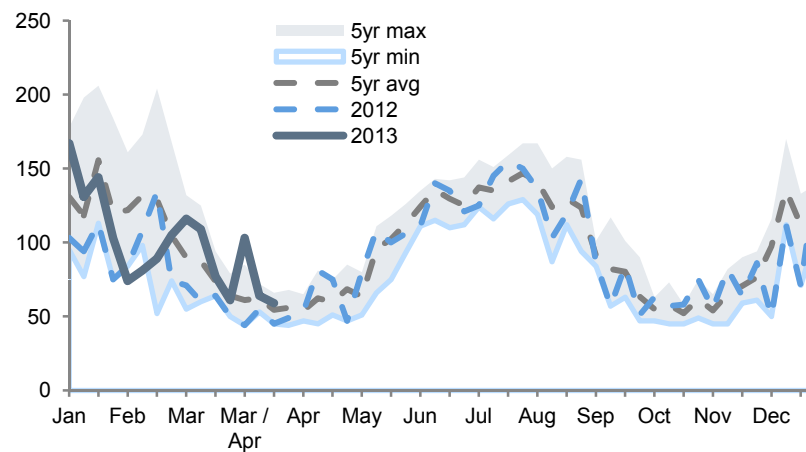
Source: NOAA, Deutsche Bank

New England HDD CDD



Source: NOAA, Deutsche Bank

WS Central HDD CDD



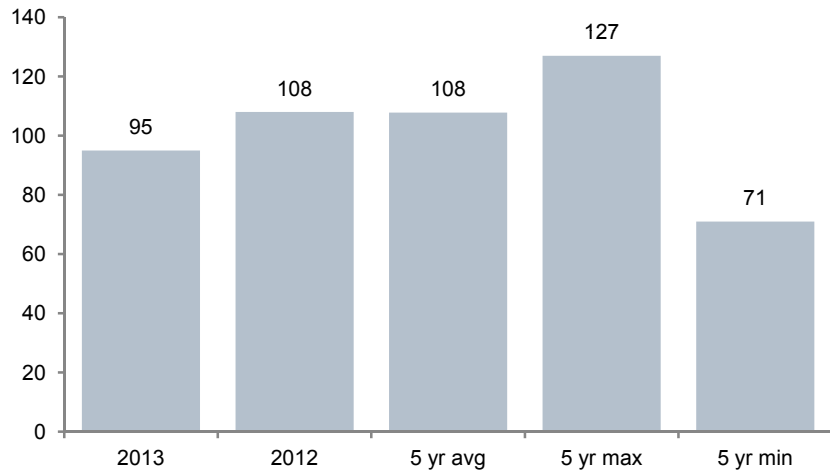
Source: NOAA, Deutsche Bank

Demand Trends

Weather – Heating and Cooling Degree Days Week of April 11th

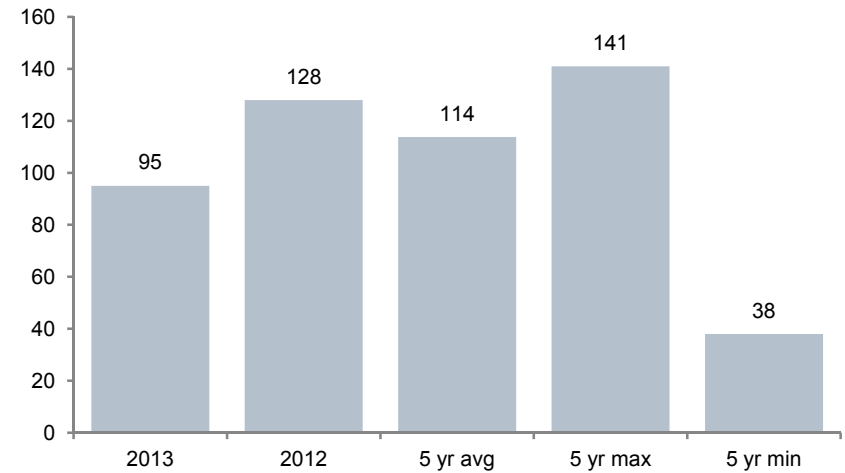


US Total HDD CDD



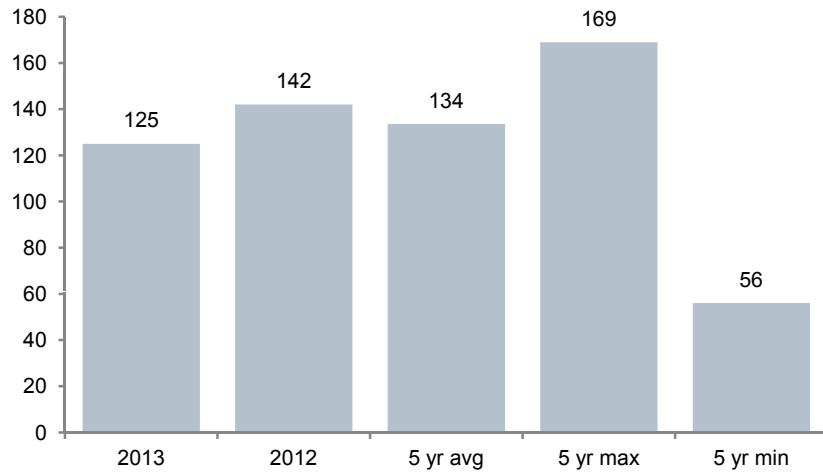
Source: NOAA, Deutsche Bank

Mid Atlantic HDD CDD



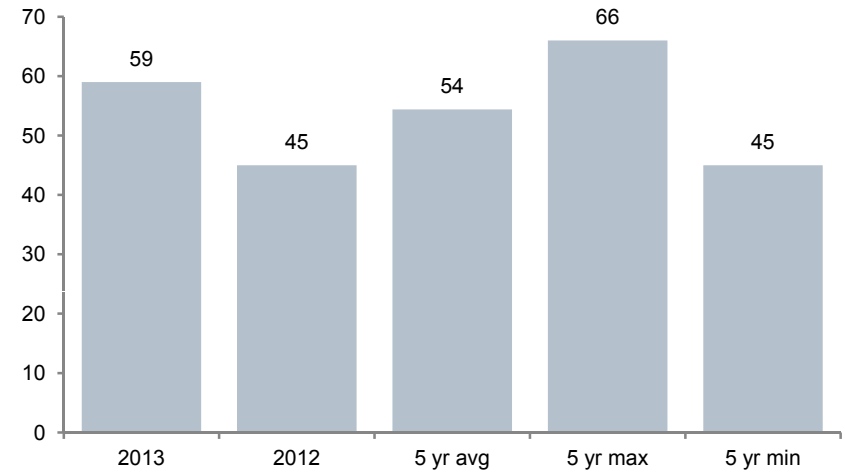
Source: NOAA, Deutsche Bank

New England HDD CDD



Source: NOAA, Deutsche Bank

WS Central HDD CDD



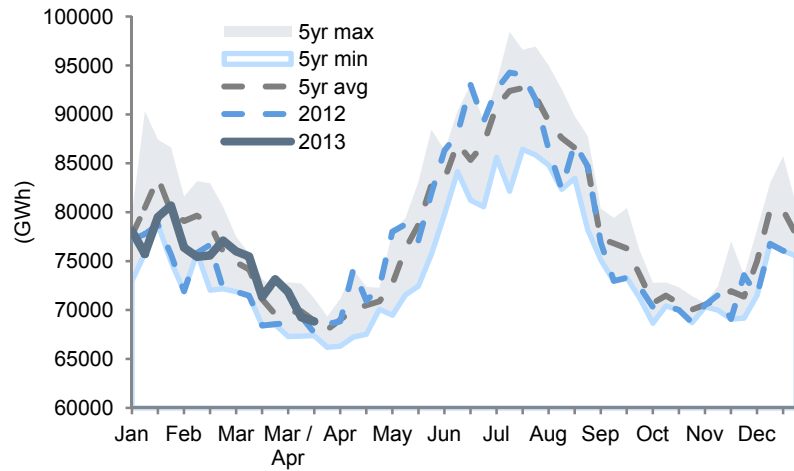
Source: NOAA, Deutsche Bank

Demand Trends

Power Market Metrics

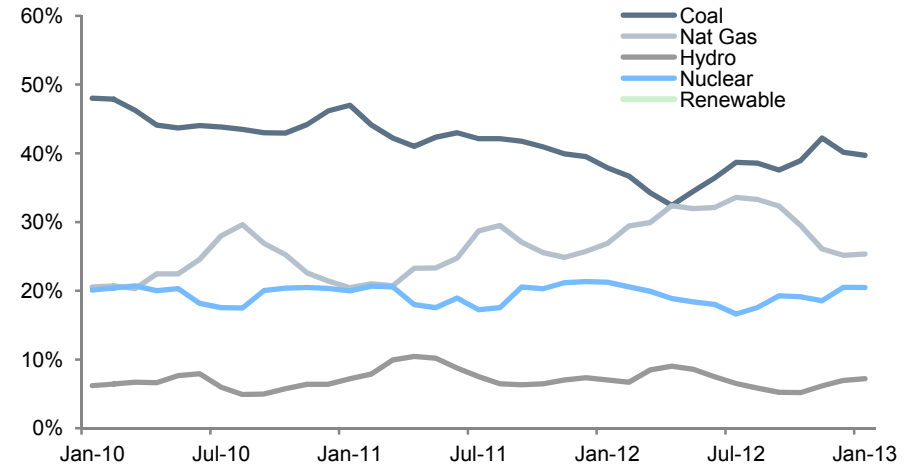


US Electricity Output



Source: EEI, Deutsche Bank

% Generation by Fuel Source



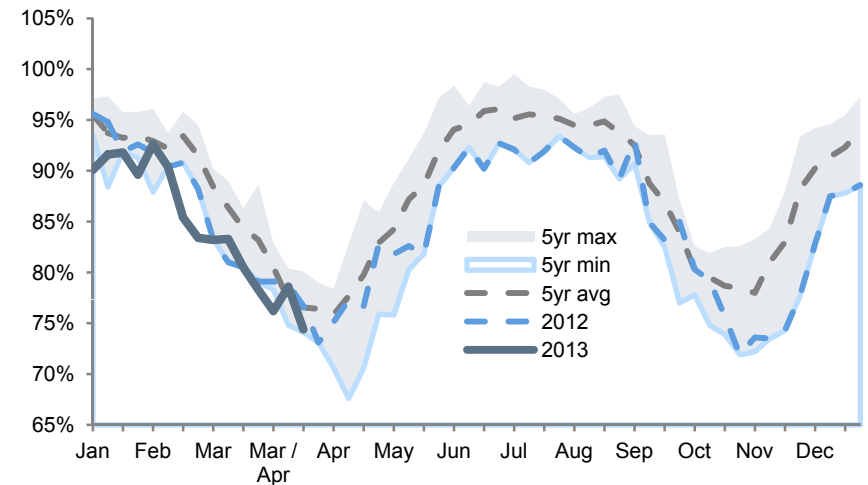
Source: EIA, Deutsche Bank

NG Demand for Offline Nuclear Capacity



Source: Energy Intelligence, Deutsche Bank

Total US Nuclear % Operating Capacity



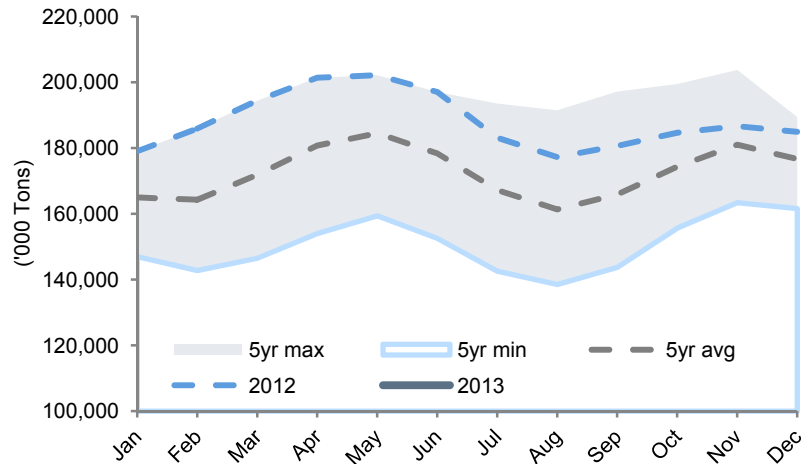
Source: EIA, Deutsche Bank

Demand Trends

Coal Fundamentals

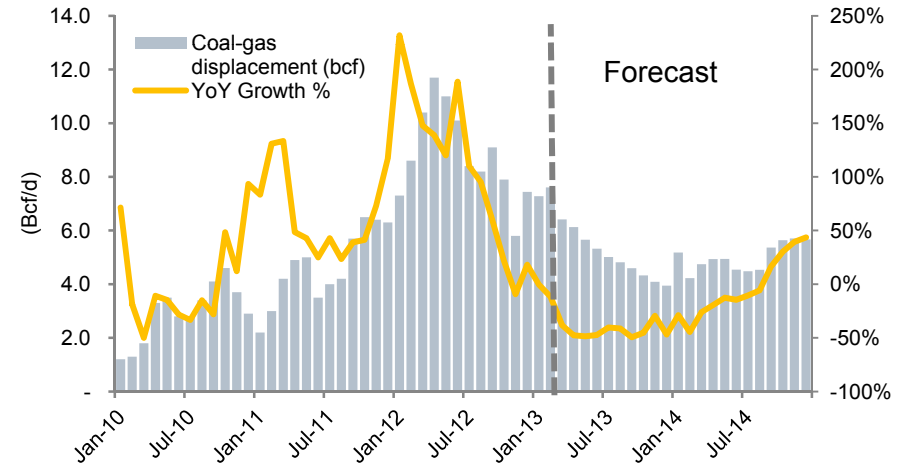


Coal Stockpile for Generation



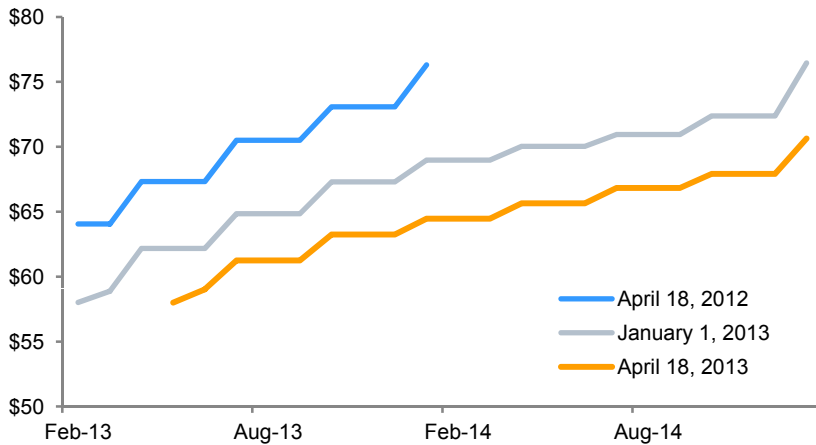
