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Perspectives on the U.S. Oil Service Sector

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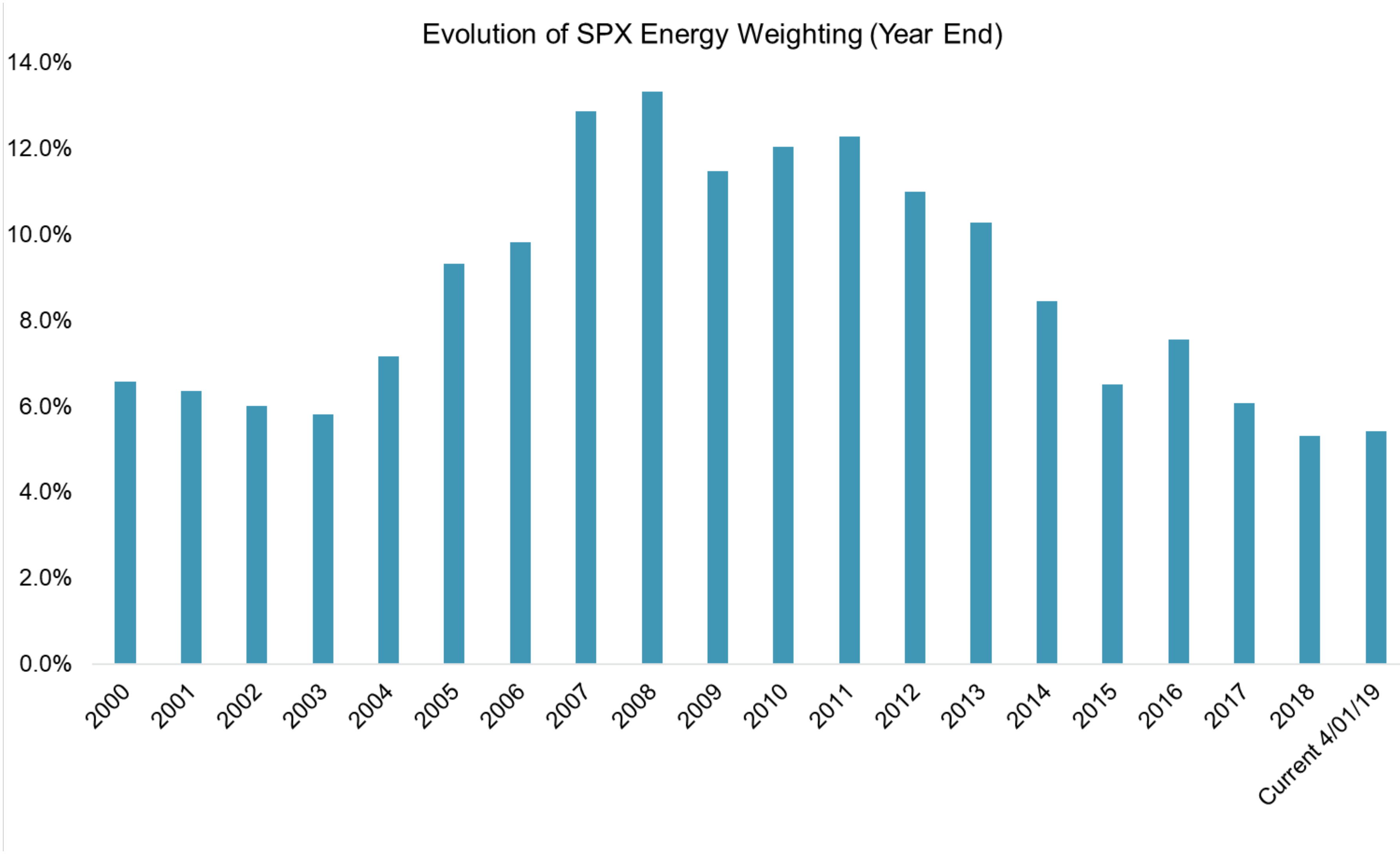
Recent Themes & Trends

