



June 2020

## The Pressure Pumper of the Future

# EIAP Overview

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Energy & Industrial Advisory Partners (EIAP) was founded to provide companies and investors across the energy and industrial markets with strategic consulting and M&A advisory services from seasoned consultants with significant industry experience and connectivity.

Our team and our subject matter experts have worked in the industries we cover and have maintained that focus during our consulting careers. We don't take on engagements outside our core verticals. This specialism enables us to provide proprietary insights into the perspectives of key customers, suppliers and competitors. Our collective experience amounts to hundreds of transactions and strategic engagements alongside some of the world's most sophisticated investors and companies.

We understand your products, services and the markets you operate in which allows us to ask the right questions and continue the conversation in a way generalist firms can't. Our large network of subject matter experts and industry connectivity also gives us access to the key decision makers relevant to your business.

We understand the M&A process and how buyers and sellers create value. We understand the challenges facing our clients. We don't provide cookie cutter solutions to the problems facing your business or your strategic goals.

We quickly identify and understand the issues facing your business and develop the solutions you need to grow revenue and profitability and help you meet your goals. We understand that insight not only comes from the C-Suite but also the shop floor, and we're just as comfortable in the field as we are in the board room.

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# Service Offering

<b>Buy Side Due Diligence</b> <ul style="list-style-type: none"><li>Test operations and strategy</li><li>Analyze and validate commercial, operational and strategic aspects of a transaction</li><li>Customer diligence</li><li>In-depth industry knowledge</li><li>Understanding of competitive dynamics</li><li>Technology assessments</li><li>Business plan reviews</li><li>Synergy valuations</li><li>Strategy / 100 Day planning</li></ul>	<b>Strategy</b> <ul style="list-style-type: none"><li>Industry experience and connections to develop tailor made strategies</li><li>Understand issues facing your business</li><li>Develop solutions to grow revenue and profitability</li><li>Develop &amp; execute M&amp;A strategies</li><li>Go-to-market strategies to boost sales and market share</li><li>Portfolio reviews for distressed companies</li><li>High quality forecasts</li></ul>	<b>Customer Due Diligence / Voice of the Customer</b> <ul style="list-style-type: none"><li>Proprietary VOC methodology</li><li>Identify at-risk customers</li><li>Identify growth opportunities</li><li>Customer concentration</li><li>Identify and retain customers</li><li>How will customers perceive a transaction</li><li>Net promoter scores and value assessments to understand customers loyalty</li><li>Measure against competitors</li><li>New products and services</li></ul>	<b>Restructuring Support</b> <ul style="list-style-type: none"><li>Maximize recovery, minimize disruptions, and provide a road map towards a stable and profitable future</li><li>Independent assessments of company forecasts based on market data and industry expertise</li><li>Assist with post-restructuring business plan development</li><li>Identify revenue, profitability, and cost reductions opportunities</li></ul>
<b>Acquisition Target Identification</b> <ul style="list-style-type: none"><li>Experts at identifying and screening potential acquisition targets</li><li>Proprietary identification and evaluation methodology</li><li>Industry expertise, large SME network, and access to industry sources</li><li>Bolt-ons and platform acquisitions and identification of potential acquirers</li></ul>	<b>Economic Impact Studies</b> <ul style="list-style-type: none"><li>Regulatory changes, industries and new projects</li><li>Powerful communication tool for stakeholders</li><li>Accessible metrics; employment, GDP and government revenues</li><li>Industry expertise provides us a deep understanding of supply chains</li><li>Experience testifying before House and Senate, regulators, and executive branch agencies</li></ul>	<b>Expert Witness &amp; Litigation Support</b> <ul style="list-style-type: none"><li>Technical, commercial, and financial experts</li><li>In house and experts sourced from our pool of subject matter experts</li><li>Access to public and private industry data coupled with in house analysis</li><li>Understanding of the litigation/arbitration process</li><li>Impactful exhibits</li></ul>	<b>Sell Side Diligence &amp; Exit Preparation</b> <ul style="list-style-type: none"><li>Vendor due diligence and pre-sale diligence/exit preparation</li><li>Realistic valuations and buyer identification</li><li>Company ready for sale and exit value maximized</li><li>Issues have been identified and addressed, diligence requests anticipated and prepared for</li><li>Defensible forecasts which stand up to diligence</li></ul>