Source: EIA, Deutsche Bank

Coal – Gas Displacement



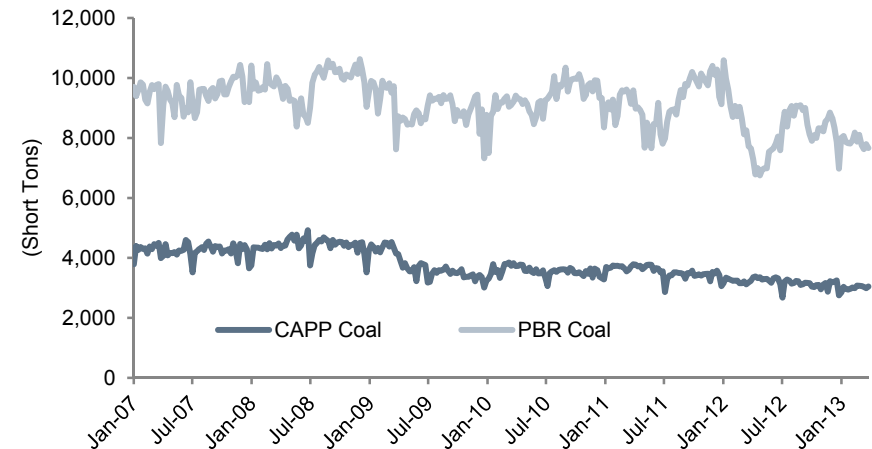
Source: Wood Mackenzie, Deutsche Bank

Forward Eastern Coal (\$/ton)



Source: Bloomberg Finance LP, Deutsche Bank

Coal Production



Source: EIA, Deutsche Bank

Demand Trends

Coal Fundamentals



Gas to Coal Breakeven Prices

FY 2013 pricing

	Mid-Atlantic (PJM)	Southeast	Northeast	Midwest	Texas
	NAPP	CAPP	CAPP	PRB	PRB
Coal burn assumed					
Coal plant fuel costs:					
Cost of coal (\$/ton)	54.39	60.57	60.57	10.53	10.53
Assumed rail cost (\$/ton)	22.50	25.00	30.00	22.50	30.00
Delivered cost (\$/ton)	76.89	85.57	90.57	33.03	40.53
Btu/pound of coal	13,000	12,000	12,000	8,800	8,800
Delivered cost (\$/MMBtu)	2.96	3.57	3.77	1.88	2.30
Assumed coal plant heat rate (MMBtu/MWh)	10.5	10.5	10.5	10.5	10.5
Coal plant fuel cost (\$/MWh)	31.05	37.43	39.62	19.70	24.18
Implied gas price required for switching:					
Coal plant fuel cost (\$/MWh)	31.05	37.43	39.62	19.70	24.18
Assumed CCGT gas plant heat rate (MMBtu/MWh)	7.2	7.2	7.2	7.2	7.2
Required gas price for switching (\$/MMBtu)	4.31	5.20	5.50	2.74	3.36
Less: Assumed gas basis (\$/MMBtu)	0.25	0.00	1.00	0.10	0.00
NYMEX gas price required for switching (\$/MMBtu)	4.06	5.20	4.50	2.64	3.36

