

Capitalize

U.S. Energy Capital Markets – A look back at 2016

- Equity market reported total deal value of \$53B, on par with total amount issued in 2013 and 2014. A 36% increase over equity issued in 2015
- Bond market reported \$133B total deal value, the 2nd lowest level in the past 5yrs and 15% decrease from 2015
- JP Morgan was the most active bank in offerings, participating in 45% of all equity and bond issuances
- Wells Fargo most active bank in lending in 2016
- Callon Petroleum has been a prolific issuer of equity in 2016 (4 offerings-\$1.3B)

Additional Market Observations

2016 Review

- \$186 billion raised across 346 bond and equity deals in 2016, compared with \$196 billion from 322 deals in 2015.
- Equity financing activity in the Upstream sector surged 69% over 2015 offerings, while traditional equity issuers in the Midstream/MLP sector reduced equity offerings.
- IPO slowdown in 2016 with only 6 energy IPOs last year, three in Upstream and three in Services.
- Banks earned \$1.3 billion in fees for equity secondary offerings and IPOs for a total deal amount of \$53 billion.
- More frequent equity offerings. Several Upstream companies had multiple common stock offerings last year, raising money each time they acted upon an opportunity to grab inexpensive assets. Some companies go years without doing even one.
- Return of the SPAC. After an extended absence from the US energy landscape, in 2016 two blank-check companies go public and wait before pouncing on reasonably-priced assets. One of them, Silver Run Acquisition, became Centennial Resource Development in September and the other, KLR Energy Acquisition, is combining with Tema Oil & Gas to form Rosehill Resources (1H17 expected transaction close).
- Good execution on Chapter 11 Restructuring Support Agreements. Most bankruptcy filers last year came to court with at least a preliminary RSA in hand, enabling a faster, smoother process. Those with little or no initial stakeholder support, like Energy XXI, waited over eight months to get through the process. Swift Energy, like its name suggests, got through in just three months.
- “We’re spending within our means”—More and more CEOs and CFOs uttered these or similar words in more press releases and on more conference calls this year, beating out “rightsizing” and “headwinds” for overused energy capital phrase of the year. Many companies used 2016 as an experiment to ratchet capex below expected cash flow rather than borrow more to fund capex.

UPSTREAM

AXAS AMZGQ ASENQ APC AR APA AREX AOIL ATHL ATLS BRN BROE BXE BRY BBG ANFC BSM BCEI BPZR BBEP COG CRC CPE CNQ CRZO
CDEV CHK XEC COIL COP CWEI CIE CRK CXO CNX MCF CLR CBNR DRBM DNR DVN FANG DUNR EROC ESTE ECR EC EOX ECA ENDRQ EGN
EXXIQ ENRJ EOG EPE EPL EQT ERN ESCR EVEP EPM XCO XOG FECCQ FPP FOR FCX FXEN GST GPRK GDP GTE GPOR HK HWKR HES HUSA
HECC HDYN IOC ISRL JYHW JONE KOG KOS LPI LGCY LBYE LLEX LINE LNCO LRE LEI LVL MPET MHR MRO MTDR MMR MEMP MRD MXC MCEP
MPO MILL MUR NSLP NWTR NFX NBL NOG OAS OXY ROYT PHX PE PDCE PED PVA PBR PQ PRHR PXD PSE PXP PSTR PRNG QEP QRE KWKA
ROGI RRC RGFR RDMP REN REXX RICE REI BBLS ROSE ROYL RSPP SOGCQ SSN SN SPP SD SDR PER SARAQ SSL SM SWN SGY SWTF SYRG
GMXRQ TTEN TRCH TENG TAT TPLM UPL UNT USEG EGY VNR VEI VQ VYEV VNON VOC WTI WRES WLL WHZ WRD WPX YUMA ZAZA ZN

MIDSTREAM

CAFD ACMP AMID AM ARCX APLP APL ATO AZUR BKEP BWP BPL CPGX CPPL CNNX CEQP CMLP XTXI XTEX CCLP DAKP DPM DKL DM LPG EPB
ENBL EEQ EEP ENB ETE ETP ENLC ENLK EPD EQGP EQM GEL HESM HEP NRGM JPEP KMP KMI KMR MMP MWE MMLP MEP MPLX NAP NGL
NKA OILT OKE OKS PBA PDXP PSXP PAA PAGP PVR QEPM STR RGP RMP RRMS SEMG SHLX SXE SOCGP SO SWX SE SEP SMLP SXL TEGP TEP
TRGP NGLS TCP TLLP TRP USAC WGP WES WMB WPZ

DOWNSTREAM

ALJ ALDW APU BDCO CLMT CPLP LNG CQP CQH CAPL CVI UAN CVRR CELP DK DLNG FGP GLOP GLP GMLP HMLP HFC KNOP MPC NVGS NMM
NTI NS NSH OCIP PARR PBF PBFX PDH PESX PSX RNF SRLP SGU SPH SUN SYMX TGP TOO TSO TLP USDP VLO VLP VTTI WNR WNRL WLKP
WPT

INTEGRATED

BP CVE CVX CEO XOM HSE NFG REPLY RDSA STO SU TOT YPF

SERVICES

BHI BAS BRS CJES CDVIQ CAM CRR HELI CLH CLB DWSN DPDW DO DRC DRQ ESES EDG ENG ESV EMES ENSV EXTN FMSA FTK FMC FTI FET
FI GEOKQ GEOS GEGSQ GPP GIFL GLF HAL HNR HLX HP HERO HIIT HOS ICD IO FRAC KEGXQ MIC TUSK MTZ MDR MIND MRC NBR NOV NGS
NR NE NBLX NAO NADL DNOW NES ORIG OII OIS PACD PGPNF PKD PTEN PHII PES PDS RCON RGCO RNET RDC RES SAEX SLB SDLP SSE
SND SND SDPI SPN TESO TTI TDW RIG RIGP SLCA VTG VTNR WFT INT

Equity

Energy Equity Review

- Equity market reported total deal value of \$53B, on par with total amount issued in 2013 and 2014. A 36% increase over equity issued in 2015
- Average equity offering was \$340MM during 2016, the highest in the past 5 years
- JP Morgan was the most active bank, participating in 36% of all equity offerings
- Credit Suisse led the IPO market, leading 3 of the 6 deals launched in 2016
- IPO markets expected to surge in 2017 as portfolio companies run parallel paths to optimize value

