# Sector IQ | Energy

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## Energy Renaissance:

## Production Up, Prices Down... Is This The New Normal?

McGRAW HILL FINANCIAL
Essential Intelligence

# Sector IQ: Energy

## INSIDE THIS ISSUE



## Energy Renaissance
### PRODUCTION UP, PRICES DOWN...IS THIS THE NEW NORMAL?

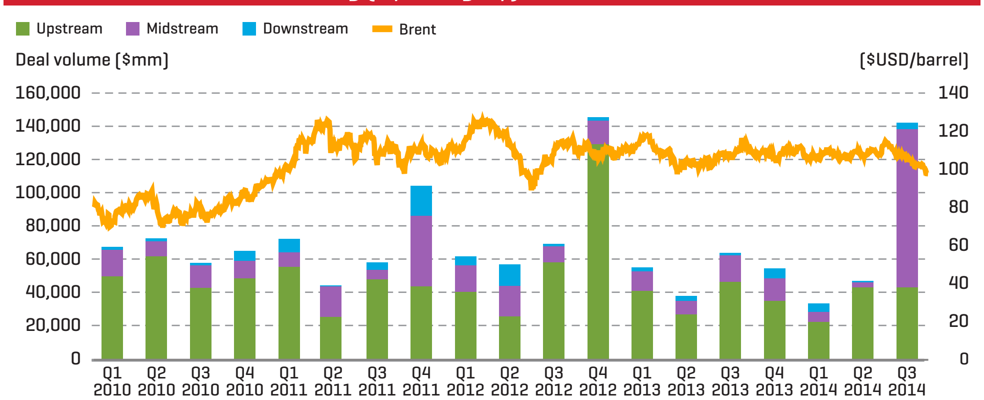
The Energy industry is rapidly evolving. With shale boosting oil, gas, and NGL production in the U.S., the country could potentially become energy independent and a net crude exporter. We have also seen Brent prices fall the third largest dollar amount recorded in a very short period. What will this mean for asset prices, credit risk levels, and the economy more broadly? As our cover indicates, we may be experiencing an **Energy Renaissance**…

In this second edition of **Sector IQ: Energy**, we explore why these events are unfolding and what the global implications will be. By leveraging content, analytics, and industry specialists from across **McGraw Hill Financial**, including S&P Capital IQ, Standard & Poor's Ratings Services, S&P Dow Jones Indices, Platts and Bentek Energy, we provide a unique perspective and essential intelligence on the energy sector.

## *Energy Deal Making*

Midstream Dominates, Upstream Flat On Brent Slump

**Global Deal Value vs. Oil Pricing (By Category)***




*Upstream: Oil & Gas Drilling; Oil & Gas Equipment & Services; Integrated Oil & Gas; Oil & Gas Exploration & Production. Midstream: Oil & Gas Storage & Transportation. Downstream: Oil & Gas Refining and Marketing.
*Source: S&P Capital IQ. Data as of 9/15/2014. Past performance is not indicative of future results.*

**Kinder Morgan's** recently announced acquisition and consolidation of various assets in a set of transactions valued by S&P Capital IQ at more than $82 billion propelled midstream deals to dominance over upstream and downstream transactions in the third quarter. Meanwhile, the downward drift in Brent prices of late has tempered deal making among upstream buyers and sellers as deal value was flat in the third quarter 2014 compared to the preceding quarter, and year to date activity eased to $109.2 billion in the first nine months of 2014 compared to $114.4 billion in the year earlier period.

### BREAKING NEWS

Dated Brent from 8-Jul-1987 to 2-Oct-2014 has experienced four periods of big falls (these aren't "dips"). We are now experiencing the third largest fall just beating the nearly $24 fall in 1990/91 which coincided with Iraq's invasion of Kuwait leading up to "Gulf War 1." The largest two falls were Jul. 2008 to Dec. 2008 and Mar. 2012 to Jun. 2012 respectively. Though fourth in overall dollar terms, the 1990/91 fall takes second overall place in percentage of peak price terms.

**Dated Brent's Big Falls**
(from July 1987-October 2014)

| Dates | Peak | Trough | Fall | Rank |
|---|---|---|---|---|
| 9/28/90-1/18/91 | 41.325 | 17.65 | 23.675 | 4 |
| 7/3/08-12/24/08 | 144.22 | 35.655 | 108.565 | 1 |
| 3/8/12-6/25/12 | 128.17 | 88.62 | 39.55 | 2 |
| 6/19/14-10/6/14 | 115.315 | 90.63 | 24.685 | 3 |

*Source: Platts. Past performance is not indicative of future results.*

## *Energy Deal Making* | A LOOK BACK AT M&A ACTIVITY

### Top 10 Energy M&A Announced Deals Of 2014 YTD (By Transaction Value)

| Announced Date | Target/Issuer | Transaction Value ($USDmm) | Buyers/Investors | Percent Sought (%) | Seller | Category (Target)* | Region (Target) |
|---|---|---|---|---|---|---|---|
| 8/10/2014 | Kinder Morgan Energy Partners, L.P. (NYSE:KMP) | 62938.26 | Kinder Morgan, Inc. (NYSE:KMI) | 88.6 | GE Energy Financial Services | Midstream | Americas |
| 8/10/2014 | Kinder Morgan Management LLC (NYSE:KMR) | 10840.49 | Kinder Morgan, Inc. (NYSE:KMI) | 92 | KA Fund Advisors, LLC; Lansforsakringar Fondforvaltning AB | Midstream | Americas |
| 8/10/2014 | El Paso Pipeline Partners, L.P. (NYSE:EPB) | 8622.41 | Kinder Morgan, Inc. (NYSE:KMI) | 59 | Major Shareholders | Midstream | Americas |
| 4/14/2014 | PT. Duta Alam Sumatera | 7700 | PT. Dong Yu Investment | 100 | PT. Ever Pioneer | Coal and Consumable Fuels | APAC |
| 3/16/2014 | RWE Dea AG | 6267.65 | LetterOne Holdings S.A. | 100 | RWE AG (DB:RWE) | Upstream | EMEA |
| 7/13/2014 | Kodiak Oil & Gas Corp. (NYSE:KOG) | 6128.24 | Whiting Petroleum Corp. (NYSE:WLL) | 100 | Paulson & Co. Inc. | Upstream | Americas |
| 6/25/2014 | Nabors Industries Ltd., Completion & Production Services Businesses | 2918.77 | C&J Energy Services, Inc. (NYSE:CJES) | 100 | Nabors Industries Ltd. (NYSE:NBR) | Upstream | Americas |
| 7/24/2014 | QR Energy, LP (NYSE:QRE) | 2843.47 | Breitburn Energy Partners L.P. (NasdaqGS:BBEP) | 100 | Quantum Energy Partners | Upstream | Americas |
| 6/2/2014 | Marathon Petroleum Norge AS | 2700 | Det Norske Oljeselskap ASA (OB:DETNOR) | 100 | Marathon Oil Corporation (NYSE:MRO) | Upstream | EMEA |
| 7/2/2014 | S-Oil Corporation (KOSE:A010950) | 1950 | Aramco Overseas Company B.V. | 28.41 | Hanjin Energy Company Ltd. | Downstream | APAC |

*Source: S&P Capital IQ. Data as of 9/15/14.*

**Pipeline Update:** Hoping to cash in on natural gas demand growth driven by industrial and liquefied natural gas export projects, Dallas-based **EnLink Midstream**, announced on September 29th that it was buying three Gulf Coast midstream systems from **Chevron** and its affiliates for $235 million. This further demonstrates interest in the midstream space, and the value of capacity markets and pipeline assets. Learn more at **Platts Market Center**.