- Investor apathy for energy stocks continues.
- Rise of ESG investing and impact to energy equities.
    - Influence extends beyond better governance, although pay attention to recent board additions
    - Emerging technologies such as electric frac; rise in dual-fuel, larger pump designs forthcoming
    - Statoil changed its name to Equinor for a reason.
- OFS capital discipline developing for public enterprises, but ongoing fleet expansion efforts by privates persist despite lackluster industry returns.
    - We will highlight momentarily the U.S. frac and coiled tubing market.
- Higher oil prices likely yield flattish y/y activity levels.
    - Public E&P capex down ~10% y/y.
    - Majors and Privates likely offset this, however.
- Outlook for E&P capex in 2020 more encouraging as discretionary cash flow should be higher should oil prices hover near $60/bbl – we believe +10-15% y/y in 2020.
- Q1 earnings season now underway. Pay attention to equity prices in response to deviations from expected capital spending trends – both for service and E&P.

Evolution of SPX Energy Weighting

- Investor interest in energy remains at a near 20-year low. Historically weak financial performance is driving investor demands for greater financial discipline.



Source: FactSet as of 4/1/19

WTI Since January 2018

Oil price collapses as the E&P Industry enters 2019 budgeting season. Q4 activity moderates and oil service pricing falls.

Oil price rally subsequently leads to some renewed animal spirits within the E&P community.

- YTD performance: WTI +45%; XOP +24% and OSX +27%.
- The OSX and XOP underperformed WTI in 2016, 2017 and 2018 as well.

Source: Bloomberg

2019 Independent E&P Capital Budget Outlooks

- Leading E&P capital budgets suggest 2019 spending could be down ~10% y/y.
- Our analysis attempts to focus on D&C capex.
- This table excludes several of the integrated oil companies, some of whom do not provide explicit L-48 upstream spending expectations.
- That said, we believe the collective L-48 upstream capex budgets for XOM, CVX, BP and EQNR will total nearly $19-$20 billion, +20-25% y/y.
- Collectively between these integrated players plus the list to the right, total capital spending would be roughly $74 billion or down ~3% y/y.
- To put some perspective to these budget estimates, the collective rig count for these ~45 companies totaled ~521 as of early March, or roughly ~50% of the U.S. rig count, according to RigData.
- Private company spending plans will have a sizeable impact on the direction of industry activity as this customer subset represents nearly 40% of the rig count.
- Should oil prices remain range-bound between $55-$60/bbl, we would expect many of these players to resume activity, thus rendering overall U.S. activity flattish on a y/y basis.

Ticker	2018 CapEx	2019E CapEx	y/y % Change
AR	$1,490	$1,375	-8%
AMR	$695	$200	-71%
APA	$2,400	$1,740	-28%
BCEI	$275	$243	-12%
BRY	$150	$245	63%
CDEV	$766	$675	-12%
CHK	$2,086	$2,150	3%
CLR	$2,300	$2,200	-4%
COG	$940	$825	-12%
COP	$3,184	$3,100	-3%
CNX	$972	$775	-20%
CPE	$560	$513	-9%
CRZO	$838	$550	-34%
CXO	$2,982	$3,500	17%
DVN	$2,550	$2,400	-6%
EQT	$2,700	$1,950	-28%
EOG	$5,270	$5,166	-2%
FANG	$2,805	$2,900	3%
GPOR	$814	$583	-28%
HES	$967	$1,425	47%
JAG	$691	$605	-12%
LPI	$551	$300	-46%
MRO	$2,286	$2,400	5%
MTDR	$686	$660	-4%
MUR	$780	$878	13%
NBL	$1,878	$1,750	-7%
OAS	$857	$468	-45%
OXY	$2,773	$2,600	-6%
PDCE	$985	$840	-15%
PE	$1,700	$1,450	-15%
PXD	$3,300	$2,950	-11%
QEP	$777	$377	-52%
ROAN	$777	$545	-30%
RRC	$836	$685	-18%
SM	$1,303	$1,035	-21%
SRCI	$766	$438	-43%
SWN	$1,250	$1,130	-10%
WLL	$733	$702	-4%
WPX	$1,350	$1,188	-12%
XEC	$1,340	$1,150	-14%
XOG	$776	$630	-19%
Total	**$61,141**	**$55,294**	**-10%**