2016 Energy Sector Equity Summary

Energy Equity Issuances \$52.7 billion

Upstream most active sector in 2016, with 80 deals and total deal amount of \$31.7 billion



Equity Upstream

\$31.7 billion (60%)

YOY +69%

80 Deals

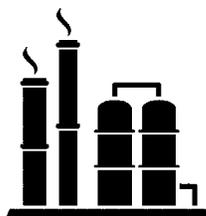


Equity Midstream

\$13.1 billion (25%)

YOY -8%

29 Deals



Equity Downstream

\$1.5 billion (3%)

YOY -48%

15 Deals



Equity Integrated

\$2.0 billion (4%)

YOY +30%

1 Deal



Equity Services

\$4.4 billion (8%)

YOY +342%

27 Deals

Top banks for each sector by allocated deal amount



\$6.1 billion
19%



\$3.2 billion
24%



\$0.4 billion
27%



\$0.4 billion
20%



\$1.2 billion
27%

Note: Follow-on and IPO offerings. Does not include at-the-market equity offerings and "Other" deals classified as equity.

2016 Energy Follow-on Top 25 Equity Issues

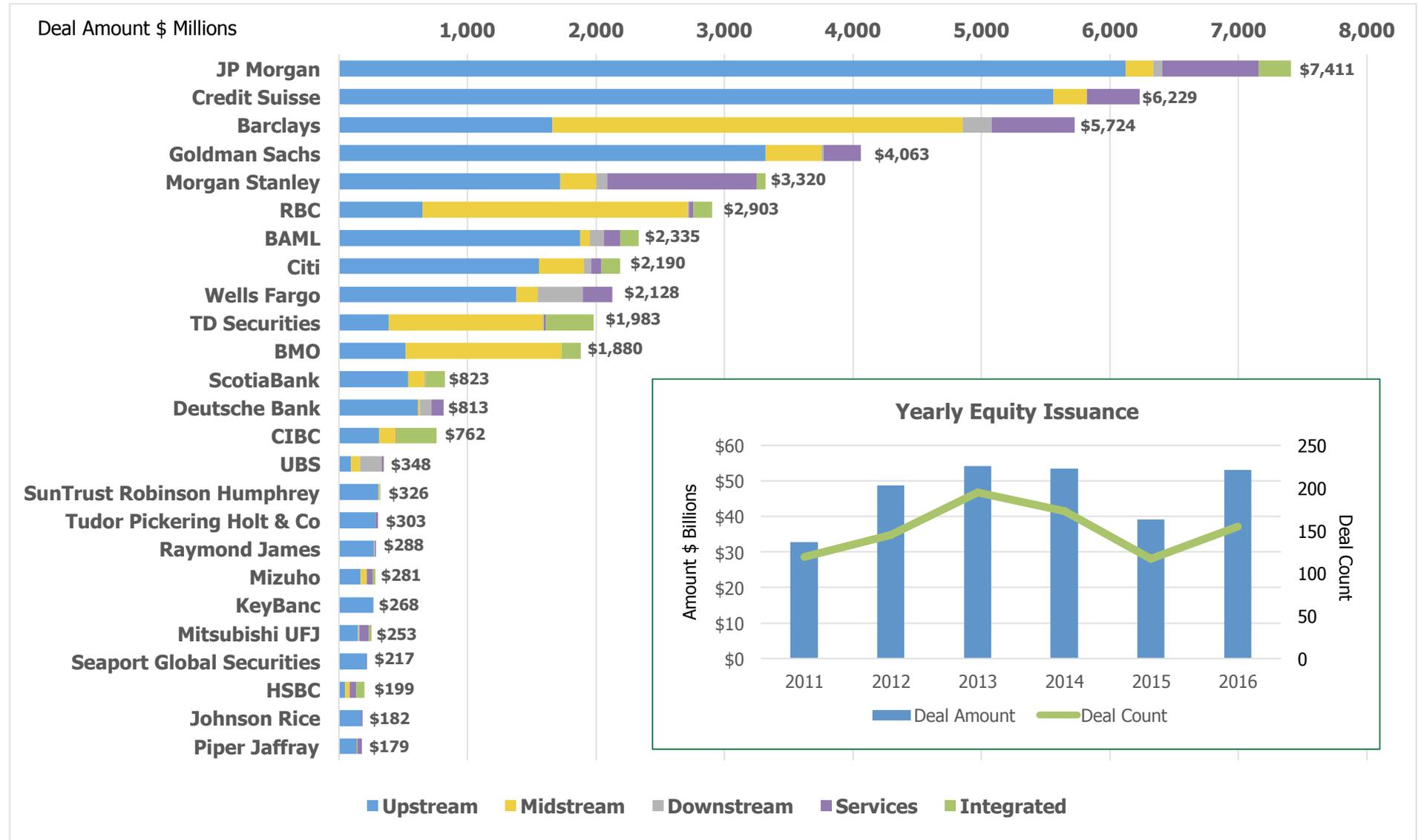
The Top 25 deals resulted in \$30B, ~60% of the total transaction value during 2016