### M&A Activity And Valuation By Category And Region (2014 YTD)

| | Americas | | | | EMEA | | | | APAC | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sector | # of Deals | Value ($mil) | Median Implied EV/ LTM EBITDA (x) | Median Implied EV/ Net Income (x) | # of Deals | Value ($mil) | Median Implied EV/ LTM EBITDA (x) | Median Implied EV/ Net Income (x) | # of Deals | Value ($mil) | Median Implied EV/ LTM EBITDA (x) | Median Implied EV/Net Income (x) |
| Upstream | 671 | $77,618.8 | 7.29x | 17.63x | 220 | $21,585.3 | 5.58x | 10.81x | 105 | $12,968.9 | 5.68x | 13.59x |
| Midstream | 88 | 99,438.6 | 8.40x | 30.36x | 42 | 4,034.3 | 14.09x | 23.87x | 27 | 1,582.0 | 10.37x | 7.50x |
| Downstream | 33 | 1,894.6 | NM | NM | 23 | 1,141.5 | 4.01x | NM | 32 | 6,362.8 | 6.56x | 76.77x |
| **Grand Total** | **792** | **$178,952.0** | | | **285** | **$26,761.2** | | | **164** | **$20,913.6** | | |

NM = not measured in the S&P Capital IQ database
*S&P Capital IQ. Data as of 9/15/2014.*

## *Energy Deal Making* | A LOOK AHEAD AT POTENTIAL M&A ACTIVITY

### Deal Detector
#### Potential Acquisition Targets (USD)

| | |
|---|---|
| Superior Energy Services, Inc. (NYSE:SPN) | $33.18 |
| Oil States International Inc. (NYSE:OIS) | $62.80 |
| Tesco Corporation (NasdaqGS:TESO) | $20.24 |
| Flotek Industries Inc. (NYSE:FTK) | $25.65 |
| Baker Hughes Oilfield Operations, Inc. | NA |

INDUSTRY DEAL METRICS: Announced US Oil & Gas Equipment and Services M&A Summary

| Dates | $Billions | Deals | Average TEV/ Revenue (x) | Average TEV/ EBITDA (x) |
|---|---|---|---|---|
| 1/1/13 – 9/23/13 | $5.2 | 49 | 1.8x | 10.9x |
| 1/1/14 - 9/23/14 | $11.6 | 91 | 2.6x | 8.8x |

*Source: S&P Capital IQ. Data as of 9/15/2014.*
*Past performance is not indicative of future results.*

The following is a snippet from "Deal Detector," a report series from S&P Capital IQ that is designed to alert investors to potential investment ideas ahead of prospective M&A announcements, while uncovering sector and industry trends in M&A activity.

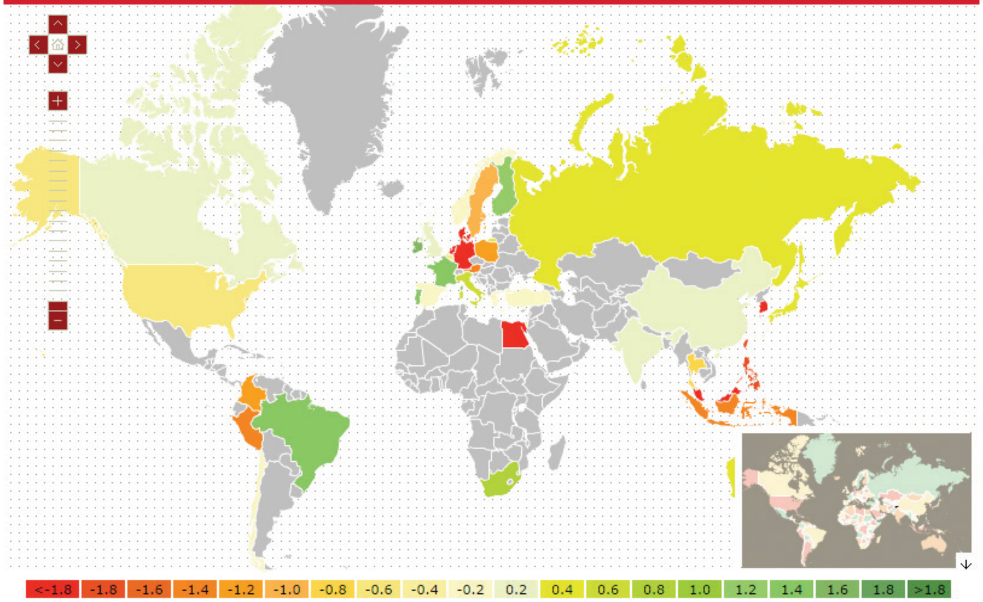
"German industrial company **Siemens Aktiengesellschaft's** (DB:SIE) move to acquire U.S. oil and gas equipment and services company **Dresser-Rand Group Inc.** (NYSE: DRC) in a deal worth up to $7.5 billion on September 21, 2014, is noteworthy on several counts. First, the transaction is among the latest involving European acquirers targeting U.S. companies for takeover. Aside from being the fourth-largest ever acquisition in the U.S. oil and gas production equipment industry, the transaction ranks as the largest ever in this industry, conducted by a foreign buyer according to S&P Capital IQ data."

View the complete Deal Detector report here.
Request more information on Deal Detector **here**.

# *Market Perspectives* | EQUITIES

## Energy Stock Performance Mixed Globally

### Global Energy Stock Performance YTD




*Source: S&P Capital IQ.*

Within this heat map we observe which countries' energy stocks have outperformed (green) and underperformed (red) their respective markets on a market-cap weighted basis. Energy has performed well in Brazil as of 9/1/2014 but remains volatile due to policy uncertainty as presidential elections near. While Egypt's market has been up, energy companies have been underperforming due to cuts in energy subsidies making companies hesitant to boost oil and gas output with new exploration projects.

The Alpha Factor Library facilitates the construction of investment screens and candidate lists from a catalog of proven alpha signals. Four Alpha Models—Growth, Value, Price Momentum and Earnings Quality—follow traditional market approaches based upon combinations of individual alpha factors to form views on the market. We track the top quintile (Q1) of stocks as ranked by these models to determine relative performance. The S&P Composite 1500 Energy (Sector) Index is down 6.34% quarter-to-date. Two of the Alpha Models had top ranked stocks outperforming the index, Value and Momentum at -3.72% and -5.30% respectively.