Source: DB Utilities Team

Demand Trends

Coal Retirements & NG Demand



Impact of EPA Rules on Demand for Coal and Gas vs. 2011 Levels

	Scenarios			Notes
	High	Base	Low	
Retirements assumed (GW)	60	50	40	
Capacity factor for retired units	50%	45%	40%	55% 2010E for WoodMac est. retirements; 42% 2011E for DB est. PJM retirements
Generation lost, retired units (TWh/yr)	263	197	140	
Retired coal generation replaced by gas	75%	65%	55%	Big uncertainty - depends on retiring plant locations, commodities, repowering decisions
Generation increase, gas (TWh/yr)	197	128	77	
Generation increase, controlled coal (TWh/yr)	66	69	63	
Coal demand impact				
Generation, retired coal units (TWh/yr)	263	197	140	
Avg. plant heat rate, retired units (MMBtu/MWh)	10.75	10.50	10.25	
Reduced coal demand (MMBtu in millions)	2,825	2,070	1,437	
% Appalachian / IL Basin coal retirements	40%	50%	60%	As implied by Wood Mackenzie analysis
% PRB coal retirements	60%	50%	40%	As implied by Wood Mackenzie analysis
Wtg. avg. coal heat content, retired units (Btu/lb)	10,160	10,550	10,940	
Reduced coal demand, retired units (tons/yr in MM)	139	98	66	
Incr. coal demand, controlled coal (tons/yr in MM)	(35)	(34)	(30)	Assumes similar attributes for retired plants and coal plants that gain mkt share
Net reduction in coal demand (tons/yr in millions)	104	64	36	
<i>Net demand reduction as % of total 2011 U.S. demand</i>	<i>10%</i>	<i>6%</i>	<i>4%</i>	
Gas demand impact				
Generation increase, gas (TWh/yr)	197	128	77	
Plant heat rate (MMBtu/MWh)	7.75	7.5	7.25	Assumes incremental run times realized primarily by CCGTs
Increased gas demand per year (MMBtu in millions)	1,528	961	559	
Increased gas demand (Bcf/d)	4.2	2.6	1.5	
<i>Net demand increase as % of total 2011 U.S. demand</i>	<i>6%</i>	<i>4%</i>	<i>2%</i>	