Announced	Company	Sector	Ticker	Deal Amount (\$MM)	Bank Fees (\$MM)	Underwriting Discount	Reoffer Discount	All In Rate	Lead Bookrunner	No. of Banks
2/24/2016	Enbridge Inc	Midstream	ENB	\$5,153	\$95.96	4.80%		6.58%	RBC	17
11/2/2016	TransCanada Pipelines	Midstream	TRP	\$3,203	\$112.24	3.50%			TD Securities	3
9/14/2016	Anadarko Petroleum Corp	Upstream	APC	\$1,915	\$38.78	2.02%	5.99%	7.89%	JP Morgan	1
1/12/2016	Plains All American Pipeline LP	Midstream	PAA	\$1,460	\$2.95	N/A			N/A	1
1/7/2016	Pioneer Natural Resources Co	Upstream	PXD	\$1,404	\$14.64	1.04%	6.53%	7.50%	BAML	4
2/19/2016	Devon Energy Corp	Upstream	DVN	\$1,294	\$15.87	1.23%	7.77%	8.90%	Goldman Sachs	15
8/17/2016	Concho Resources Inc	Upstream	CXO	\$1,179	\$24.30	2.06%	4.00%	5.98%	Credit Suisse	14
6/7/2016	Suncor Energy Inc	Integrated	SU	\$1,148	\$84.96	3.25%			TD Securities	3
3/2/2016	Marathon Oil Corp	Upstream	MRO	\$1,109	\$34.37	3.10%	6.82%	9.71%	Morgan Stanley	7
7/1/2016	Southwestern Energy Co	Upstream	SWN	\$1,109	\$23.22	2.09%	7.20%	9.14%	Credit Suisse	24
12/16/2016	Diamondback Energy Inc	Upstream	FANG	\$1,021	\$20.48	2.01%	7.62%	9.48%	Credit Suisse	23
9/28/2016	Rice Energy Inc	Upstream	RICE	\$1,020	\$15.60	1.53%	5.27%	6.72%	Barclays	2
9/20/2016	Encana Corp	Upstream	ECA	\$1,000	\$18.23	1.82%		1.82%	Credit Suisse	4
2/5/2016	Hess Corp	Upstream	HES	\$975	\$29.25	3.00%	10.28%	12.97%	Goldman Sachs	17
2/24/2016	Cabot Oil & Gas Corp	Upstream	COG	\$880	\$14.30	1.63%	7.15%	8.66%	JP Morgan	7
10/17/2016	RSP Permian Inc	Upstream	RSPP	\$875	\$25.14	2.88%	4.79%	7.53%	Barclays	19
6/17/2016	Pioneer Natural Resources Co	Upstream	PXD	\$832	\$17.06	2.05%	2.45%	4.45%	Credit Suisse	13
6/13/2016	Antero Resources Corp	Upstream	AR	\$769	\$15.52	2.02%	2.08%	4.06%	Credit Suisse	13
5/4/2016	EQT Corp	Upstream	EQT	\$704	\$11.34	1.61%	4.42%	5.96%	Credit Suisse	13
2/29/2016	Newfield Exploration Co	Upstream	NFX	\$689	\$13.80	2.00%	1.96%	3.93%	Credit Suisse	15
12/15/2016	Callon Petroleum Co	Upstream	CPE	\$656	\$20.50	3.13%	1.97%	5.04%	Barclays	18
12/19/2016	Gulfport Energy Corp	Upstream	GPOR	\$624	\$15.59	2.50%	6.56%	8.90%	Credit Suisse	28
5/6/2016	Phillips 66 Partners LP	Refining	PSXP	\$577	\$6.27	1.09%	6.90%	7.91%	Barclays	4
9/28/2016	Sunoco Logistics Partners LP	Midstream	SXL	\$567	\$6.30	1.11%	7.41%	8.44%	Barclays	1
3/3/2016	Weatherford International	Services	WFT	\$565	\$16.95	3.00%	8.72%	11.46%	JP Morgan	14
Top 25 Total Transaction:				\$30,160	\$676				Avg # of Banks	11
2016 Total Follow-on Equity Issuance:				\$50,916	\$1,191					

Note: includes issuances registered with the SEC by foreign companies.

Top 25 Equity Market Advisors & Facilitators

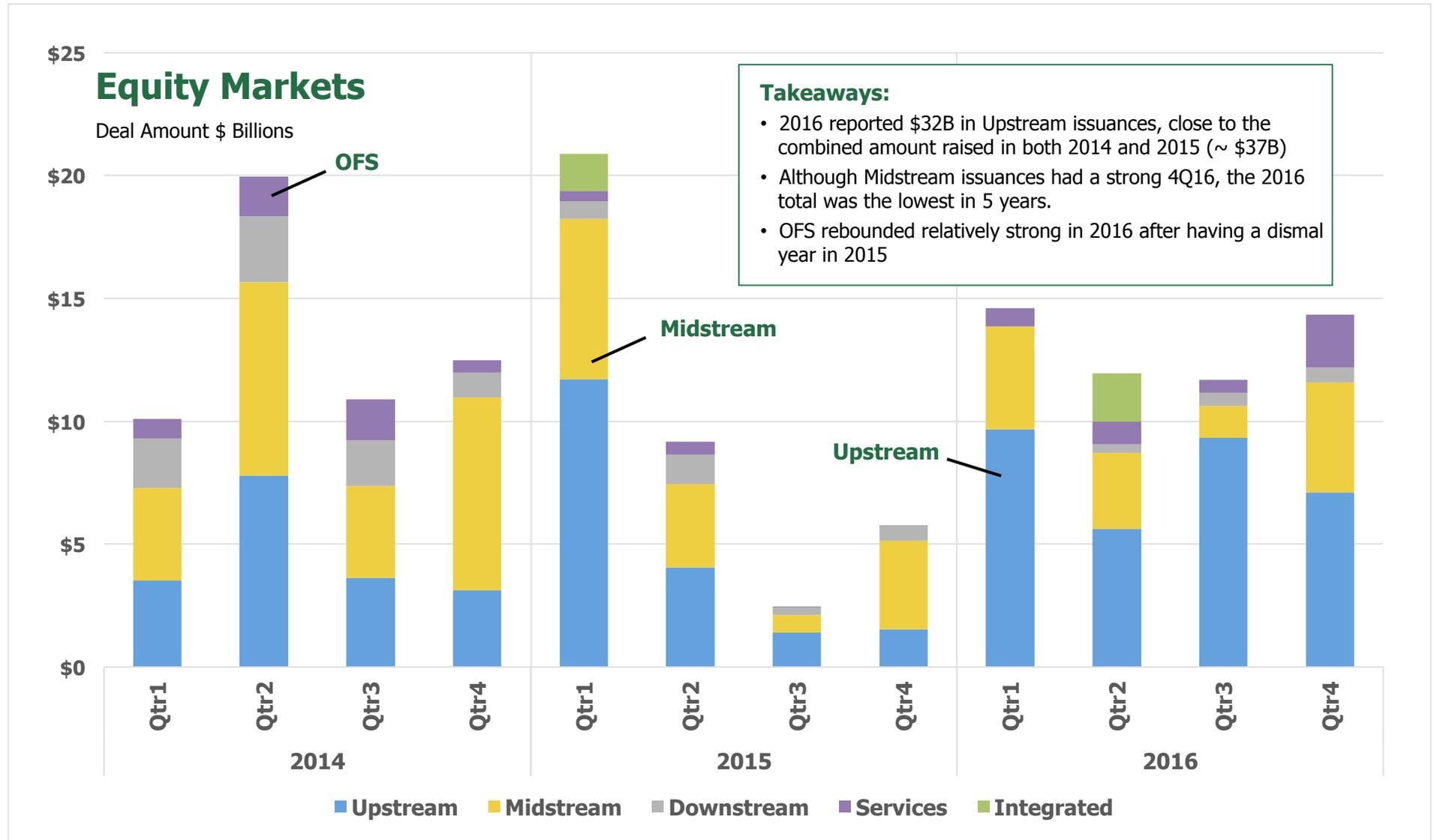
JP Morgan participated in 36% of all equity deals in 2016; Was lead bookrunner on 10% of offerings



Note: Follow-on and IPO offerings. Does not include at-the-market equity offerings.