### Alpha Factor Library Ranks (Top 5 Companies)—U.S. Value Model

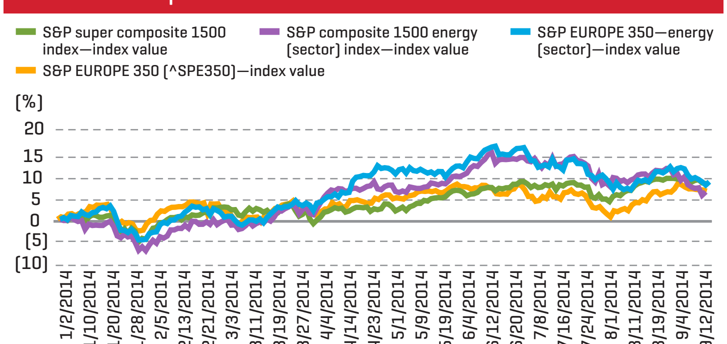
| Exchange: Ticker | Company | Chg% (3 mo.)* | Mkt Cap (mm) | Category |
|---|---|---|---|---|
| NYSE:VLO | Valero Energy Corporation | 1.16% | 25859.63 | Downstream |
| NYSE:CVX | Chevron Corporation | 1.29% | 235923.31 | Upstream |
| NYSE:MUR | Murphy Oil Corporation | 1.17% | 10288.52 | Upstream |
| NYSE:MPC | Marathon Petroleum Corporation | 1.92% | 25082.76 | Downstream |
| NYSE:NE | Noble Corp. | (2.04%) | 6463.31 | Upstream |

*Quarter to date, as of 9/15/2014.
*Source: S&P Capital IQ. Data as of 9/15/2014.*

The Alpha Factor Library's U.S. Value Model likes **Noble Corp.**, a drilling contractor discussed later with regards to the supply of offshore rigs. Additionally, **Marathon Petroleum Corporation**, a downstream energy company, is one of the top equity performers this quarter and still favored by the Value model. It has gained 13.1% QTD.

Energy performance this year has taken a sharp turn since the end of the second quarter. The first half of the year had energy outperforming the broader markets by a wide margin as illustrated in the chart. However, from July 1 through September 15, both the U.S. and Europe have fallen by nearly 6.5%. Year-to-date the U.S. markets are outpacing those in Europe 7.87% to 6.45%. However, energy in the U.S. is underperforming the broader market by 182bps this year. In contrast energy in Europe is beating the broader market by 109bps.

### Current Performance Of Equity Energy Indices vs. S&P 1500 And S&P Europe 350




*Source: S&P Capital IQ. Data as of 9/15/2014. Past performance is not indicative of future results.*

# Market Perspectives | EQUITIES

## Global Equities Biggest Movers

| Exchange:Ticker | Company Name | 7/1 Open Price | 9/15 Close Price | QTD % Price Change | Category | SPCIQ Consensus Estimates (Median Price Target) |
|---|---|---|---|---|---|---|
| **3 Month Improvement** | | | | | | |
| NasdaqGS:GPRE | Green Plains Inc. | 32.92 | 39.83 | 21.0% | Downstream | $50.00 |
| NYSE:MPC | Marathon Petroleum Corporation | 78.27 | 88.53 | 13.1% | Downstream | $102.35 |
| NYSE:DRC | Dresser-Rand Group Inc. | 63.72 | 67.99 | 6.7% | Upstream | $83.00 |
| NYSE:HFC | HollyFrontier Corporation | 43.7 | 46.5 | 6.4% | Downstream | $53.50 |
| NYSE:TSO | Tesoro Corporation | 58.6 | 62.06 | 5.9% | Downstream | $70.00 |
| **3 Month Decline** | | | | | | |
| NYSE:CRR | CARBO Ceramics Inc. | 154.95 | 101.53 | (34.5%) | Upstream | $88.00 |
| NYSE:FST | Forest Oil Corporation | 2.27 | 1.51 | (33.5%) | Upstream | $2.00 |
| NYSE:SGY | Stone Energy Corp. | 47.07 | 32.02 | (32.0%) | Upstream | $52.00 |
| NasdaqGS:AREX | Approach Resources, Inc. | 22.59 | 16.11 | (28.7%) | Upstream | $23.00 |
| NYSE:CRK | Comstock Resources Inc. | 29.02 | 20.81 | (28.3%) | Upstream | $29.00 |

*Source: S&P Capital IQ. Data as of 9/15/2014.*

While the biggest gainer this past quarter was **Green Plains Inc.**, an ethanol company, it is more notable that the three of the next four biggest gainers are **downstream** companies. This contrasts with the biggest decliners all operating in the upstream space, which conveys the relative favor in the energy value chain. **Forest Oil Corporation**, in particular has been hard hit with its equity down nearly 60% YTD and 34% QTD. Similarly, we'll see later that its CDS spreads have increased 70% YTD and 52% QTD showing all around weakness for the firm.

## Estimates: Analyst Revisions On Oil & Gas Production

| % Change in Estimates | 9/15/14 Median Estimates (CY 2014) | Median Estimate % Change YTD |
|---|---|---|
| Avg Daily Production—Oil (MBBL) | 31.85 | (7.2%) |
| Total Production—Oil (MBBL) | 7151.95 | (7.3%) |
| Revenue—Oil (USD mm) | 981.99 | (6.1%) |
| Avg Daily Production Natural Gas (MMCF) | 415.31 | (4.2%) |
| Total Production—Natural Gas (MMCF) | 130163.54 | (4.4%) |
| Revenue—Natural Gas (USD mm) | 598.49 | 5.3% |
| Avg Daily Production—NGL (MBBL) | 17.72 | 2.7% |
| Total Production—NGL (MMBBL) | 6.47 | 1.4% |
| Revenue—NGL (USD mm) | 271.55 | 3.3% |
| Total Avg Daily Production (MBOE) | 146.87 | (4.8%) |
| Total Production (MBOE) | 51451.94 | (4.3%) |

*Source: S&P Capital IQ. Data as of 9/15/2014.*

Analysts have been too optimistic with their oil and gas estimates for 2014 (CY2014). Although production is up substantially from last year, since the start of the year analysts have revised their expectation downward for oil and natural gas estimates. However for natural gas liquids, analysts continue to adjust their estimates higher for CY2014 on a production and revenue basis. In particular, analysts have made significant upward revisions on **Range Resources Corporation** natural gas liquids production and **Cimarex Energy Co.** natural gas revenue.