Source: Company Reports, Conference Call Transcripts

Source: Simmons Energy Estimates, Company Disclosures, Industry Contacts

Private, Public, Major Rig Counts

- We continue to witness expansion in drilling activity on the part of the Majors.
- Privates were the fastest growing segment from late 2017 through late 2018, but then hit the brakes entering Q1'19.
- With ~$60-$65 WTI, key questions are the reactivation speed and magnitude of the privates.

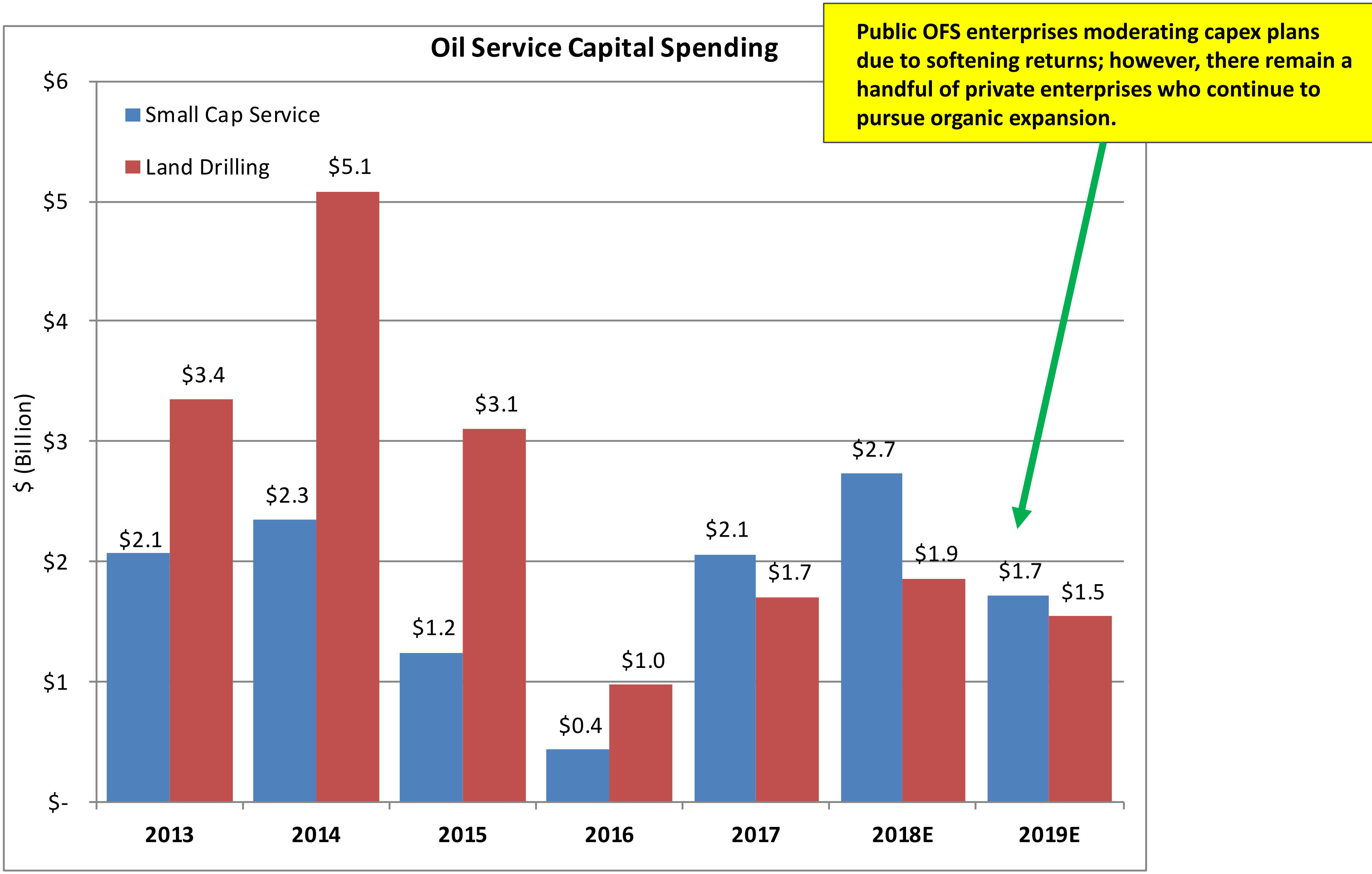
Public v Private Operator Mix								
Operators Rig Count	**Q1'19**	**Q4'18**	**Q3'18**	**Q2'18**	**Q1'18**	**Q4'17**	**Q3'17**	**Q2'17**
Majors	174	163	157	147	144	135	128	118
Public	461	467	469	465	463	443	460	441
Private	424	489	485	461	405	390	405	394
Total US Land	**1058**	**1118**	**1111**	**1073**	**1012**	**968**	**993**	**953**