U.S. Equity Deals by Quarter Q1 2014 to Q4 2016

2016 Upstream issuances nearly matched that of 2014 and 2015 combined



Note: Follow-on and IPO offerings. Does not include at-the-market equity offerings.

2016 Energy IPOs

Only 6 deals reported in 2016, raised \$1.6 billion



IPO Date	Company	Sector	Ticker	Deal Amount (\$MM)	Bank Fees (\$MM)	Net Proceeds (\$MM)	Total Shares Issued (MM)	Public Reoffer Price Per Issue	Underwriting Discount	Lead Bookrunner*	Number of Banks
10/13/16	Extraction Oil & Gas	Upstream	XOG	\$633.33	\$34.83	\$598.50	33.33	\$19.00	5.50%	Credit Suisse (28%)	14
12/15/16	Wildhorse Resource Development Corp	Upstream	WRD	\$412.50	\$22.17	\$390.33	27.50	\$15.00	5.38%	Barclays (28%)	14
11/7/16	Smart Sand Inc	Services	SND	\$128.70	\$7.72	\$120.98	11.70	\$11.00	6.00%	Credit Suisse (30%)	6
10/17/16	Mammoth Energy Services Inc	Services	TUSK	\$116.25	\$7.27	\$108.98	7.75	\$15.00	6.25%	Credit Suisse (45%)	10
9/15/2016	Noble Midstream Partners LP	Services	NBLX	\$281.25	\$16.17	\$265.08	12.5	\$22.50	5.75%	Barclays (20%)	19
2/5/2016	Centennial Resource Development	Upstream	CDEV	\$450.00	\$24.75	\$425.25	45.0	\$10.00	5.50%	Deutsche Bank (45%)	3
Totals:				\$2,022	\$113	\$1,909					

Key Takeaways:

- Credit Suisse top bank for energy IPOs in 2016
- Lead banks are taking a large allocation percent in syndicating IPO deals
- 5.7% average underwriter discount
- 6 IPOs saw an average of 11 bookrunners
- 33% - average allocation to lead bookrunner

* Bank allocation percentage shown in parenthesis

Bond Markets

Energy Fixed Income Review

- 2016 Bond market reported total deal value over \$133B, the lowest level in the past 5 years
- Average Bond issuance was \$695MM during 2016, down from the 2015 average of \$763MM
- JP Morgan was the most active bank, participating in 52% of all issuances
- 2016 YE total amount issued at \$133B compared to 2015 YE value of \$156B and 2014 YE \$158B
- PLS expects \$40B of Bonds to mature in 2017

2016 Energy Sector Bond Summary

Energy Bond Issuances \$133 billion

Upstream most active sector in 2016, with 70 deals and total deal amount of \$46 billion



Bond Upstream

\$46 billion (35%)

YOY +1%

70 Deals



Bond Midstream

\$23 billion (17%)

YOY -49%

44 Deals



Bond Downstream

\$16 billion (12%)

YOY +67%

20 Deals

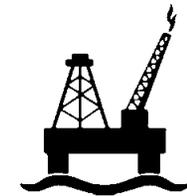


Bond Integrated

\$38 billion (28%)

YOY -25%

32 Deal



Bond Services

\$11 billion (8%)

YOY -22%

20 Deals

Top banks for each sector by deal amount



\$6.5 billion
14%



\$2.2 billion
10%



\$1.3 billion
8%



\$5.2 billion
14%



\$1.3 billion
12%

Note: Does not include "Other" deals classified as bond.