## Top 5 Energy IPOs YTD (By Transaction Value)

| Announced Date | Closed Date | Target/Issuer | Exchange: Ticker | Total Transaction Value ($USDmm, Historical rate) | % Price Change Since IPO* | Category | Currency |
|---|---|---|---|---|---|---|---|
| 04/14/2014 | 05/22/2014 | PrairieSky Royalty Ltd. (TSX:PSK) | TSX:PSK | 1,335.89 | (3.78) | Upstream | CAD |
| 04/11/2014 | 05/22/2014 | Parsley Energy, Inc. (NYSE:PE) | NYSE:PE | 925.0 | (6.8) | Upstream | USD |
| 12/16/2013 | 01/23/2014 | Rice Energy Inc. (NYSE:RICE) | NYSE:RICE | 924.0 | 30.23 | Upstream | USD |
| 02/14/2014 | 02/26/2014 | Gaztransport & Technigaz Sas (GTT) (ENXTPA:GTT) | ENXTPA:GTT | 848.65 | 9.58 | Midstream | EUR |
| 05/02/2014 | 06/19/2014 | Eclipse Resources Corporation (NYSE:ECR) | NYSE:ECR | 818.1 | (30.21) | Upstream | USD |

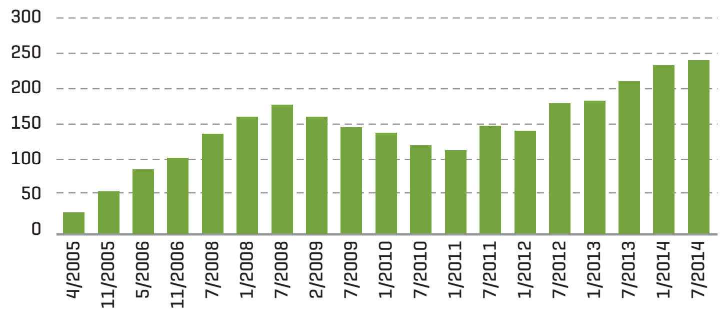
*Percentage price change is as of 9/15/2014 and represents changed measured in local currency.
*Source: S&P Capital IQ. Data as of 9/15/2014.*

Initial public offerings in the energy sector completed to date this year finds $4.85 billion in proceeds raised from five transactions worldwide. The largest deal was by Calgary-based **PrairieSky Royalty Ltd.**, whose corporate parent **Encana Corp.** sold shares in the royalty unit, whereupon $1.34 billion (US) was raised in one of Canada's largest energy royalty companies. In the aftermarket, three of the five offerings are trading below their offer price.

# *Market Perspectives* | EQUITIES

## Deepwater Dive? Rigs Under Pressure

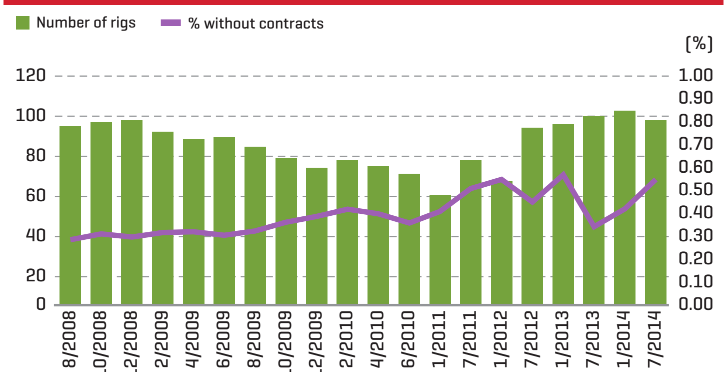
### Number Of Offshore Rigs On Order Or Under Construction




*Sources: IHS-Petrodata, S&P Capital IQ Industry Surveys.*

The September fleet status report of offshore driller **Noble Corp.** (NE 25 Buy) highlighted ongoing challenges for owners of deepwater rigs. In particular, the report highlighted that the Noble Danny Adkins, an ultra-deepwater unit delivered just five years ago, was contracted in the U.S. Gulf of Mexico for a minimum 200 days at a dayrate of $317,000 per day, starting in November. By contrast, the prior three-year contract, which just expired, yielded a dayrate of $498,000 per day, or 57% higher.

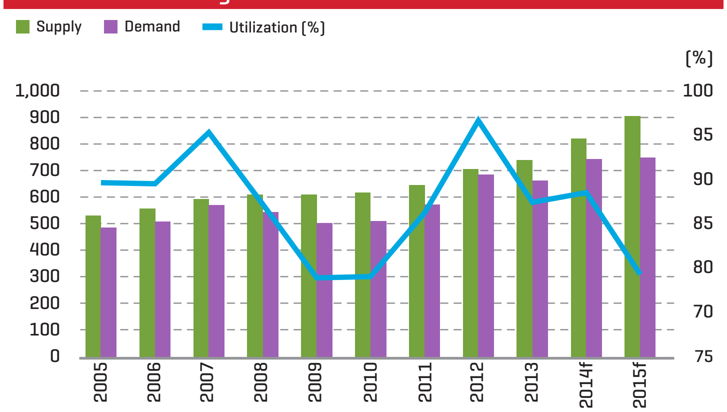
### Newbuild Floaters




*Sources: IHS-Petrodata, S&P Capital IQ Industry Surveys.*

Customers are spoiled for choice in our view, the beneficiaries of a wave of new rig construction that may take some time to be fully absorbed. Using data from IHS Petrodata, an industry data and research firm, we find that there are well over 200 new rigs under construction, amounting to about 30% of the existing marketable fleet. The Danny Adkins is a floater, and within this rig category, there are nearly 100 units under construction, 55% of which do not yet have contracts. That's nearly double the percentage from five years ago, when the Danny Adkins was delivered. All of these uncontracted units puts pressure on existing units, both for dayrates and utilization. Petrodata forecasts point to an overall utilization drop to the low 80% range in December 2015, which would be well below the average since at least 2007, weighed down by too many units chasing too few jobs.

### Mobile Offshore Rigs




f—Forecast.
*Sources: IHS-Petrodata, S&P Capital IQ Industry Surveys.*

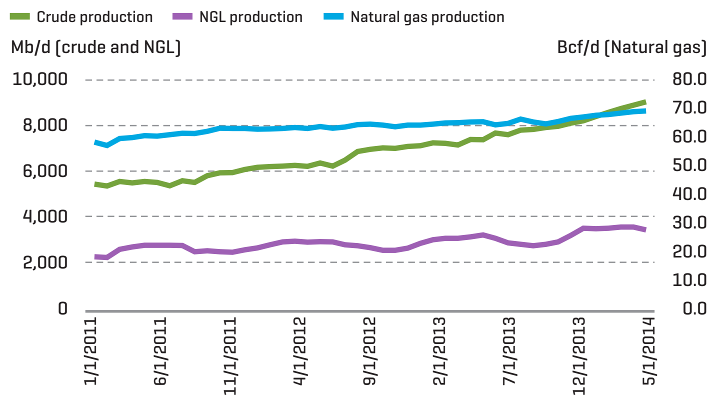
Using S&P Capital IQ consensus estimates, the average CY2015 EPS estimate for the offshore drillers is down 35% since the start of 2014, corresponding EBITDA estimates are down 24%, and share prices are roughly 24% down year to date too. While near term fundamentals clearly look challenged, valuations remain well below peak levels. We think several names with strong exposure to floaters, such as NE, **Transocean** (RIG 36 Buy) and **Atwood Oceanics** (ATW 44 Buy) look like buying opportunities, but we remain wary on **Diamond Offshore** (DO 40 Hold) where we think its older floater fleet is at a competitive disadvantage and believe a cut to quarterly special dividends is a good possibility.

The information on this page is excerpted from **S&P Capital IQ's Oil & Gas: Equipment & Services Industry Survey**. S&P Capital IQ, through its Industry Survey product, offers in-depth reports on 45 U.S. industries and 10 international industries.
View a complimentary copy of the complete September 2014 Oil & Gas Industry Survey report.
Request more information on Industry Surveys on the S&P Capital IQ platform **here**.