%∆ Q/Q	Q1'19	Q4'18	Q3'18	Q2'18	Q1'18	Q4'17	Q3'17	Q2'17
Majors	7%	4%	6%	2%	7%	5%	9%	19%
Public	-1%	-1%	1%	0%	4%	-4%	4%	22%
Private	-13%	1%	5%	14%	4%	-4%	3%	23%
Total US Land	**-5%**	**1%**	**4%**	**6%**	**5%**	**-3%**	**4%**	**22%**

Rig Count Mix	Q1'19	Q4'18	Q3'18	Q2'18	Q1'18	Q4'17	Q3'17	Q2'17
Majors	16%	15%	14%	14%	14%	14%	13%	12%
Public	44%	42%	42%	43%	46%	46%	46%	46%
Private	40%	44%	44%	43%	40%	40%	41%	41%
Total US Land	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: RigData as of 3/22/19

SMID-Cap Oil Service Capex Trends – Not Bullish for OEMs



Source: Based on a basket of ~20 SMID-Cap Oil Service companies
Note: Not a true historical apples-to-apples comparison as some companies were not public prior to 2016 thus historical capex data may be understated as that data is not readily available.

Organic CapEx Fallacies

- Returns-analysis based on annualized EBITDA run-rates
  - Failure to incorporate cyclical nature of oil service and lack of a macro view
  - Expansionary capex often made with no supporting contracts
  - First year returns often overstated due to less R&M burdens
- Strategic players scrutiny on asset value vs. EBITDA multiples
  - Earnings accretion not the best returns-measure
  - Understand history of company:
    - Management teams with background of building/flipping = circle of life (i.e. history repeats itself)
- Asset quality matters
  - Old equipment not worthy of a premium
- Perceived need to take care of one's customer
- Keeping up with the Jones'

U.S. Land Rig Forecast

- We employ the BHGE land rig count as the basis of our land rig forecast.
- As of April 19, 2019, the U.S. land rig count stood at 989 rigs, down ~71 rigs from its 2018 peak.
- We model a modest downward slope in drilling activity through Q2'19, before stabilizing for the balance of the year.
- We then assume higher E&P cash flows in 2020 distills into a modest recovery in U.S. land drilling activity.

Average Quarterly U.S. Land Rig Counts

	Q4'18A	Q1'19E	Q2'19E	Q3'19E	Q4'19E
U.S. Land	1,050.0	1,023.0	985.0	988.0	999.0
% Change		-2.6%	-3.7%	0.3%	1.1%

Average Annual U.S. Land Rig Counts

	2016A	2017A	2018A	2019E	2020E
U.S. Land	486.0	856.0	1,013.0	999.0	1,074.0
% Change		76.1%	18.3%	-1.4%	7.5%

Source: Baker Hughes, Simmons Energy estimates.