2016 Energy Top Bond Issues

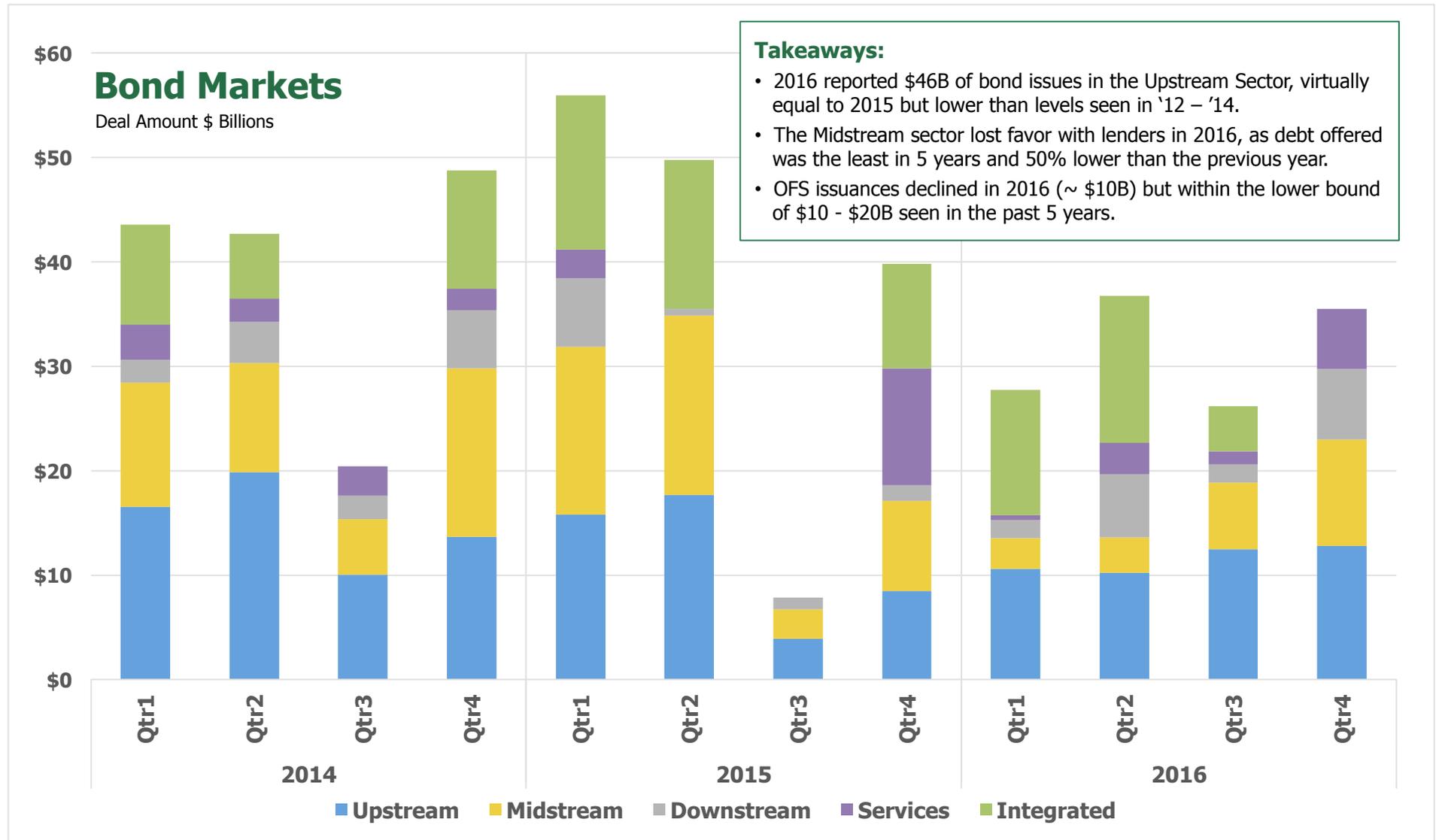
The Top 25 deals resulted in \$44B, 34% of the total transaction value during 2016

Ann.	Bonds	Sub Sector	Ticker	Deal Amount (\$MM)	Bank Fees (\$MM)	Coupon (%)	Maturity	Underwriting Discount (%)	Lead Bookrunner	No. of Banks
5/19/2016	Petroleo Brasileiro Petrobras SA	Upstream	PBR	\$5,000	\$15.00	8.38%	5/23/2021	0.30%	BB Securities	4
3/2/2016	Exxon Mobil Corp	Integrated	XOM	\$2,500	\$3.00	2.22%	3/1/2021	0.12%	BAML	17
3/2/2016	Exxon Mobil Corp	Integrated	XOM	\$2,500	\$5.00	3.04%	3/1/2026	0.20%	BAML	17
3/2/2016	Exxon Mobil Corp	Integrated	XOM	\$2,500	\$10.63	4.11%	3/1/2046	0.43%	BAML	17
5/10/2016	Chevron Corp	Integrated	CVX	\$2,250	\$4.50	2.95%	5/16/2026	0.20%	JP Morgan	23
5/5/2016	Royal Dutch Shell plc	Integrated	RDSA	\$2,250	\$9.56	4.00%	5/10/2046	0.43%	Barclays	4
7/8/2016	Petroleo Brasileiro Petrobras SA	Upstream	PBR	\$1,750	\$5.25	8.38%	5/23/2021	0.30%	BB Securities	4
5/19/2016	Petroleo Brasileiro Petrobras SA	Upstream	PBR	\$1,750	\$5.25	8.75%	5/23/2026	0.30%	BB Securities	4
5/5/2016	Royal Dutch Shell plc	Integrated	RDSA	\$1,750	\$1.75	1.38%	5/10/2019	0.10%	Barclays	4
5/5/2016	Royal Dutch Shell plc	Integrated	RDSA	\$1,750	\$3.50	2.88%	5/10/2026	0.20%	Barclays	4
12/5/2016	Cheniere Energy Inc	Refining	LNG	\$1,500	\$30.00	5.88%	3/31/2025	2.00%	Goldman Sachs	22
9/19/2016	Cheniere Energy Partners LP	Downstream	CQP	\$1,500	\$30.00	5.00%	3/15/2027	2.00%	BAML	18
6/14/2016	Cheniere Energy Partners LP	Downstream	CQP	\$1,500	\$30.00	5.88%	6/30/2026	2.00%	Credit Suisse	19
5/5/2016	Royal Dutch Shell plc	Integrated	RDSA	\$1,500	\$1.80	1.88%	5/10/2021	0.12%	Barclays	4
5/10/2016	Chevron Corp	Integrated	CVX	\$1,350	\$1.49	1.56%	5/16/2019	0.11%	JP Morgan	23
5/10/2016	Chevron Corp	Integrated	CVX	\$1,350	\$1.62	2.10%	5/16/2021	0.12%	JP Morgan	23
9/9/2016	Valero Energy Corp	Refining	VLO	\$1,250	\$8.13	3.40%	9/15/2026	0.65%	Citi	18
9/8/2016	Royal Dutch Shell plc	Integrated	RDSA	\$1,250	\$5.31	3.75%	9/12/2046	0.43%	Citi	3
7/22/2016	Transocean Ltd	Services	RIG	\$1,250	\$25.00	9.00%	8/1/2023	2.00%	N/A	1
7/8/2016	Petroleo Brasileiro Petrobras SA	Upstream	PBR	\$1,250	\$3.75	8.75%	5/23/2026	0.30%	BB Securities	4
5/12/2016	Cheniere Energy Inc	Refining	LNG	\$1,250	\$25.00	7.00%	6/30/2024	2.00%	Morgan Stanley	23
4/29/2016	BP plc	Integrated	BP	\$1,250	\$3.75	3.12%	5/4/2026	0.30%	Citi	6
3/4/2016	ConocoPhillips	Upstream	COP	\$1,250	\$7.50	4.20%	3/15/2021	0.60%	Mizuho	20
3/4/2016	ConocoPhillips	Upstream	COP	\$1,250	\$8.13	4.95%	3/15/2026	0.65%	Mizuho	20
3/2/2016	Exxon Mobil Corp	Integrated	XOM	\$1,250	\$1.25	1.71%	3/1/2019	0.10%	BAML	17
Top 25 Issuances:				\$43,950	\$246				Avg # of Banks	13
2016 Total Bond Issuances:				\$132,832	\$1,304					

Note: includes issuances registered with the SEC by foreign companies.