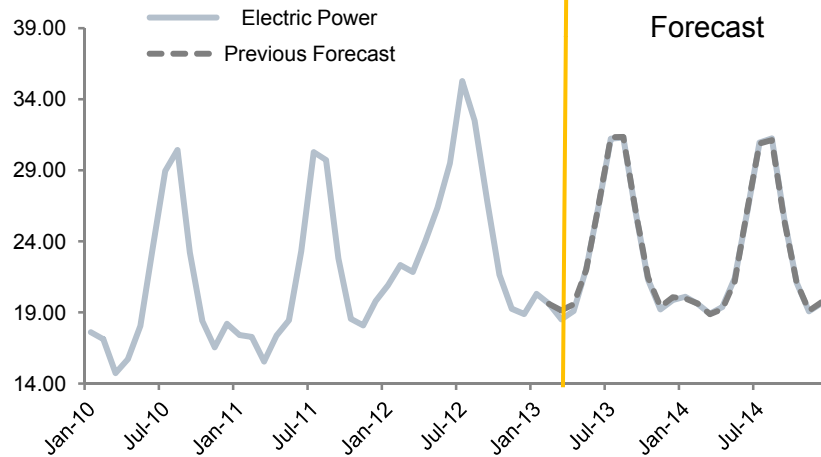
Source: DB Utilities Team

Demand Trends

EIA Short Term Energy Outlook (STEO) – Demand Forecast

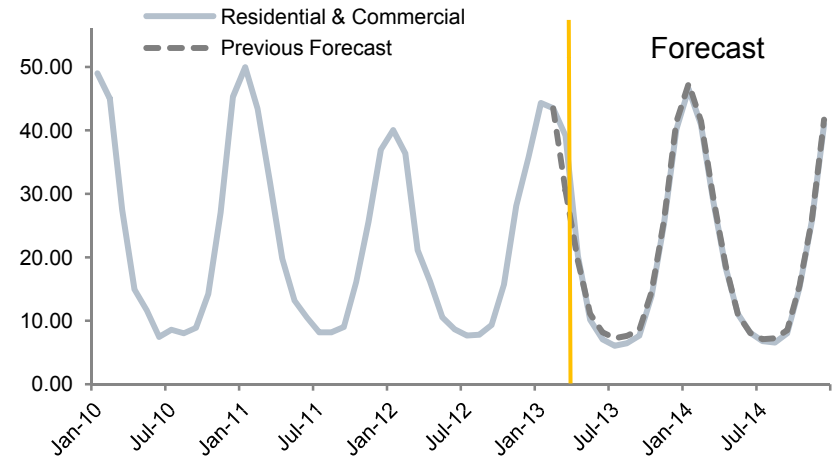


Electrical Power Demand



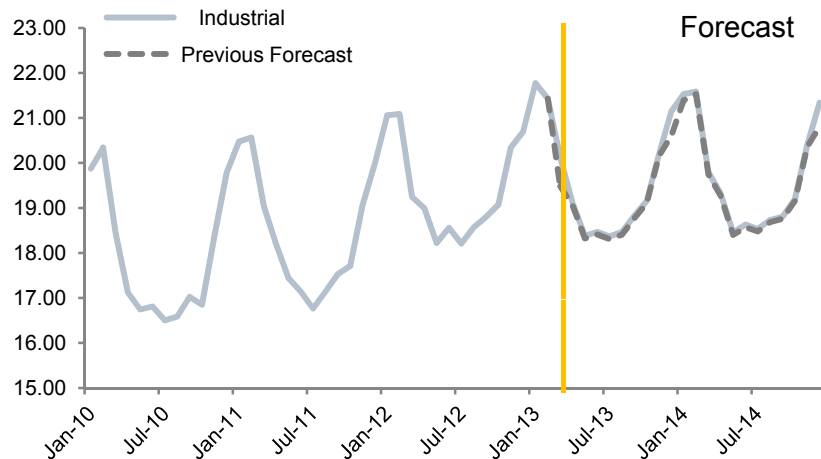
Source: EIA, Deutsche Bank

Residential and Commercial Demand



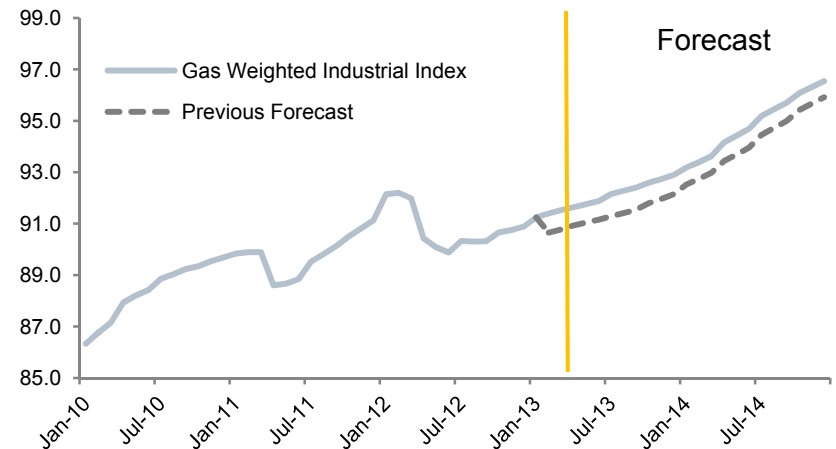
Source: EIA, Deutsche Bank

Industrial Demand



Source: EIA, Deutsche Bank

Gas Weighted Industrial Index



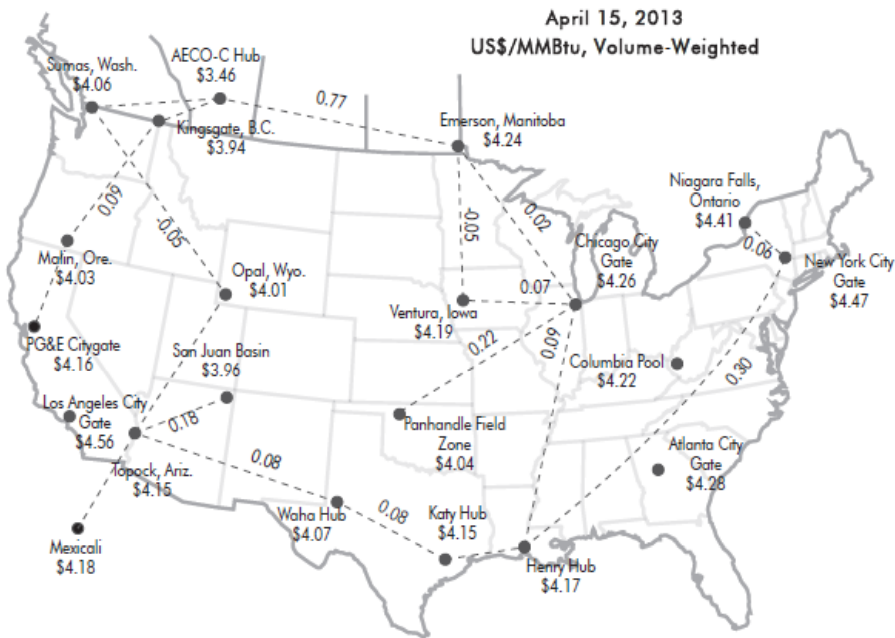
Source: EIA, Deutsche Bank

Natural Gas Markets

Pricing and Differentials

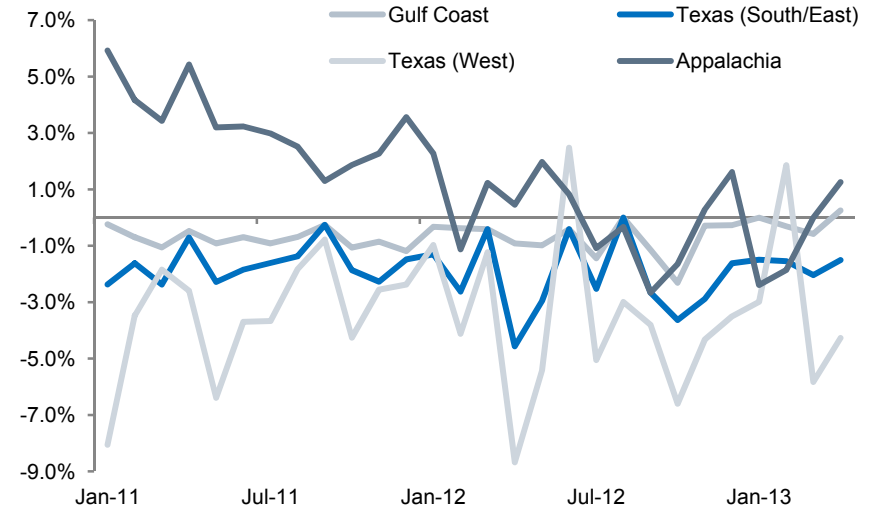


Prices for Major Hubs & Select City Gates



Source: Energy Intelligence Natural Gas Week

Bid Week Differentials to Henry Hub



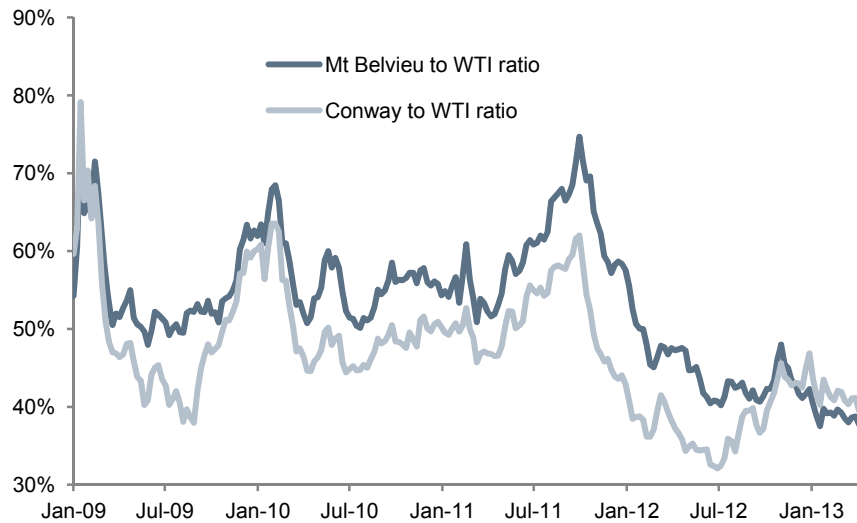
Source: Energy Intelligence Gas Market Reconnaissance, Deutsche Bank

Natural Gas Liquids Dynamics

Pricing Trends

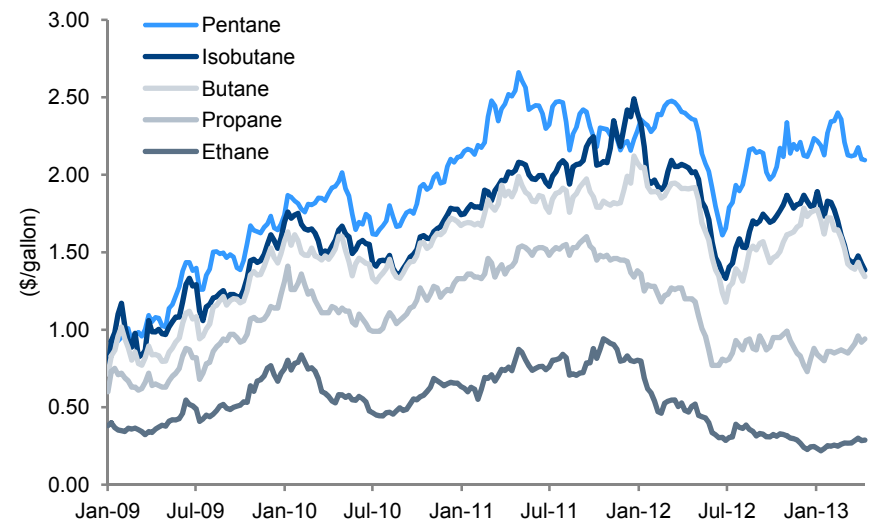


NGL to WTI Ratio



Source: EIA, Bloomberg Finance LP, Deutsche Bank

Mont Belvieu NGL Component Prices



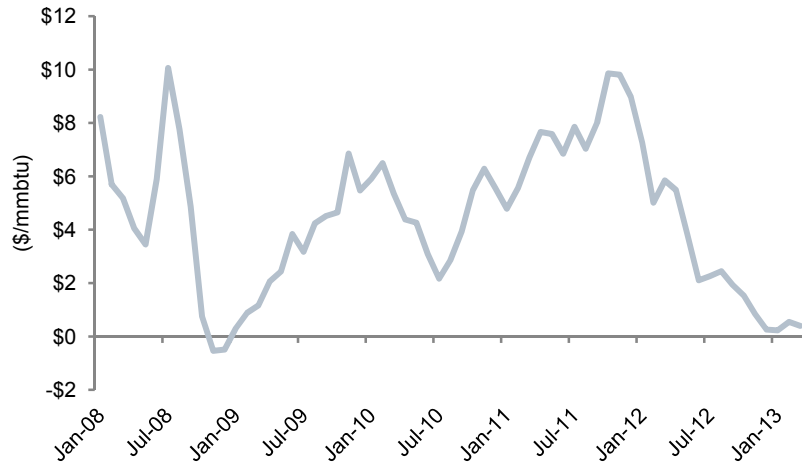
Source: Bloomberg Finance LP, Deutsche Bank

Natural Gas Liquids Dynamics

Supply Trends and Economics

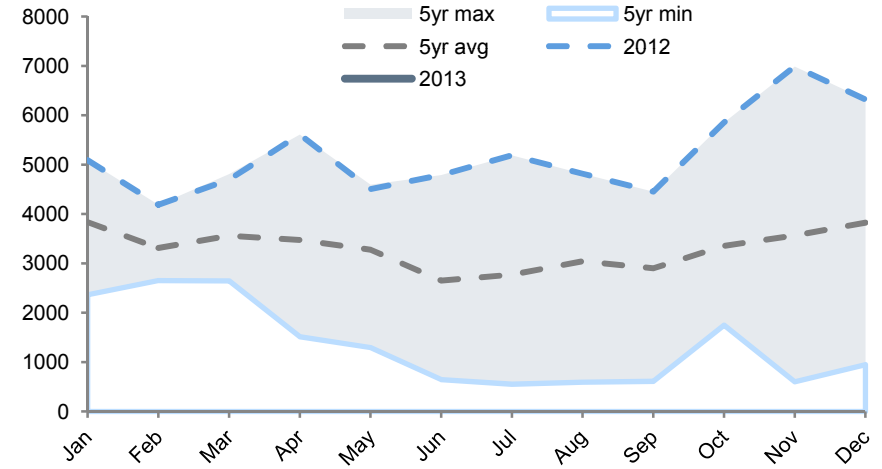


Mont Belvieu Ethane Frac Spread



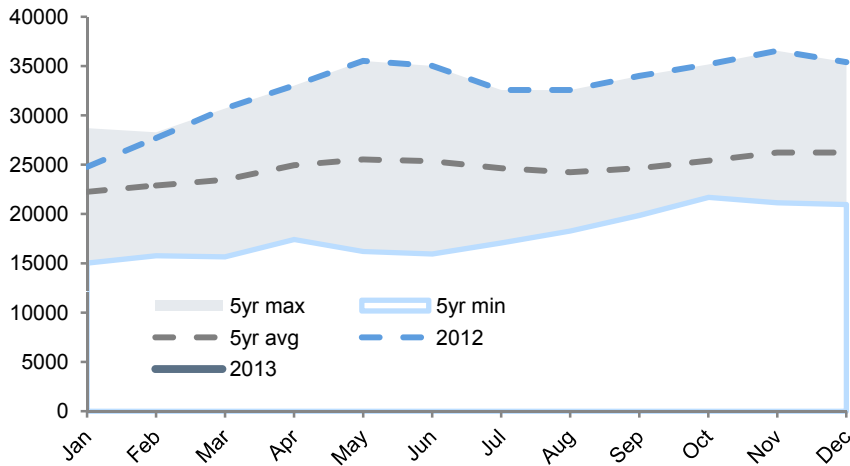
Source: EIA, Bloomberg Finance LP, Deutsche Bank