Source: BHGE, Simmons Energy Estimates

U.S. Frac Market Overview

- The following is our estimated U.S. market share table which is based on total horsepower owned.
- If all horsepower were active and if all fleets were a uniform ~50,000hp, our U.S. tally would imply a total of ~480 fleets.
- We believe there are nearly ~360 fleets active today, but under our modeling assumptions, we believe working frac fleets should rise to ~400-420 fleets by 1H'20.
- Due to industry oversupply and emerging new entrants, we do not believe frac pricing will recover in 2019.
- The greatest challenge for the U.S. frac market today is a weak competitive landscape due to structural overcapacity, a function of low barriers to entry.
- Consequently, the industry (along with most other OFS segments) is in desperate need of consolidation and fleet rationalization.
- Sadly, transformative industry deals have failed to materialize.
- Going forward, we believe the U.S. frac market will become increasingly bi-furcated as only top performers should be able to properly reinvest in the business, particularly as it relates to new technology adoption.

Estimated U.S. Frac Horsepower (in 000's)	
Company	**US Total**
Halliburton (HAL)	4,200
Schlumberger (SLB)	2,500
BJ Services	2,150
FTS International (FTSI)	1,650
Patterson-UTI (PTEN)	1,516
Keane Group (FRAC)	1,409
Pro Petro Services (PUMP)	1,355
Cudd Pumping (RES)	1,050
Liberty Oilfield Services (LBRT)	902
Pro Frac Services	900
C&J Energy Services (CJ)	900
Calfrac Well Services (CFW.TO)	879
Superior Energy Services (SPN)	750
U.S. Well Services	550
Basic Energy Services (BAS)	386
Alamo Pressure Pumping	293
Stingray Pressure Pumping (TUSK)	300
Evolution Well Services	187
Quintana Energy Services (QES)	244
Legend Energy Services	235
Producers Service Corporation	200
STEP Energy Services	193
Lew is Energy	180
J4	120
Quasar Energy Services	120
Elite Well Services	120
Oasis Well Services (OAS)	95
Stimulation Pumping Services	90
Python Pressure Pumping	87
Southw estern Energy (SWN)	72
Advanced Stimulation Technologies	70
TOPS Well Services	54
Catalyst Energy Services	50
Rev Energy Services	40
Gore Nitrogen	40
Other	175
Total	**24,061**

Source: Simmons Energy estimates, company filings, websites and industry contacts

Source: Simmons Energy Estimates, Company Filings.

Underwhelming Frac Profitability – Consolidated EBIT Margins

- The table below provides an overview of EBIT margins by pumper. Many of the companies below do not provide EBIT margins by segment; thus, we use consolidated EBIT margins for all except HAL.
- We have excluded several pumpers from our list (PTEN, BAS, TUSK, SPN, QES) because of the percentage of consolidated EBIT derived from business lines unrelated to frac. A number of players included on our list (CJ, CFW-CA) also derive a non-trivial percentage of their EBIT from other business lines besides NAM pressure pumping.
- We adjust for impairments but do not adjust for any other potential one-time charges.
- **Overall margins for industry are not particularly exciting, especially given the capital intensity of the business**.