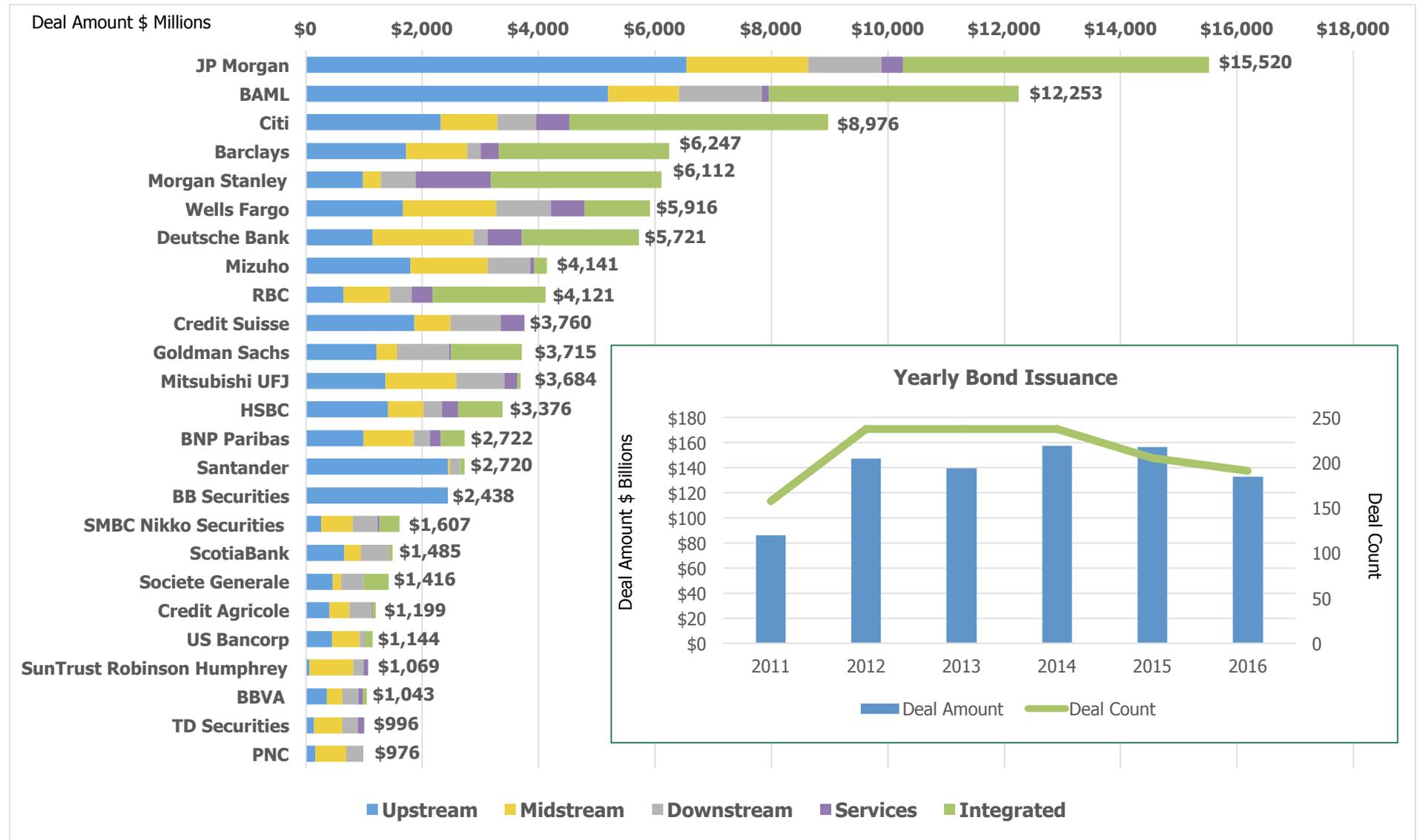
U.S. Energy Bond Deals by Quarter Q1 2014 to Q4 2016

Upstream Bond issuances stabilize in 2H16 yet total 2016 deal amounts remains lower than 3 of last 5 years



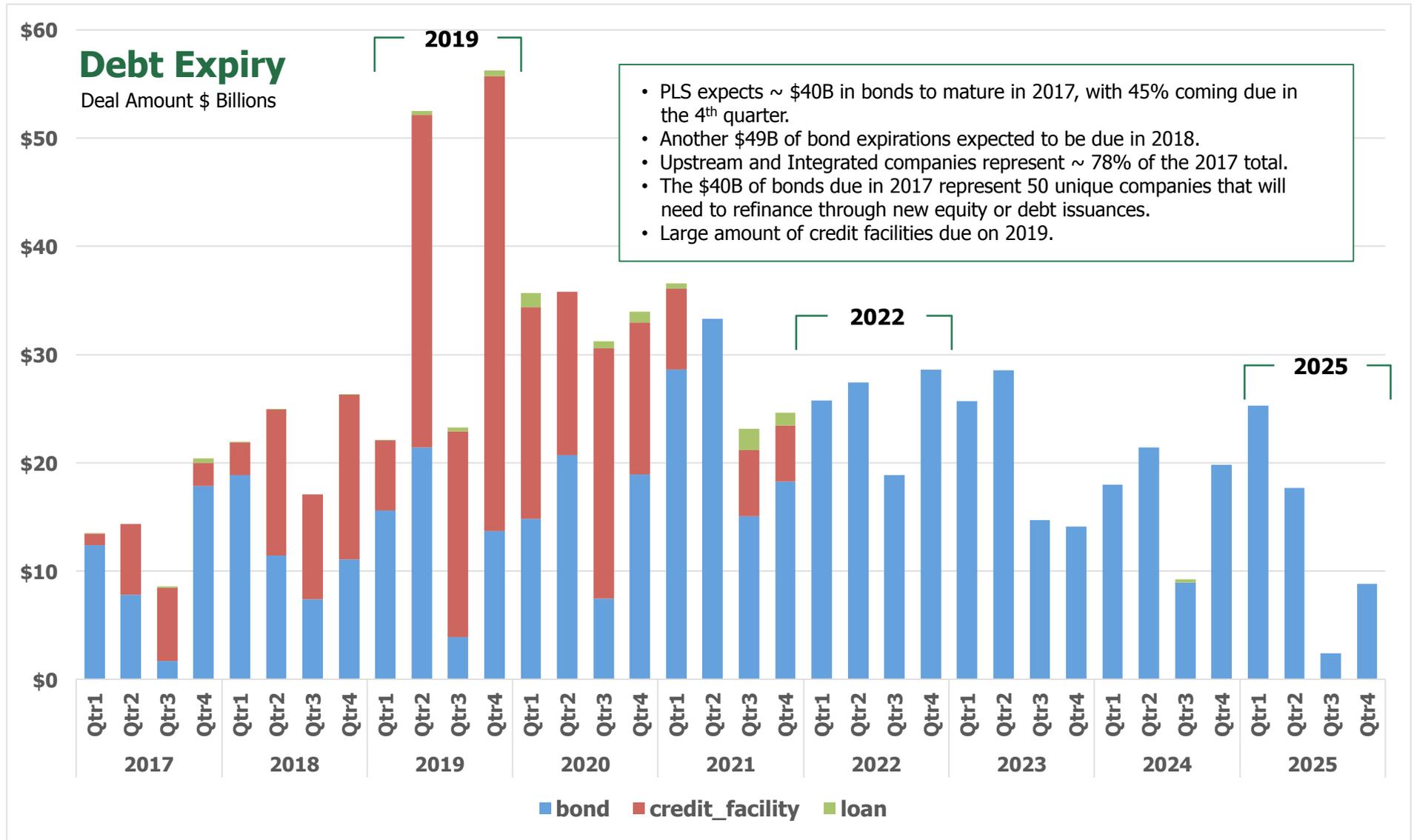
Top 25 Bond Market Advisors & Facilitators