# *Market Perspectives* | COMMODITIES

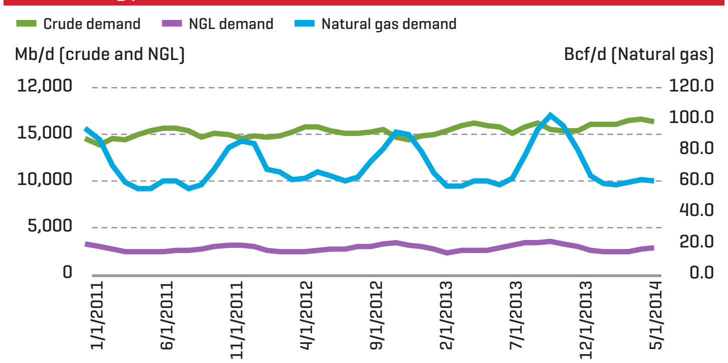
## U.S. Oil, Gas, NGL Production Soars Higher

### U.S. Energy Production




*Sources: Bentek, Energy Information Administration. Past performance is not indicative of future results.*
***Bentek Energy Natural Gas, Crude and NGL Products***

### U.S. Energy Demand




*Sources: Bentek, Energy Information Administration. Past performance is not indicative of future results.*
***Bentek Energy Natural Gas, Crude and NGL Products***

The U.S. continues to take great strides toward energy independence and self-sufficiency. Production of crude oil, natural gas liquids and dry natural gas has increased substantially. Liquids production has grown the most this year, as U.S. crude oil is up 16% and natural gas liquids production has increased 13%. Crude production growth is being driven by the Eagle Ford shale in the Texas Gulf Coast Basin, the Bakken in the Williston Basin, the Permian Basin and the Anadarko. Dry natural gas production is up 4%, and gas production growth accelerated during the middle of the year as development of the Utica and Marcellus plays in the Appalachian Basin ramped up. A large number of gas pipeline and processing expansions will enter service this winter and next year, prompting further growth.

U.S. hydrocarbon production gains have led to decreasing imports of foreign crude and natural gas, rising exports of U.S. NGLs, which have nearly doubled this year, and rising demand for all of these commodities. Crude imports have dropped 6% YTD, and demand for crude from refining and other sources has increased 4%. Natural gas demand is up 3%, due to the cold winter and rising usage in the power and industrial sectors.

The cold winter and upward impact on natural gas prices also contributed to unexpected gains in U.S. coal consumption by power generation plants. However, implementation of the U.S. EPA's Mercury and Air Toxics Standards rule in 2015 is expected to lead to widespread coal power plant retirements, likely to reduce U.S. coal consumption, making more U.S. coal available for export. In total, about 13.5 GW of coal-fired power generation is scheduled for retirement in 2015, compared to 2.8 GW in 2014. Natural gas-fired power generation is expected to increased significantly from 2015-2018, as about 54.7 GW of new gas-fired power generation is scheduled for development.

### U.S. Energy Supply And Demand

| Supply | 3Q2012 | 4Q2012 | 1Q2013 | 2Q2013 | 3Q2013 | 4Q2013 | 1Q2014 | 2Q2014 | 3Q2014 | YTD 2014 | YTD 2013 | Change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Crude Oil Production (Mb/d) | 6,357 | 6,953 | 7,072 | 7,210 | 7,487 | 7,748 | 8,002 | 8,402 | 8,899 | 8,434 | 7,256 | 1,178 |
| Natural Gas Production (Bcf/d) | 63,450 | 64,394 | 63,978 | 64,853 | 65,025 | 65,455 | 65,541 | 67,582 | 68,791 | 67,249 | 64,655 | 2,594 |
| NGL Production (Mb/d)* | 2,855 | 2,633 | 2,662 | 3,039 | 3,123 | 2,791 | 2,957 | 3,490 | 3,508 | 3,318 | 2,941 | 377 |
| Coal Production (thousand short tons) | 2,814 | 2,736 | 2,682 | 2,638 | 2,850 | 2,705 | 2,692 | 2,676 | 2,731 | 2,698 | 2,723 | (25) |
| **Imports & Exports** | | | | | | | | | | | | |
| Crude Oil Net Imports/Exports (Mb/d) | 8,518 | 7,895 | 7,466 | 7,613 | 7,933 | 7,355 | 7,106 | 6,938 | 7,294 | 7,198 | 7,671 | (473) |
| Natural Gas Net Imports/Exports (Bcf/d) | 4,485 | 3,301 | 3,796 | 3,355 | 3,535 | 3,896 | 4,017 | 2,727 | 2,760 | 3,182 | 3,559 | (377) |
| NGL Net Imports/Exports (Mb/d) | (186) | (199) | (180) | (281) | (401) | (432) | (393) | (609) | (713) | (572) | (287) | (285) |
| Coal Net Imports/Exports (thousand short tons) | 317 | 278 | 338 | 293 | 285 | 277 | 281 | 231 | 252 | 255 | 306 | (51) |
| **Demand** | | | | | | | | | | | | |
| Crude Oil Refining Demand (Mb/d) | 15,255 | 15,104 | 14,495 | 15,315 | 15,822 | 15,579 | 15,224 | 15,873 | 16,329 | 15,809 | 15,211 | 598 |
| Natural Gas Total Demand (Bcf/d) | 61,975 | 70,608 | 85,748 | 58,326 | 58,116 | 75,880 | 91,345 | 58,249 | 58,774 | 69,822 | 67,910 | 1,912 |
| NGL Total Demand (Mb/d) | 2,397 | 2,827 | 2,897 | 2,250 | 2,413 | 3,021 | 2,963 | 2,227 | 2,368 | 2,520 | 2,520 | - |
| Coal Consumption (thousand short tons) | 2,316 | 2,033 | 2,115 | 1,984 | 2,314 | 2,096 | 2,622 | 2,328 | 2,729 | 2,553 | 2,145 | 408 |

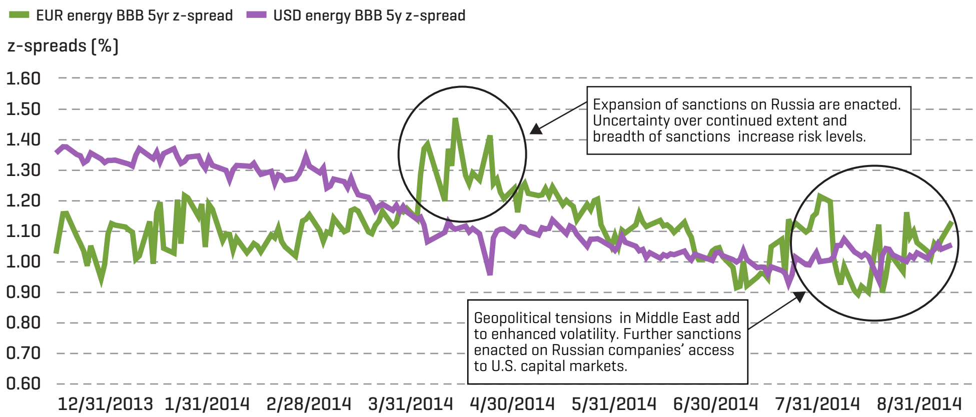
*Aggregated natural gas liquids; NGL data does not account for the 350 Mb/d of ethane that Bentek estimates is currently being rejected into the natural gas pipeline stream.
*Source: Bentek, Energy Information Administration. Bentek Energy Natural Gas, Crude and NGL Products—www.bentekenergy.com. Past performance is not indicative of future results.*

For related information and resources from Platts and Bentek Energy, please visit **www.bentekenergy.com** and **www.platts.com/products/lng-daily**. To request additional information, click **here**.