Propane Exports



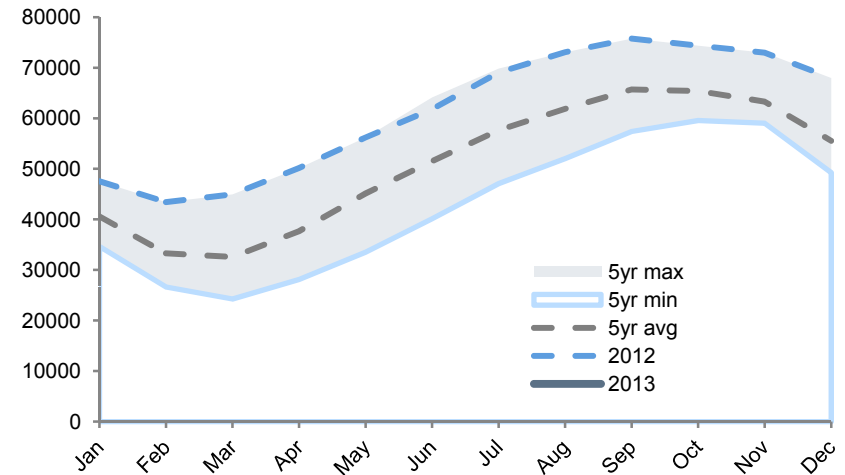
Source: EIA, Deutsche Bank

Ethane Stocks



Source: EIA, Deutsche Bank

Propane Stocks



Source: EIA, Deutsche Bank

Natural Gas Liquids Dynamics

NGL Pipeline Expansions



Planned US NGL Pipeline Projects (000s bpd)			
Company	Pipeline Name	Capacity	Start-up
Eagle Rock	6 inch NGL pipeline	NA	2012
Oneok	Arbuckle pipeline	60	2012
Hess/Mistral Energy	Vantage Pipeline to Alberta	NA	Q1 2013
DCP Midstream	DCP Sandhills Pipeline	200	Q3 2013
DCP Midstream	Southern Hills	150	Q3 2013
Lone Star NGL LLC	Justice NGL	209	Q1 2013
Crosstex	Extension of Cajun-Sibon NGL pipeline	70	Q1 2013
Double Eagle JV		100	Q2 2013
Enterprise	ATEX Express (Marcellus)	140	Q2 2013
Markwest/Sunoco Logistics	Mariner West pipeline	50	Q3 2013
Enterprise	Texas Express pipeline from Carson county to Mt. Belvieu	280	Q3 2013
Oneok	Sterling 3 pipeline	193	Q4 2013
Oneok	Bakken pipeline	60	1H 2013
Markwest/Sunoco Logistics	Mariner East pipeline	50	Q3 2013
Oneok	North System	100	NA
Enterprise/DCP/Anadarko	Denver-Julesberg	150 kbd	Q4 2013

Source: Deutsche Bank, Energy Trading, LLC

Natural Gas Liquids Dynamics

Ethylene Capacity Additions



Announced North American Ethylene Capacity Projects (000s m.t.)

Company	Location	Project	Capacity	Startup
Ineos	Chocolate Bayou, TX	De-bottleneck/expansion	115	2012
Westlake Chemical	Lake Charles, LA 1	De-bottleneck/expansion	110	2012
Williams Companies	Geismar, LA	Expansion	27	2012
Dow Chemical	Taft #2, Hahnville, LA	Re-start of idled plant	386	2012
Williams Companies	Geismar, LA	Expansion	272	2013
LyondellBasell	Clinton, IA, TX	De-bottleneck/expansion	45	2013
Westlake Chemical	Calvert City, Kentucky	Expansion	82	2014
Westlake Chemical	Lake Charles, LA 2	De-bottleneck/expansion	110	2014
LyondellBasell	LaPorte, TX	De-bottleneck/expansion	385	2014
LyondellBasell	Channelview and Corpus Christi, TX	De-bottleneck/expansion	228	2015
Appalchia Resins	Wheeling, West Virginia	New Cracker	500	2015
Formosa Plastics	Point Comfort, LA	New cracker	800	2016
Occidental Chemicals	Ingleside, TX	New cracker	550	2016
Nova Chemicals	Sarnia, CAN	Expansion	250	2016
Braskem/Idesa	Mexico	New cracker	1,000	2016
ExxonMobil	Baytown, TX	New cracker	1,500	2016
Chevron Phillips Chemical	Cedar Bayou, TX	New cracker	1,500	2017
Dow Chemical	Freeport, Texas	New cracker	1,500	2017
Shell Chemicals	Monaca, PA	New cracker	1,000	2018
Sasol	Lake Charles, LA	New cracker	1,500	2018
TOTAL			11,860	
		Capacity Increase	35%	

Note: Capacity increases versus YE 2011 capacity. 0.062 bbl of Ethane produces 1 ton of Ethylene.

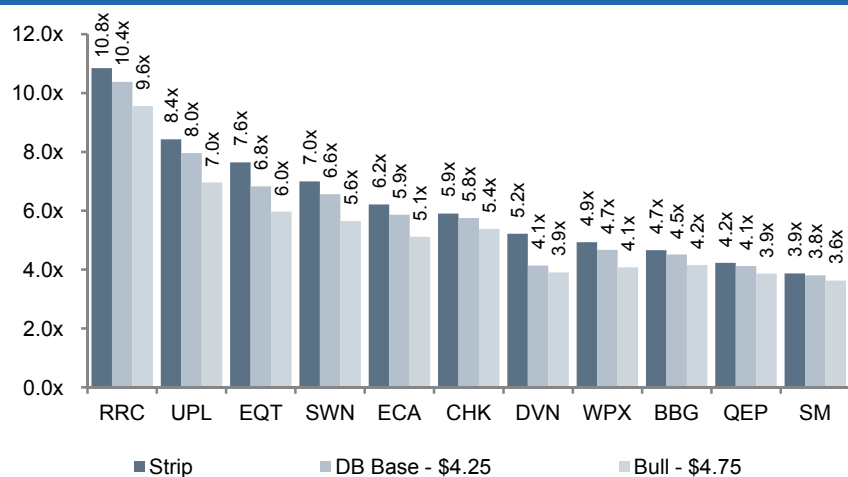
Source: DB Chemicals / Commodity Team, ICIS News, IHS Chemical, company announcements, Deutsche Bank

Natural Gas Equities

Sensitivity Analysis

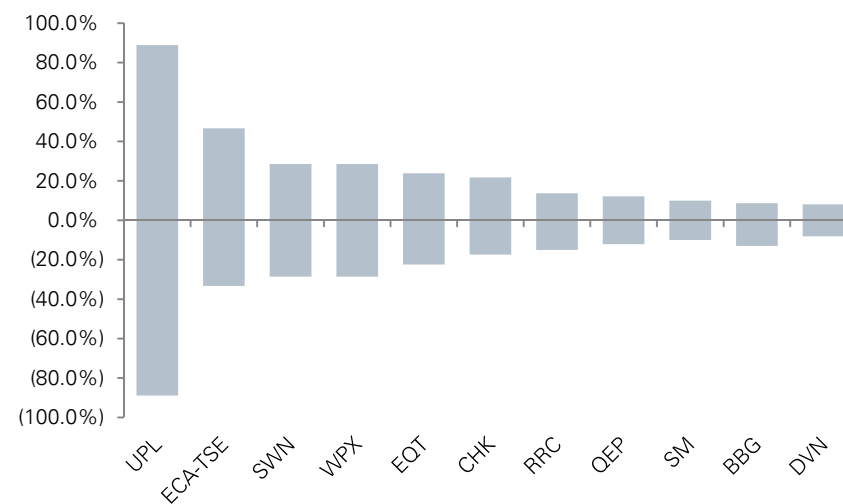


EV / 2014e DACF Sensitivity



Note: Oil price is \$90/bbl. EQT, QEP and SWN values are adjusted for the midstream segment.
Source: Deutsche Bank