JP Morgan participated in 50% of all bond deals in 2016, leading 15% of all deals



Debt Expiration Schedule

Capitalize monitors over 400 companies within our coverage universe



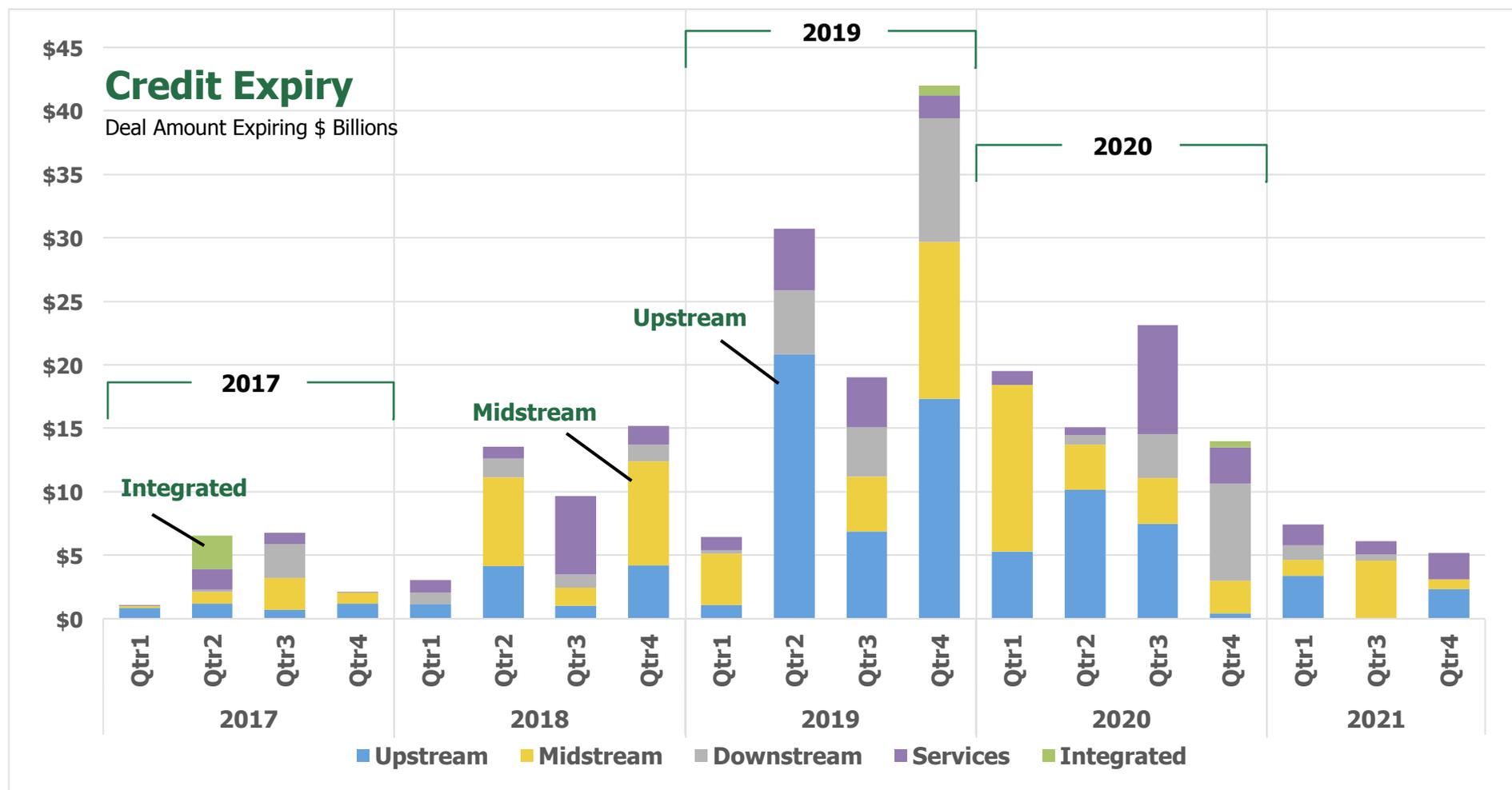
Credit

Energy Credit Facility Lending Review

- Large amount of expirations due in 2Q2017 and 3Q2017, mostly in the Upstream and Midstream sectors.
- PLS Capitalize liquidity analysis shows a 2016 YOY decrease of ~11% in borrowing base lending to the Energy industry
- Largest 2016 YOY borrowing base decrease was in the Upstream sector at ~22%

US Energy Credit Facility Expirations

Quarter Q1 2017 to Q4 2021



Takeaways:

- Trends indicate a large number of credit facility restructuring towards the middle of 2017 and the middle of 2018.
- Large amount of credit facility expirations in 2019, a large share of that is in the Upstream and Midstream sectors.
- Graphic presentation of credit facility deal expirations by quarter.
- Larger relative credit facility expirations in 2Q2017 and 3Q2017.