## *Market Perspectives* | FIXED INCOME

Continental Conflicts Drive Volatility; Widening Credit Spreads

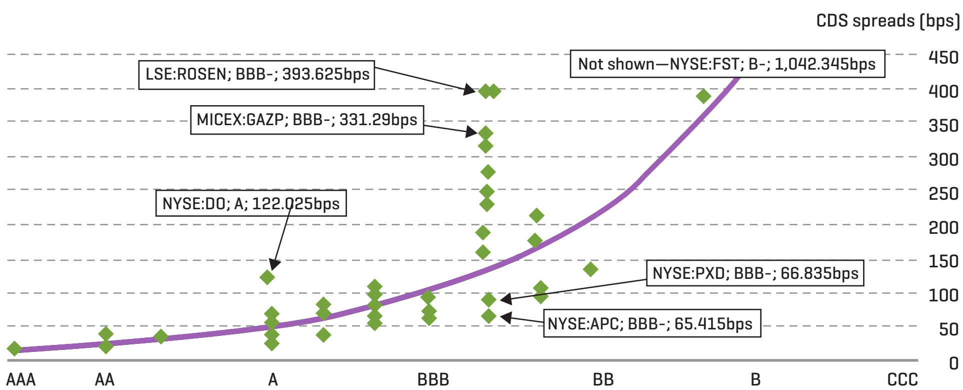
### BBB Energy Z-Spreads




*Source: S&P Capital IQ. Data as of 9/15/2014. Past performance is not indicative of future results.*

To the left are S&P Capital IQ's Corporate Yield Curves displaying a year-to-date time series of 5YR BBB Energy Z-Spreads. We can see a general tightening in spreads within the USD issuers due to higher production and revenue levels lowering credit risk. In Europe we observe much more volatility due to geopolitical risk as noted in the chart.

### CDS Spreads vs. S&P Credit Ratings




*Source: S&P Capital IQ. Data as of 9/15/2014.*

The greatest CDS outliers, by rating category, are highlighted on the chart to the left. **Forest Oil**, as mentioned earlier, has both the widest CDS spread in the sector and the worst credit rating at 1042.245bps and 'B-'.

**Diamond Offshore Drilling, Inc.**, (A; 122.025bps) which was previously mentioned with regards to its aging offshore rig fleet, has experienced a 62% widening in CDS spreads this quarter making it by far the most risky 'A' rated company in the sector as judged by the CDS markets.

Finally, **OJSC OC Rosneft**, an upstream, Russian based firm, has seen its CDS spread move from 227.395 bps to 393.625 bps making it the widest trading 'BBB-' company in the sector and in fact trading wider than all of its lesser rated peers except for Forest Oil. We also note the wide range of spreads amongst the 'BBB-' energy firms.

### Global CDS Biggest Movers

| Company Name | Exchange: Ticker | S&P Rating (9/15/14) | 5yr CDS 7/1 | 5yr CDS 9/15 | QTD % Spread Change | Category | Region |
|---|---|---|---|---|---|---|---|
| **Three Month Tightening (Improving)** | | | | | | | |
| Kinder Morgan, Inc. | NYSE:KMI | BB | 181.2 | 133.27 | (26.5%) | Midstream | Americas |
| Eni SpA | BIT:ENI | A | 53.29 | 49.835 | (6.5%) | Upstream | EMEA |
| Repsol, S.A. | CATS:REP | BBB- | 71.2 | 66.835 | (6.1%) | Upstream | EMEA |
| Royal Dutch Shell plc | ENXTAM:RDSA | AA | 36.24 | 34.445 | (5.0%) | Upstream | EMEA |
| TOTAL S.A. | ENXTPA:FP | AA- | 34.345 | 33.835 | (1.5%) | Upstream | EMEA |
| **Three Month Widening (Deteriorating)** | | | | | | | |
| Apache Corp. | NYSE:APA | A- | 35.945 | 68.385 | 90.2% | Upstream | Americas |
| ConocoPhillips | NYSE:COP | A | 16.785 | 31.015 | 84.8% | Upstream | Americas |
| OJSC OC Rosneft | LSE:ROSN | BBB- | 227.395 | 393.625 | 73.1% | Upstream | EMEA |
| Anadarko Petroleum Corporation | NYSE:APC | BBB- | 40.28 | 65.415 | 62.4% | Upstream | Americas |
| Diamond Offshore Drilling, Inc. | NYSE:DO | A | 75.46 | 122.025 | 61.7% | Upstream | Americas |

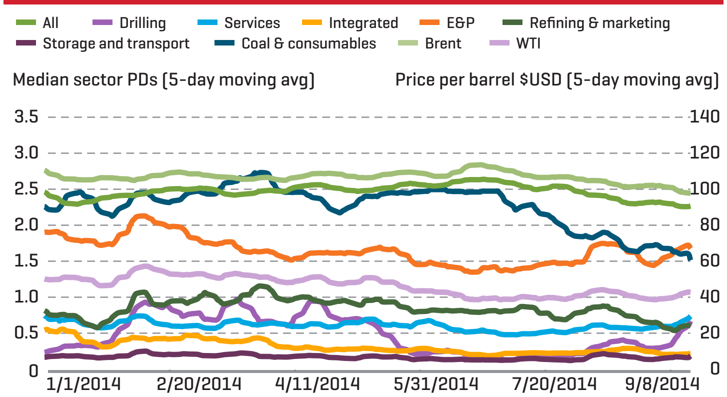
*Source: S&P Capital IQ. Data as of 9/15/2014. Past performance is not indicative of future results.*

# *Credit Market Perspectives*

## Risk Levels Move in Response To Brent Collapse

Research by S&P Capital IQ shows that risk levels are inversely correlated with oil prices. When looking at correlations between daily changes in Probability of Default (PD) levels and crude oil prices, we found that for all Energy sub-industries both Brent and WTI oil prices had strong negative correlations.

### Energy Sector Credit Risk Trends YTD




*Source: S&P Capital IQ. Data as of 9/15/2014. Past performance is not indicative of future results.*

The strongest negative correlation comes in the upstream space where both E&P and Drilling sub-industries have long term correlation levels stronger than -25%. This can be seen clearly in the time series chart with risk levels spiking strongly over the last two months as energy prices fall. If the price fall continues we can likely expect the risk levels on all energy companies, especially upstream, to continue to rise.

Given the negative correlations with credit risk levels we expect our Energy Risk League Table (Top-10 highest companies) to reflect the recent drop in oil prices. This table shows highest global median PDs in the upstream, midstream and downstream categories for companies with revenues greater than $500M USD as of September 15, 2014.