NAV Sensitivity



Note: Base case is \$90/bbl and \$4.00/mmbtu.
Source: Deutsche Bank

Natural Gas Equities

DB Exploration & Production Coverage Universe



Comparable Valuations

Ticker	Rating	Coverage 04/18/2013			% 52 wk High	% PT	Market Cap	Enterprise Value	% Production			EV/DACF			EV/EBITDAX			
		Lead	Price	Target					Crude	NGLs	Nat Gas	2012	2013e	2014e	2012	2013e	2014e	
LARGE CAP																		
Anadarko Petroleum Corp.	APC	Buy	SR	\$80.64	\$101.00	90%	25%	\$40,481	\$52,534	35%	11%	54%	6.1x	6.4x	5.2x	5.9x	5.0x	4.0x
EOG Resources Inc.	EOG	Buy	SR	115.31	155.00	83%	34%	31,355	36,688	42%	13%	46%	6.9x	5.7x	4.5x	6.3x	5.6x	4.1x
Noble Energy Inc.	NBL	Buy	SR	107.61	124.00	91%	15%	19,370	21,476	39%	7%	53%	7.1x	6.3x	5.1x	6.6x	5.3x	3.8x
Apache Corp.	APA	Hold	SR	70.82	90.00	72%	27%	28,824	42,237	47%	7%	46%	4.9x	4.0x	3.5x	3.5x	3.3x	2.9x
Chesapeake Energy Corp.	CHK	Hold	SR	18.96	20.00	83%	5%	14,419	31,241	16%	10%	74%	10.8x	6.6x	5.2x	8.4x	6.3x	5.0x
Devon Energy Corp.	DVN	Hold	SR	53.10	66.00	75%	24%	21,399	25,991	25%	18%	57%	4.0x	4.8x	3.6x	4.7x	4.5x	3.4x
Talisman Energy Inc.	TLM	Hold	SR	11.05	14.00	73%	27%	11,337	15,050	38%	0%	62%	4.8x	5.5x	4.5x	2.3x	4.6x	3.8x
Encana Corp.	ECA-	Sell	SR	19.48	17.00	82%	(13%)	14,343	18,798	10%	0%	90%	5.4x	8.6x	5.9x	12.2x	7.9x	5.5x
MEAN						81%				31%	8%	60%	6.3x	6.0x	4.7x	6.2x	5.3x	4.0x
OIL GROWTH																		
Concho Resources Inc.	CXO	Buy	RT	82.39	120.00	75%	46%	8,550	11,706	61%	0%	39%	8.7x	7.6x	5.6x	8.0x	6.8x	5.1x
Continental Resources Inc.	CCLR	Buy	RT	73.61	105.00	78%	43%	13,589	17,220	72%	0%	28%	10.0x	6.2x	4.6x	9.1x	6.0x	4.4x
Oasis Petroleum Inc.	OAS	Hold	RT	32.84	38.00	83%	16%	3,024	3,985	90%	0%	10%	9.1x	5.4x	4.4x	8.3x	5.2x	3.8x
Pioneer Natural Resources	PXD	Hold	SR	112.35	125.00	84%	11%	15,427	17,214	43%	19%	38%	8.8x	8.6x	6.0x	9.5x	7.5x	5.3x
Whiting Petroleum Corp.	WLL	Hold	RT	44.57	57.00	76%	28%	5,299	7,064	77%	10%	13%	4.9x	4.2x	3.4x	4.5x	3.8x	3.1x
MEAN						79%				69%	6%	26%	8.3x	6.4x	4.8x	7.9x	5.9x	4.4x
NATURAL GAS GROWTH																		
EQT Corp.	EQT	Buy	SR	66.95	82.00	95%	22%	10,052	12,396	1%	8%	91%	13.4x	11.9x	6.9x	11.5x	11.0x	6.0x
Range Resources Corp.	RRC	Hold	SR	74.55	83.00	90%	11%	11,895	14,753	8%	14%	78%	20.1x	15.9x	9.8x	17.7x	14.2x	9.3x
Southwestern Energy Co.	SWN	Hold	SR	35.87	38.00	90%	6%	12,556	14,046	0%	0%	100%	8.8x	8.9x	6.6x	15.7x	8.8x	6.5x
Ultra Petroleum Corp.	UPL	Hold	SR	21.44	18.00	87%	(16%)	3,274	5,106	3%	0%	97%	7.1x	8.2x	8.1x	7.5x	8.2x	6.9x
MEAN						91%				3%	5%	92%	14.2x	11.6x	7.9x	14.2x	10.9x	7.3x
TRANSITION																		
Goodrich Petroleum Corp.	GDP	Buy	RT	13.17	17.00	76%	29%	478	1,037	31%	0%	69%	5.7x	6.2x	4.2x	5.5x	6.2x	4.3x
Magnum Hunter Resources	MHR	Buy	RT	2.85	7.00	44%	146%	479	1,215	46%	4%	50%	9.5x	9.8x	6.4x	9.4x	7.0x	5.0x
QEP Resources Inc.	QEP	Buy	SR	29.12	37.00	87%	27%	5,210	8,427	20%	12%	68%	5.1x	5.0x	3.6x	4.9x	4.7x	3.3x
Cimarex Energy Co.	XEC	Buy	RT	70.67	99.00	89%	40%	6,142	6,823	28%	22%	49%	5.7x	4.9x	3.7x	6.2x	4.9x	3.7x
SM Energy Co.	SM	Hold	RT	59.91	65.00	87%	8%	3,960	5,394	28%	20%	51%	5.6x	4.7x	3.3x	5.8x	4.2x	3.0x
Bill Barrett Corp.	BBG	Hold	RT	19.46	25.00	72%	28%	922	1,922	29%	0%	71%	4.6x	5.6x	4.0x	4.4x	5.0x	3.7x
Newfield Exploration Co.	NFX	Hold	SR	20.79	36.00	57%	73%	2,815	5,772	46%	10%	45%	4.2x	4.2x	3.7x	37.7x	3.8x	3.3x
SandRidge Energy Inc.	SD	Hold	RT	4.67	4.00	57%	(14%)	2,646	5,739	46%	0%	54%	4.4x	6.3x	4.1x	5.4x	6.3x	4.1x
Penn West Petroleum Ltd.	PWT-	Hold	SR	9.06	13.00	53%	43%	4,339	7,029	52%	12%	36%	5.2x	6.0x	4.6x	4.0x	5.7x	4.4x
WPX Energy Inc.	WPX	Hold	SR	16.43	17.00	90%	3%	3,273	4,719	8%	10%	82%	5.9x	5.7x	4.1x	4.4x	5.4x	3.9x
MEAN						71%				33%	9%	58%	5.6x	5.8x	4.2x	8.8x	5.3x	3.9x
EXPLORATION GRP.																		
Cobalt International Energy	CIE	Buy	RT	26.57	41.00	90%	54%	10,278	10,085	0%	0%	0%	NM	NM	NM	NM	NM	NM
Kosmos Energy Ltd.	KOS	Hold	RT	10.50	16.00	80%	52%	3,927	4,380	100%	0%	0%	12.2x	7.1x	7.4x	11.3x	5.3x	5.4x

Note: APC, DVN, QEP, EQT and SWN Enterprise Values adjusted for estimated midstream value. Data reflects E&P TEV only.

DB Commodity Deck:	2012	2013e	2014e
WTI	\$94.16	\$96.25	\$103.25
Brent	\$111.92	\$112.50	\$113.25
Henry Hub	\$2.79	\$3.75	\$4.25