Private Equity

Private Equity Markets

- In 2016, Capitalize identified 97 new portfolio back companies a Y/Y increase of 11%
- Natural Gas Partners (NGP) was the most active General Partner, backing a total of 9 new management teams through a combination of NGP Natural Gas Partners (4) and NGP Energy Capital Management (5)
- In the Upstream Sector, Kayne Anderson continues to be the most prolific General Partner backing 6 new teams
- In the Midstream Sector, First Reserve backed 4 new management teams

Top Private Equity Commitments

2016 Snapshot

Capitalize



Company	Sponsor	Status	Sector	Key Areas	Vintage	Commitment (\$MM)
Silver Run Acquisition Corp	Riverstone Holdings LLC	Realized	Upstream	Delaware Basin	2016	\$2,000
Jetta Operating Co Inc	The Blackstone Group (Private Equity)	Current	Upstream	Delaware Basin	2016	\$1,000
Siccar Point Energy Ltd	The Blackstone Group (Private Equity)	Current	Upstream	North Sea	2016	\$1,000
Charger Shale Oil	Oaktree Capital Management LP	Current	Upstream	Delaware Basin	2016	\$900
Saddle Operating LLC	First Reserve Corp	Current	Upstream	Barnett Shale	2016	\$600
Luxe Energy LLC	NGP Natural Gas Partners LP	Current	Upstream	Texas and New Mexico	2016	\$524
Apex International Energy	Warburg Pincus LLC	Current	Upstream	Egypt, North Africa, Middle East	2016	\$500
Guidon Energy LLC	The Blackstone Group (Private Equity)	Current	Upstream	Midland Basin	2016	\$500
Mazarine Energy	The Carlyle Group	Current	Upstream	Western Europe	2016	\$500
RimRock Oil & Gas	Warburg Pincus LLC	Current	Upstream	North America	2016	\$500

General Partner	Select Commitments	Notes
NGP	9	89% Upstream
First Reserve Corp	7	60% Midstream
Kayne Anderson Capital Advisors	7	100% Upstream
The Blackstone Group	5	80% Upstream
EnCap Investments	5	80% Upstream
Old Ironsides Energy	4	75% Upstream
Denham Capital Management	3	100% Upstream
Lime Rock Partners	3	100% Upstream
Post Oak Energy Capital	4	75% Upstream
Warburg Pincus	3	100% Upstream

Capitalize Private Equity Statistics

- Capitalize has over 1,900 portfolio companies in our universe
- Upstream accounts for nearly 50% of the portfolio companies
- Over 1,000 companies are classified as current across the energy value chain

For more details, call **+1 713-600-0129**, email Chris George at cgeorge@plsx.com

Select printout for some of the select larger private equity commitments. Capitalize database significantly more granular data.

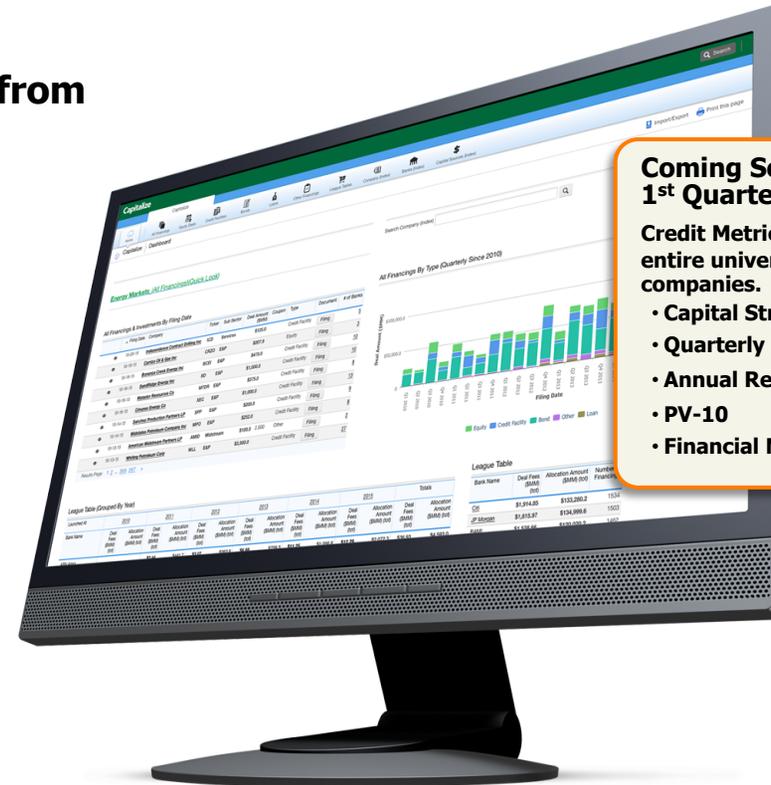
Capitalize is a powerful new product from PLS that brings transparency to a capital-intensive energy industry.

- Tracks All Industry Financings
- Equity Issuance
- Loans & Credit Facilities
- Bond Issuances
- Private Equity
- League Tables For Market Analysis
- Company & Bank Indexes
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The product allows borrowers and bankers to turn information into new business opportunities.

- Analyzes Market Activity
- Compare & Contrast Financings and Fees

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- PV-10
- Financial Metrics

Capitalize

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- Critical insight into deal metrics & analysis
- Stronger analysis & internal protocols
- Generate specific reports to suit individual needs
- Transparent & reliable data
- Continuously updated deal coverage
- Market insight & access to business intelligence

The product gives everyone in the oil & gas industry access to critical market information.

For more information or to schedule a demo, call **Ali Rizvi** at **+1 713-600-0115** or email at **ali@plsx.com**.

Database includes Deals for Sale, MapIndex, Maps on Demand.

Upstream, Midstream, Power, LNG, Oilfield Services Modules



Global M&A Database