Adjusted EBIT Margins			
Ticker	2017	2018	Average
CFW.TO	0.1%	3.7%	1.9%
CJ	-1.0%	0.7%	-0.1%
FRAC	0.6%	4.6%	2.6%
FTSI	20.0%	21.9%	20.9%
HAL*	12.4%	14.3%	13.3%
LBRT	12.2%	14.2%	13.2%
PUMP	2.5%	13.6%	8.1%
RES	14.2%	12.2%	13.2%
TCW.TO	6.3%	-5.3%	0.5%
	7.5%	8.9%	8.2%
Source: Company Filings			

*Consolidated margins for all except HAL for w hich w e use C&P margins

Source: Company Reports, Simmons Energy Estimates

U.S. Frac Market Expected New Horsepower Additions

- In addition to the ~24M of cumulative marketed and idle horsepower, we are tracking ~800k of horsepower on order.
- The new orders and expected come from newer, growing players (Pro Frac, Alamo, and Catalyst) as well as leaders in electric (USWS and Evolution) and top performing existing players (LBRT, PUMP, RES, and FTSI).
- Some of these newbuild orders may be used as replacement horsepower.

Expected New Horsepower Additions	
Company	**Estimated Newbuilds**
Pro Frac Services	100,000
Liberty Oilfield Services (LBRT)	100,000
Pro Petro Services (PUMP)	50,000
U.S. Well Services (USWS)	120,000
Evolution Well Services	112,000
Alamo Pressure Pumping	45,000
RPC, Inc. (RES)	100,000
FTS International (FTSI)	50,000
Catalyst Energy Services	100,000
Total Orders	**777,000**

Source: Simmons Energy estimates, field contacts, company disclosures.

Note: This is a fluid table which changes frequently. In many cases, we are making estimates and are unable to verify if the equipment will be new or replacement. It does not include spec equipment being built by builders or pumpdown capacity additions/orders.

Source: Simmons Energy Estimates, company disclosures, field contacts

Electric Fleets Coming…..

- Several companies operate electric fleets: U.S. Well Services, Evolution Well Services and TOPS Well Service.
- We believe HAL could potentially build up to three fleets, in partnership with Siemens, while we believe SLB and at least three other SMID-cap players are evaluating the technology. eFrac Well Services, a new private enterprise (photo below) is expected to launch operations in Q4'19 while new pump designs may require turbine technology.
- E&P's who have contracted fleets include: EOG, DVN, APA, CNX, Shell

Source: Simmons Energy Estimates
Photo courtesy of eFrac Well Services

Electric Fleets Coming….

- In basin CNG compression facilities will lower the delivered cost of CNG, potentially helping accelerate electric fleet adoption as well as expand the growing use of dual-fuel engines.

Source: Simmons Energy Estimates
Photo courtesy of Certaurus – Garden City, Texas facility

U.S. Coil Tubing Market Snapshot

- The following table presents our estimate of the U.S coil tubing market.
- The more relevant totals are the large diameter units, which we define as 2.375" or greater as these are used for well completion activity.
- Those units that are 2" or less are grossly oversupplied and virtually all idle, thus essentially worthless, in our view.
- We presently estimate ~31 large diameter units are on order, a potential ~15% increase in supply.
- Pricing for coil tubing is under assault as an onslaught of new supply, coupled with flattish activity, is creating market tension.
- The new supply is also creating headaches as it fuels increased competition for labor.

U.S. Coiled Tubing Market	<2"	2.375"	2.625"	TOTAL
Superior Energy Services (SPN)	58	12	0	70
Key Energy Services (KEG)	36	12	1	49
RPC, Inc. (RES)	27	11	0	38
Schlumberger (SLB)	25	3	8	36
C&J Energy Services (CJ)	15	9	4	28
Quintana Energy Services (QES)	14	8	2	24
Coil Tubing Partners	0	10	10	20
Halliburton (HAL)	12	7	0	19
Patriot Well Solutions	7	12	0	19
Legend Energy Services	8	9	1	18
Basic Energy Services (BAS)	13	4	0	17
Red Zone Coiled Tubing (NINE)	4	7	5	16
Forbes Energy Services (Cretic)	4	5	6	15
Gladiator Energy LLC	7	7	1	15
Cogent Energy Services	12	2	0	14
Conquest Completion Services	0	5	8	13
STEP Energy Services	1	5	5	11
Pioneer Energy Services (PES)	4	4	1	9
Pro Petro Services (PUMP)	4	2	2	8
KLX Energy (Motley Services)	1	3	3	7
Titan Petro Services	2	2	2	6
Cardinal Coiled Tubing	5	0	2	7
Lochend Energy Services	N/A	N/A	N/A	6
Leader Energy Services	2	2	1	5
Mammoth Energy Services (TUSK)	2	2	1	5
Grizzly Coil Tubing Services	2	1	0	3
Mid-Atlantic Energy Services	1	1	0	2
Calfrac Well Services	0	2	0	2
Valor Coil Services	1	1	0	2
Pro Coil Tubing	0	0	1	1
Blackstar Energy Services	0	1	0	1
TOTAL	**267**	**149**	**64**	**486**