Source: Deutsche Bank

Natural Gas Equities

DB Exploration & Production Coverage Universe



Operating Metrics

TICKER	RATING	Coverage 04/18/2013			Reserves			Enterprise Value Per			Capitalization			Crude Hedged		Gas Hedged		
		Lead	Price	Target	MBOE	% PUDS	R/P	Adj. BOE	Per BOE	MBOE/D	Net Debt / Cap	Net Debt / EBITDA	Net Debt / PDP Rsrv.	% of Production 2012	% of Production 2013	% of Production 2012	% of Production 2013	
LARGE CAP																		
Anadarko Petroleum Corp.	APC	Buy	SR	\$80.64	\$101.00	2,560	19%	9.6x	\$23.53	\$19.70	\$66.86	34%	1.7x	\$5.20	52%	51%	40%	59%
EOG Resources Inc.	EOG	Buy	SR	115.31	155.00	1,811	48%	10.6x	29.67	20.26	80.78	26%	0.9x	\$5.72	33%	77%	65%	23%
Noble Energy Inc.	NBL	Buy	SR	107.61	124.00	1,190	61%	13.5x	23.43	18.05	89.31	22%	0.6x	\$4.51	43%	46%	22%	23%
Apache Corp.	APA	Hold	SR	70.82	90.00	2,851	30%	10.0x	20.86	14.81	52.84	27%	1.1x	\$6.15	13%	9%	13%	2%
Chesapeake Energy Corp.	CHK	Hold	SR	18.96	20.00	2,615	43%	11.0x	16.79	11.95	45.97	50%	4.6x	\$9.64	56%	84%	69%	51%
Devon Energy Corp.	DVN	Hold	SR	53.10	66.00	3,076	31%	12.3x	11.46	7.31	33.38	14%	1.0x	\$2.20	89%	68%	67%	57%
Talisman Energy Inc.	TLM	Hold	SR	11.05	14.00	870	33%	5.6x	27.18	17.30	39.85	25%	0.8x	\$6.37	33%	18%	18%	--%
Encana Corp.	ECA-	Sell	SR	19.48	17.00	2,947	65%	15.2x	9.55	6.38	36.47	40%	3.0x	\$4.53	--%	17%	67%	53%
MEAN							41%	11.0x	20.31	14.47	\$55.68	30%	1.7x	\$5.54	40%	46%	45%	34%
OIL GROWTH																		
Concho Resources Inc.	CXO	Buy	RT	82.39	120.00	435	37%	14.6x	34.32	26.93	132.08	43%	3.0x	\$11.40	81%	70%	0%	--%
Continental Resources Inc.	CLR	Buy	RT	73.61	105.00	785	62%	22.0x	32.52	21.95	144.78	51%	2.1x	\$11.60	62%	69%	16%	22%
Oasis Petroleum Inc.	OAS	Hold	RT	32.84	38.00	139	50%	16.9x	38.96	28.65	139.42	37%	2.1x	\$13.72	72%	54%	--%	--%
Pioneer Natural Resources	PCXD	Hold	SR	112.35	125.00	1,078	41%	18.9x	25.06	15.97	102.68	35%	1.9x	\$2.63	96%	97%	88%	76%
Whiting Petroleum Corp.	WLL	Hold	RT	44.57	57.00	380	36%	12.6x	26.98	18.60	79.18	30%	1.2x	\$7.26	19%	17%	7%	5%
MEAN							45%	17.0x	31.57	22.42	\$119.63	39%	2.1x	\$9.32	66%	61%	22%	21%
NATURAL GAS GROWTH																		
EQT Corp.	EQT	Buy	SR	66.95	82.00	1,001	53%	22.6x	10.54	7.46	52.06	35%	2.1x	\$5.03	--%	--%	56%	46%
Range Resources Corp.	RRC	Hold	SR	74.55	83.00	1,065	46%	23.2x	17.29	13.85	104.37	52%	3.8x	\$4.99	52%	73%	82%	68%
Southwestern Energy Co.	SWN	Hold	SR	35.87	38.00	670	20%	7.1x	19.65	18.59	44.48	31%	1.2x	\$3.03	--%	--%	51%	37%
Ultra Petroleum Corp.	UPL	Hold	SR	21.44	18.00	424	60%	9.9x	15.97	12.05	47.14	81%	2.2x	\$10.83	--%	--%	86%	30%
MEAN							39%	15.4x	17.35	15.05	\$68.97	46%	2.1x	\$5.16	25%	21%	63%	47%
TRANSITION																		
Goodrich Petroleum Corp.	GDP	Buy	RT	13.17	17.00	57	54%	11.0x	26.18	18.06	71.57	83%	3.4x	\$21.60	103%	74%	106%	41%
Magnum Hunter Resources	MHR	Buy	RT	2.85	7.00	68	31%	14.0x	17.96	17.96	76.27	52%	8.6x	\$15.38	105%	72%	78%	56%
QEP Resources Inc.	QEP	Buy	SR	29.12	37.00	656	46%	12.3x	14.62	8.63	38.31	33%	2.4x	\$9.22	64%	57%	75%	52%
Cimarex Energy Co.	XEC	Buy	RT	70.67	99.00	376	20%	9.9x	19.62	18.12	62.00	16%	0.7x	\$2.26	42%	33%	--%	--%
SM Energy Co.	SM	Hold	RT	59.91	65.00	420	33%	11.5x	17.00	12.85	47.77	43%	1.6x	\$5.10	46%	50%	28%	30%
Bill Barrett Corp.	BBG	Hold	RT	19.46	25.00	175	22%	8.9x	18.38	11.01	51.55	47%	3.2x	\$7.26	76%	64%	80%	84%
Newfield Exploration Co.	NFX	Hold	SR	20.79	36.00	566	42%	11.3x	17.67	10.19	45.60	38%	1.9x	\$9.01	57%	62%	79%	79%
SandRidge Energy Inc.	SD	Hold	RT	4.67	4.00	566	43%	16.9x	17.25	10.14	63.36	49%	4.0x	\$4.59	84%	99%	85%	12%
Penn West Petroleum Ltd.	PWT-	Hold	SR	9.06	13.00	359	22%	6.1x	26.18	19.57	45.67	27%	2.2x	\$9.60	68%	74%	15%	34%
WPX Energy Inc.	WPX	Hold	SR	16.43	17.00	947	40%	11.7x	8.79	4.98	22.90	15%	1.7x	\$2.39	82%	58%	48%	40%
MEAN							35%	11.3x	19.43	14.06	\$55.79	40%	3.0x	\$8.64	73%	64%	59%	43%
EXPLORATION GRP.																		
Cobalt International Energy	CIE	Buy	RT	26.57	41.00	--	--%	--x	--	--	--	(10%)	0.5x	\$--	--%	--%	--%	--%
Kosmos Energy Ltd.	KOS	Hold	RT	10.50	16.00	66	100%	11.3x	65.92	65.92	184.84	23%	2.1x	#DIV/0!	46%	50%	--%	--%

Note: APC, DVN, QEP, EQT and SWN Enterprise Values adjusted for estimated midstream value. Data reflects E&P TEV only.