Two recent IPOs are among the highest PDs in the upstream sector—**Paragon Offshore** (August 4th, Noble Corp Plc's—NYSE:NE—offshore rig business) and **Seplat Petroleum Development Company Plc** (April 9th, $1.9B USD dual listing in Nigeria and UK). The strong negative correlation between oil prices and risk in the upstream category is evident, as the top 3 company PDs overall were all upstream.

### Top-10 League Tables: Highest Risk Companies in Energy (By Category)

| | UPSTREAM | | | MIDSTREAM | | | DOWNSTREAM | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | **Paragon Offshore plc (NYSE:PGN)** United States | 57.86% (cc) | ▲ | **TORM A/S (CPSE:TORM)** Denmark | 23.33% (ccc) | 1 | **Conoil Plc (NGSE:CONOIL)** Nigeria | 18.75% (ccc) | 4 ▲ |
| 2 | **Quicksilver Resources Inc. (NYSE:KWK)** United States | 37.92% (ccc-) | 11 ▲ | **Frontline Ltd. (NYSE:FRO)** Bermuda | 19.15% (ccc) | 2 | **Oando PLC (NGSE:OANDO)** Nigeria | 17.27% (ccc) | 1 ▼ |
| 3 | **Polarcus Limited (OB:PLCS)** United Arab Emirates | 26.29% (ccc-) | 17 ▲ | **Titas Gas (DSE:TITASGAS)** Bangladesh | 10.36% (ccc+) | 3 | **Forte Oil Plc (NGSE:FO)** Nigeria | 16.79% (ccc) | 5 |
| 4 | **Petrobras Argentina SA (BASE:PESA)** Argentina | 21.07% (ccc) | 3 ▼ | **CEFC International Limited (SGX:Y35)** Singapore | 8.43% (b-) | 4 | **Mobil Oil Nigeria plc (NGSE:MOBIL)** Nigeria | 16.54% (ccc) | 3 ▼ |
| 5 | **Seplat Petroleum Dev. (LSE:SEPL)** Nigeria | 16.69% (ccc) | ▲ | **Siamgas and Petrochemicals (SET:SGP)** Thailand | 3.75% (b) | 13 ▲ | **TOTAL Nigeria Plc (NGSE:TOTAL)** Nigeria | 16.48% (ccc) | 2 ▼ |
| 6 | **Total Cote d'Ivoire SA (BRVM:TTLC)** Ivory Coast | 16.49% (ccc) | 2 ▼ | **OAO AK Transneft (MICEX:TRNFP)** Russia | 1.48% (bb-) | 7 ▲ | **Byco Petroleum Pakistan (KASE:BYCO)** Pakistan | 12.08% (ccc+) | 6 |
| 7 | **MRS Oil Nigeria Plc (NGSE:MRS)** Nigeria | 16.47% (ccc) | 1 ▼ | **Petronet LNG Ltd. (BSE:532522)** India | 1.47% (bb-) | 10 ▲ | **Attock Refinery Limited (KASE:ATRL)** Pakistan | 11.40% (ccc+) | 9 ▲ |
| 8 | **YPF S.A. (BASE:YPFD)** Argentina | 15.67% (ccc) | 6 ▼ | **China Suntien Green Energy Corporation Limited (SEHK:956)** China | 1.41% (bb-) | 5 ▼ | **Pakistan Refinery Ltd. (KASE:PRL)** Pakistan | 11.07% (ccc+) | 7 ▼ |
| 9 | **Pakistan Petroleum Ltd. (KASE:PPL)** Pakistan | 10.63% (ccc+) | 7 ▼ | **Crestwood Equity Partners (NYSE:CEQP)** United States | 1.21% (bb) | 17 ▲ | **National Refinery Limited (KASE:NRL)** Pakistan | 10.89% (ccc+) | 8 ▼ |
| 10 | **Oil and Gas Dev. Co. (KASE:OGDC)** Pakistan | 10.63% (ccc+) | 4 ▼ | **Eagle Rock Energy (NasdaqGS:EROC)** United States | 1.20% (bb) | 15 ▲ | **Attock Petroleum Ltd. (KASE:APL)** Pakistan | 10.64% (ccc+) | 11 ▲ |

Both charts on this page utilize S&P Capital IQ's Market Signal PD model which covers 99.9% of global public market capitalization. This model produces a 1-yr forward looking probability of default score whereby higher PD indicates higher predicted default risk.
*Source: S&P Capital IQ. Data as of 9/15/2014.*

# *Credit Market Perspectives* | SECTOR DEEP DIVE—MLP RATINGS

## Midstream MLP Changes At Kinder Unlikely To Spread

Credit trends have been stable to positive in the U.S. midstream energy sector. Many companies are focusing on fee-based contracts, and the percentage of revenue tied to commodity prices has been decreasing. Further, the shale boom continues to provide midstream energy companies with attractive investment opportunities.

Of course, not all companies are benefitting the general industry improvement. The shale boom has also resulted in lower demand for some midstream assets, particularly long-haul pipelines servicing terminating in the northeast. Earlier this year, as an example, we lowered ratings on **Boardwalk Pipeline Partners LP** after it announced a sharp distribution cut in anticipation of weaker cash flow metrics.

In August 2014, we placed our ratings on **Kinder Morgan Energy Partners LP** on CreditWatch with negative implications following the company's announcement that it would convert from a master limited partnership (MLP) to a corporation and merge with its parent company, **Kinder Morgan Inc.** (KMI), and **El Paso Pipeline Partners LP**. Upon close, we expect debt leverage to be aggressive with debt to EBITDA above 5.5x, the highest in the peer group.

With the Kinder Morgan announcement, we often receive the question: do we expect other MLPs to do the same? While there may exceptions, we expect the answer will largely be 'no'. The Kinder Morgan situation was somewhat unique. Its share price was languishing, as many investors became concerned that the company became so large that it couldn't grow its distribution at an attractive rate.

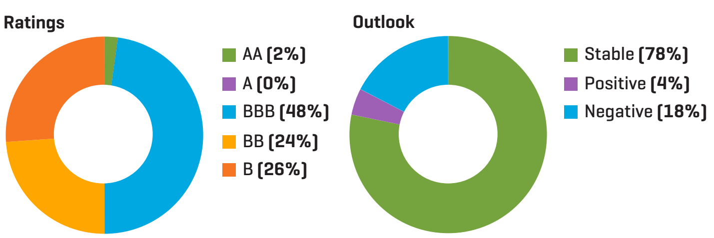
Further, its cost of capital became burdensome given KMI's incentive distribution rights. For most companies—particularly smaller to mid-sized ones with attractive growth prospects—we believe that the MLP structure will provide for an attractive cost of capital and continue to appeal to yield-hungry investors. Indeed, several upstream energy, oil refining and drilling companies continue to drop down stable cash-flowing assets into MLPs where valuations remain attractive.