Source: Simmons Energy estimates, company websites/presentations, industry contacts, and ICoTA

Quarterly CT Revenue – Public Companies with CT Exposure

- The q/q decline in CT revenue in Q4'18 seems reasonable given E&P budget fatigue, reduced activity due to lower oil prices as well as normal holiday softness, but the q/q decline in Q3'18 could reasonably be ascribed to market share losses.
- With numerous CT units on order, it will be interesting to see how the q/q trend continues into Q1'19. Companies begin reporting results next week.

Historical Coiled Tubing Quarterly Revenue

	Q1'18	Q2'18	Q3'18	Q4'18
PES	$13.2	$12.1	$12.6	$12.7
KEG	$18.4	$23.9	$18.2	$10.5
CJ	$25.8	$29.8	$29.1	$30.0
RES	$25.3	$27.6	$26.4	$21.1
NINE	$43.5	$47.0	$47.8	$44.6
BAS	$20.0	$15.2	$17.4	$16.3
STEP.CN	$17.8	$21.7	$21.0	$16.6
Total	$164.0	$177.3	$172.5	$151.9
q/q growth		8.1%	-2.7%	-11.9%

Source: Company presentations, SEC filings, Simmons Energy estimates

Source: Simmons Energy Estimates, Company press releases, SEC filings.

Quarterly CT Margins – Public Companies with CT Exposure

- Most public coiled tubing companies do not disclose their respective coiled tubing segment margins. In many cases, the coiled tubing businesses are buried within bigger segments. Two companies, however, do provide operating margins: PES and KEG.
- For EBITDA enthusiasts, KEG's 2018 EBITDA margin for coiled tubing was 14.7% while PES' gross margin (which we believe is essentially a proxy for EBITDA) was 13.0%.
- Private companies report margins are under pressure given competitive pricing and high labor costs. We believe industry EBITDA margins used to be in the ~30% range, but if pricing woes continue, it would not be unreasonable to see normalized margins dip below ~10%.

Historical Coiled Tubing Quarterly EBIT Margins

	Q1'18	Q2'18	Q3'18	Q4'18
PES	2.6%	-16.8%	2.7%	-0.6%
KEG	21.3%	13.2%	2.3%	-21.9%

Source: Company presentations, SEC filings, Simmons Energy estimates

Source: Simmons Energy Estimates, Company press releases, SEC filings.

Conclusion

- Constructive outlook
  - Higher oil prices = increased E&P cash flow = higher E&P capex over time.
  - E&P’s can still live within cash flow, yet spend more.
- Think about ESG and how to best position your company
  - Limited public equity investor dollars chasing energy so don’t give investors a reason not to buy
  - Consider publicizing efforts on diversity hiring and training; employ reasonable executive compensation packages; and focus on sustainability and safety
- Consolidation needed
  - Virtually all OFS business segments remain structurally oversupplied
  - Increased D&C activity is a plus, but consolidation is the only way to structurally improve margins
  - Difficult to see any real pricing power until businesses are rationalized

Investment Risks

- Declining commodity prices
- Overbuilding of oil service assets which leads to increased competition
- Reduced access to capital markets
- Global economic crisis
- Labor shortages and/or rapidly rising labor costs
- Environmental litigation

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