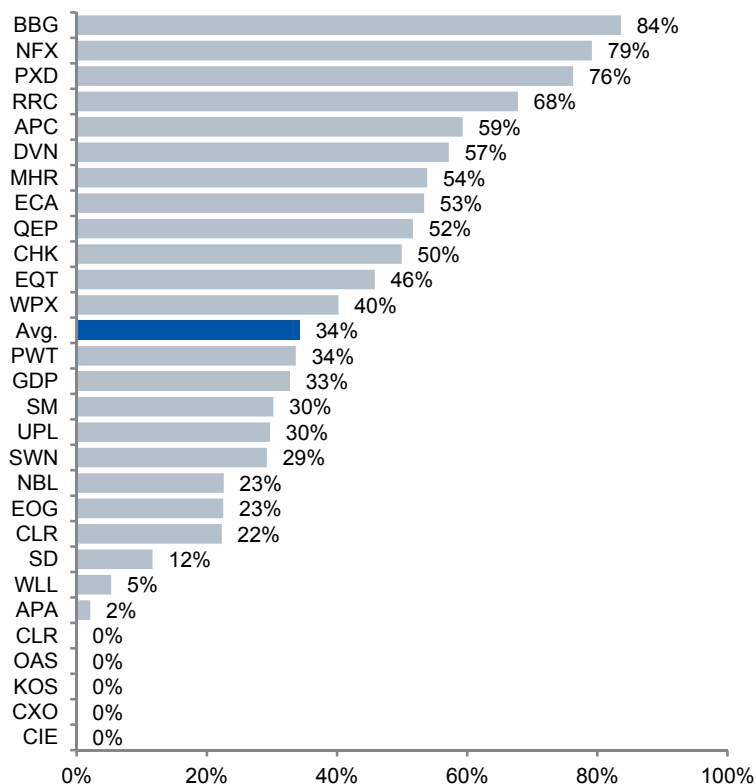
Source: Deutsche Bank

Natural Gas Equities

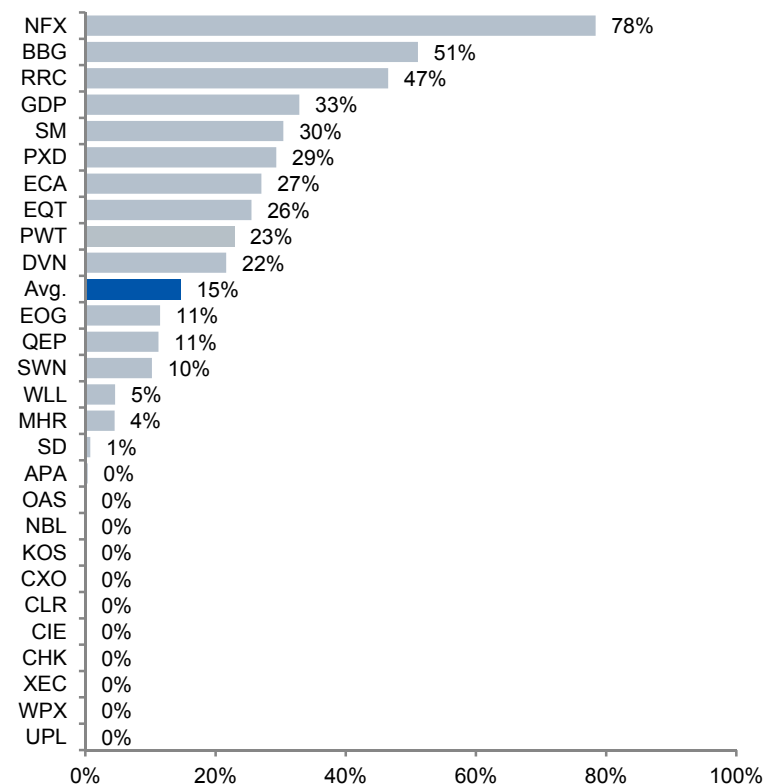
DB Coverage Universe Hedge Profiles



2013 NG Hedged (% of est. production)



2014 NG Hedged (% of est. production)



Source: Company Data, Deutsche Bank

Source: Company Data, Deutsche Bank

Appendix

EIA Short Term Energy Outlook Forecast



EIA-STE0 US Natural Gas Supply and Demand Balance

	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	
Supply (Bcf/d)																		
Total Marketed Production	68.7	69.6	69.9	70.0	69.3	68.6	69.2	69.3	69.4	69.4	69.3	69.6	69.3	69.4	69.3	69.6	69.5	
Extraction Loss	3.4	3.5	3.6	3.6	3.5	3.4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
Total Dry Gas Production	65.3	66.0	66.3	66.4	65.8	65.2	65.7	65.9	65.9	65.9	65.9	66.1	65.9	65.9	65.9	66.1	66.1	
Gross Imports	9.1	8.6	8.2	7.8	8.1	8.9	8.9	8.8	8.5	8.1	8.1	8.7	8.7	8.2	8.3	8.6	9.7	
Gross Exports	4.5	4.6	4.5	4.7	5.1	5.0	4.8	4.6	4.4	4.5	4.7	4.7	4.8	4.9	5.3	5.4	5.3	
Net Imports	4.6	4.0	3.7	3.0	3.0	3.9	4.1	4.2	4.1	3.6	3.4	4.0	3.9	3.3	3.0	3.2	4.4	
Supplemental Gaseous Fuels	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
Net Inventory Withdrawals	-5.5	-9.6	-8.1	4.1	12.5	23.5	20.9	13.5	-6.0	-13.6	-11.9	-9.0	-8.1	-11.3	-9.1	1.1	16.8	
Total Supply	64.6	60.6	62.1	73.7	81.5	92.8	91.0	83.8	64.2	56.1	57.6	61.3	61.9	58.0	60.0	70.6	87.4	
Balancing Item (Bcf/d)	0.0	-0.6	-1.1	-1.9	-1.8	-0.5	-0.5	-5.7	-1.6	1.4	1.5	1.7	1.4	1.1	1.1	0.7	-0.9	
Demand (Bcf/d)																		
Residential	3.4	4.0	7.8	16.0	21.5	28.4	27.1	20.6	11.1	6.1	4.2	3.6	3.5	4.1	8.1	15.9	25.1	
Commercial	4.4	4.7	6.8	10.2	12.5	15.4	15.9	12.9	7.6	5.4	4.4	4.1	4.3	4.7	7.0	10.1	14.2	
Industrial	18.6	18.8	19.1	20.3	20.7	21.8	21.4	20.1	19.1	18.4	18.5	18.4	18.5	18.8	19.2	20.2	21.1	
Electric Power	32.5	26.9	21.7	19.3	18.9	20.3	19.6	18.5	19.1	22.1	26.5	31.2	31.3	26.1	21.3	19.2	19.9	
Lease and Plant Fuel	3.8	3.8	3.8	3.9	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	
Pipeline and Distribution Use	1.8	1.7	1.7	2.0	2.2	2.6	2.6	2.1	1.8	1.6	1.6	1.7	1.8	1.6	1.6	1.9	2.3	
Vehicle Use	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Total Demand	64.6	60.0	61.0	71.8	79.8	92.4	90.5	78.1	62.6	57.4	59.0	63.0	63.3	59.2	61.0	71.3	86.5	
End-of-period Inventories (Bcf)																		
Working Gas Inventory	3408.8	3693.2	3929.6	3799.5	3412.9	2690.3	2103.9	1685.9	1865.5	2287.2	2643.1	2922.4	3172.2	3511.8	3793.1	3760.6	3240.5	

Source: EIA

Appendix

Marcellus Pipeline Projects



SouthWest Pipeline Additions

Gas Pipeline/Compression	Operator	Capacity (MMcfd)	Target Date	Location
Big Pine	NiSource	425	2Q13	Southwest PA
Low Pressure East Expansion	Equitrans	150	4Q13	Southwest PA/WV
Uniontown-Gas City	Texas Eastern	300	4Q13	Southwestern PA
West to East	National Fuel	225	1Q14	Southwest PA
Warren County Extension	Columbia	250	4Q14	Southwest
TEAM 2014 - Marcellus	Texas Eastern	600	4Q14	Southwest PA/WV
West Side Expansion	Columbia	975	4Q14	Southwest
Laurel Mountain	Williams Partners	900	4Q15	Southwest

NorthEast Pipeline Additions

Pipeline/Compression	Operator	Capacity (MMcfd)	Target Date	Location
Minisink Compressor	Millenium	150	2Q13	Northeast PA/NY
Hancock Compressor Project	Millenium	107	4Q13	Northeast PA/NY
North-South Project II	Inergy Midstream	550	4Q13	Northeast PA/NY
MB Line Expansion	Columbia	175	4Q13	Maryland
Sabinsville-Morrisville	Dominion Transmissi	92	4Q13	Central PA/NY
NJ-NY Expansion	Texas Eastern	800	4Q13	New Jersey
MPP Project	Tennessee	240	4Q13	Central PA
Northeast Upgrade	Tennessee	636	4Q13	Northeast PA
Northeast Supply Link	Transco	250	4Q13	New Jersey
Tioga County Expansion	Dominion Transmissi	270	4Q13	Central PA
Empire Tioga Phase 2	National Fuel	460	1Q14	Central PA
Northeast Connector	Transco	100	4Q14	Northeast PA
Iroquois Access	Dominion Transmissi	275	4Q14	Central/Northeast
FDS Wright Lateral	Millenium	400	4Q14	Northeast
Rose Lake Expansion	Tennessee	250	4Q14	Northeast
Rockaway Delivery Lateral	Transco	635	4Q14	Northeast
Constitution	Williams	650	2Q15	Northeast
Leidy Southeast	Transco	800	4Q15	Central
East Side Expansion	Columbia	300	4Q15	Eastern PA/NJ
Algonquin - AIM	Algonquin	1000	2H16	Northeast
TGP Line 300 Expansion 2	Tennessee	800	1H16	Northeast

Source: Wood Mackenzie, Deutsche Bank

Appendix

Marcellus Natural Gas Processing Capacity



Announced Natural Gas Processing Projects					
Pipeline/Compression	Expansion/New Build	Operator	Capacity (Mcfpd)	Target Date	County
Fort Beeler - Phase 3	Expansion	Williams	200	2Q13	Marshall, WV
Natrium/404 - Phase 1	New Build	Dominion	200	2Q13	Marshall, WV
Fort Wetzel - Phase 1	New Build	Williams	200	2Q13	Marshall, WV
Majorsville III	Expansion	Markwest Liberty	200	2Q13	Marshall, WV
Sherwood II	Expansion	Markwest Liberty	200	2Q13	Doddridge, WV
Natrium/404 - Phase 2	Expansion	Dominion	200	3Q13	Marshall, WV
Sherwood III	Expansion	Markwest Liberty	200	3Q13	Doddridge, WV
Fort Wetzel - Phase 2	Expansion	Williams	200	4Q13	Marshall, WV
Majorsville 5	Expansion	Markwest Liberty	200	4Q13	Marshall, WV
Majorsville 4	Expansion	Markwest Liberty	200	1Q14	Marshall, WV
Mobley III	Expansion	Markwest Liberty	200	1Q14	Marshall, WV
Bluestone II	Expansion	Markwest Liberty	120	2Q14	Butler, PA
Oak Grove	New Build	Williams	600	4Q15	Marshall, WV

Source: www.bentekenergy.com, Wood Mackenzie, Deutsche Bank

Appendix

DB Natural Gas Producer Survey



DB Natural Gas Producer Survey Company List

Coverage Group	US Independents	Canadian Independents	Super Majors	Mid-Majors
ECA	XCO	CNQ	BP	MRO
CHK	COG	HSE	COP	MUR
DVN	KWK	SU	CVX	OXY
APC	PXP	ARX	XOM	HES
APA	CRK	BNP	RDS	
SWN	FST	IMO		
EOG	EGN	ERF		
WPX	WTI	NXY		
UPL	NFG	BTE		
QEP	MMR	VET		
EQT	CRZO	CPG		
NFX	SGY	PBN		
RRC	SFY	CVE		
NBL	PVA	BIR		
PXD	PDCE	PRQ		
XEC	ROSE	TOU		
BBG	BRY	LPR		
SM	BCEI	CLT		
SD	GMXR	AAV		
CXO	DNR			
CLR	LGCY			
GDP	REXX			
WLL	CWEI			
OAS	AREX			
PWT	NOG			
TLM	GPOR			
MHR	EP			
	EXXI			
	ATPG			
	XTO			

Source: Deutsche Bank



Appendix 1

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Stephen Richardson

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Buy: Based on a current 12-month view of total shareholder return (TSR = percentage change in share price from current price to projected target price plus projected dividend yield), we recommend that investors buy the stock.

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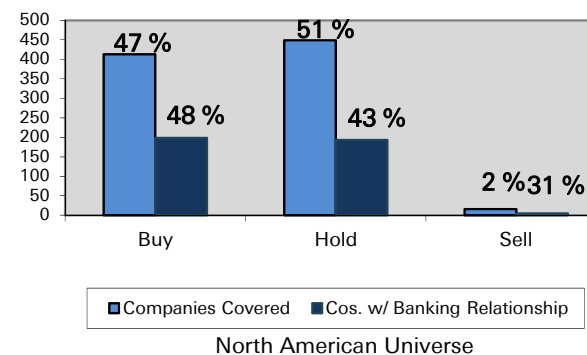
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North American Universe



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