### Key Credit Metrics For Large Midstream MLPs

| Company | Rating | Enterprise Value (EV) in millions | Debt/EBITDA | Distribution Yield |
|---|---|---|---|---|
| Enterprise Products Partners L.P. | BBB+/Stable | $92.7 | 3.8x | 3.6% |
| Kinder Morgan Energy Partners, L.P. | BBB/CW Neg | $67.8 | 3.8x | 6.7% |
| Energy Transfer Partners, L.P. | BBB-/Stable | $40.5 | 4.5x | 6.6% |
| Williams Partners L.P. | BBB/Stable | $35.1 | 4.0x | 6.8% |
| Plains All American Pipeline, L.P. | BBB/Positive | $29.9 | 3.7x | 4.5% |
| Spectra Energy Partners, LP | BBB/Stable | $21.3 | 4.0x | 4.3% |

Ratings, EV and distribution yield as of Sept 15, 2014. Debt to EBITDA reflects normalized 2014 expectations.
*Source: S&P Capital IQ. Rating, EV, and Distribution Yield as of 9/15/2014. Debt/EBITDA reflects normalized 2014 expectations.*

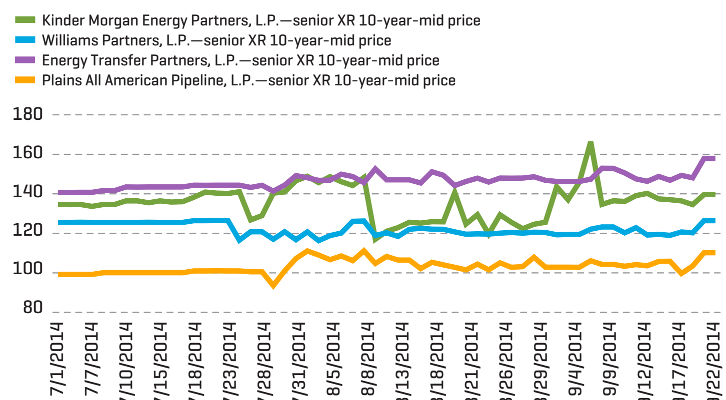
### Energy Company Ratings Distribution & Outlook




*Source: S&P Capital IQ. Data as of 9/15/2014.*

For additional articles, hot topics, and events from Standard & Poor's Ratings Services, please visit **www.spratings.com/midstream** and **www.spratings.com/oilandgas**.

### CDS Price Trends For Select MLPs




*Source: S&P Capital IQ. Data as of 9/15/2014. Past performance is not indicative of future results.*

# *Energy* | EXTERNAL PERSPECTIVES

## U.S. Liquefied Natural Gas (LNG) Exports: A Boon for the Climate?

*— From "The Climate Implications of Liquefied Natural Gas, or LNG, Exports," by Gwynne Taraska, Ph.D., Senior Policy Advisor at the Center for American Progress*

The shale gas revolution has made it possible for the United States to become a net exporter of natural gas by the end of this decade. However, the question of whether a dramatic rise in export volumes should be supported or opposed is complicated by the fact that there would be extensive implications, including implications for the economy, geopolitics, and the environment.

One common justification for increasing exports is that natural gas would partially displace the use of coal overseas in the electricity sector. As natural gas plants on average emit approximately 50% less CO2 than coal plants, it is argued that exports would help mitigate global warming.

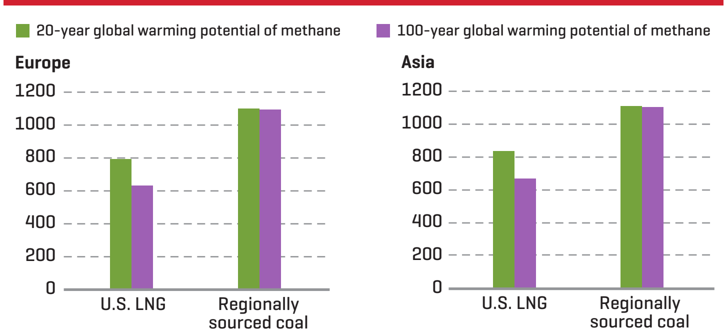
But there is more to the emissions profile of natural gas exports than combustion at the power plant. Several aspects of an increased exports scenario would work to offset an emissions benefit.

First, transporting natural gas overseas is emissions-intensive, which is due to the fact that it is first liquefied, then shipped by tanker, and later re-gasified. In the case of liquefied natural gas (LNG) exports to Europe, approximately 17% of the total life-cycle emissions would occur during liquefaction, shipping, and re-gasification (NETL, 2014).

Second, while natural gas emits less CO2 than coal upon combustion, it has a comparatively larger upstream footprint. The extraction, processing, and transport of natural gas through U.S. pipelines cause not only emissions of CO2 but also emissions of methane, which has many times the warming potential of CO2. Methane traps approximately traps 85 times as much heat over a 20-year time frame and 30 times as much heat over a 100-year time frame.

Third, there is evidence that methane emissions from natural gas systems outstrip official estimates. Throughout the life cycle of natural gas, methane escapes into the atmosphere from leaks and intentional venting. Although EPA's estimate of methane leakage is 1.5% of gross production, several analyses suggest that this needs to be revised upward (e.g., Miller 2013, Brandt 2014). Studies that have collected air samples over natural gas production sites in the western U.S. have found rates as high as 4% and 6% (e.g., Karion 2013, Pétron 2012).

**Greenhouse Gas Emissions: U.S. LNG Versus Regionally Sourced Coal (kg $Co_2e$/MWh)**




*Source: National Energy Technology Laboratory.*

A recent study compared life-cycle emissions in scenarios in which U.S. LNG exports are used in the generation of electricity to life-cycle emissions in scenarios in which regional coal is used (NETL 2014). It found that LNG exports result in an overall decrease in emissions, but the decrease is more modest than one might expect from considering the comparison of coal and natural gas power plant operations alone (see figure), especially when looking at the 20-year warming potential of methane. Moreover, the study assumes a methane leakage rate of only 1.6%—which is arguably unrealistically low—and nevertheless shows some overlap in the uncertainty ranges of the LNG scenario and the regional coal scenario in Asia (again, under the 20-year time frame).

It is fair to infer that LNG exports have the potential to decrease near-term emissions if they substitute for coal (rather than low-carbon power sources), but they also have the potential to do more harm than good without control of methane emissions. Moreover, LNG exports could do long-term damage to the climate if they cause heavy investments in natural gas infrastructure that serve to hamper a transition to a low-carbon economy. Natural gas burns more cleanly than coal, but it still produces significant levels of carbon emissions upon combustion and is not a solution for global warming.

In the final analysis, an increase in export volumes would not cause the windfall for the climate that one might expect. Moreover, the conditions that must be met in order to see even a more modest climate benefit are formidable:

- Methane emissions must be controlled domestically and overseas
- The exported LNG must displace coal or prevent new use of coal
- The exported LNG must not displace low-carbon power sources or impede growth in the use of low-carbon power sources

A certain level of LNG exports is nevertheless inevitable due to applications already approved by U.S. regulatory bodies. It is also possible that non-climate considerations, such as economic and geopolitical considerations, will politically dominate concerns about locking in the use of fossil fuels. This underlines the importance of methane control. In particular, the Environmental Protection Agency should set limits on methane emissions, and the Bureau of Land Management should establish standards to reduce methane leakage.

Download the complete report **here**. Learn more about U.S. LNG Exports from the Center for American Progress **here**.

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