# The Pressure Pumper of the Future

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- Even before the current, historic downturn pressure pumpers were facing challenging conditions. Concerns about sustainable activity levels in US unconventionalals were growing and demand was trending down.
- The market was already oversupplied and fractured, though positive signs were emerging as players began to exit the market and reduce capacity. Frac pricing was weak and near or at historically low levels.
- Pressure pumpers had seen continued margin erosion due to lower pricing and decoupling of sand and chemicals despite steadily improving operational performance. Almost all pumpers faced declining per fleet EBITDA levels and both public investors and private capital had shunned the industry.
- While new technologies such as electric frac and dual fuel garnered significant market interest, E&Ps were for the most part unwilling to pay higher prices or commit to long term contracts to fund the CAPEX associated with these technologies which could improve the ESG profile of the industry.
- The dual hit of COVID related demand destruction and OPEC+ led supply increases led to one of the most rapid demand destruction events in history, with national frac counts rapidly dropping to as low as around 50 spreads.
- For many pumpers, these events could not have found them more ill prepared, as both public and private companies faced balance sheets that were already raising questions on the need for widespread restructurings in the sector.
- Given the structural problems of the sector, debt loads, and the likelihood of both incredibly challenging near-term conditions and lower long-term demand levels, how can pressure pumpers adapt to the new normal?
- To succeed, the pressure pumper of the future needs to overhaul their business to meet a permanently changed environment.

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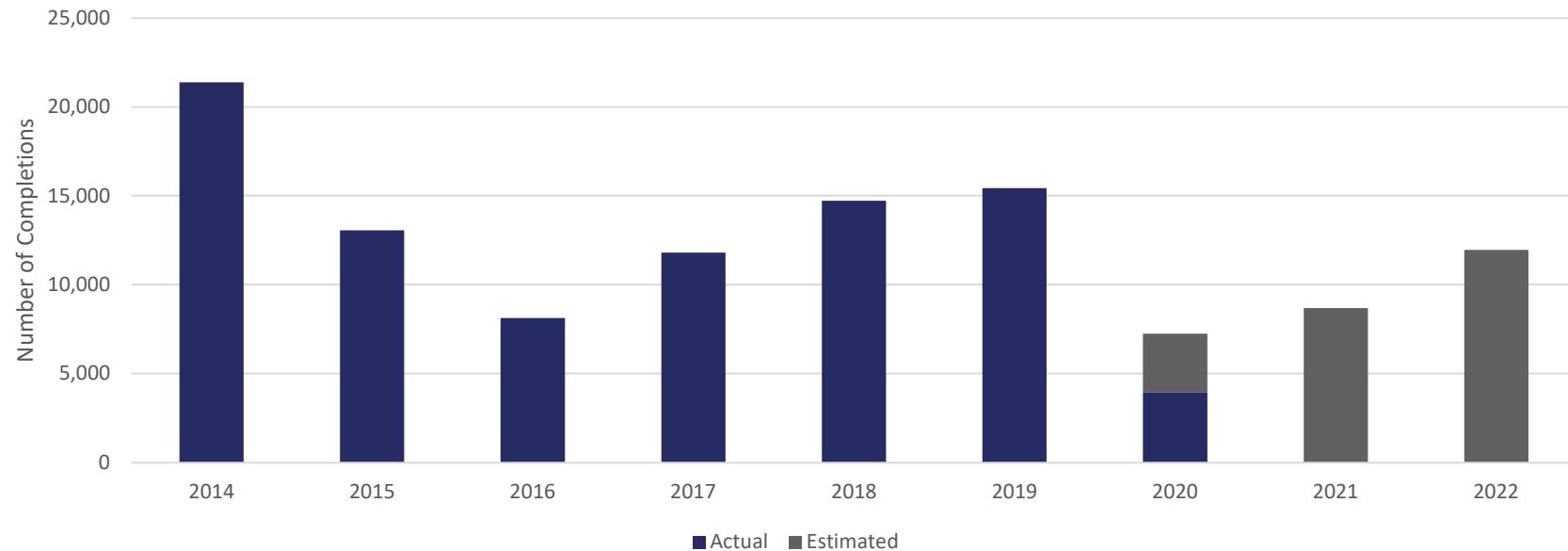
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# US Horizontal Completion Activity

U.S. Horizontal Completions | EIA, EIAP



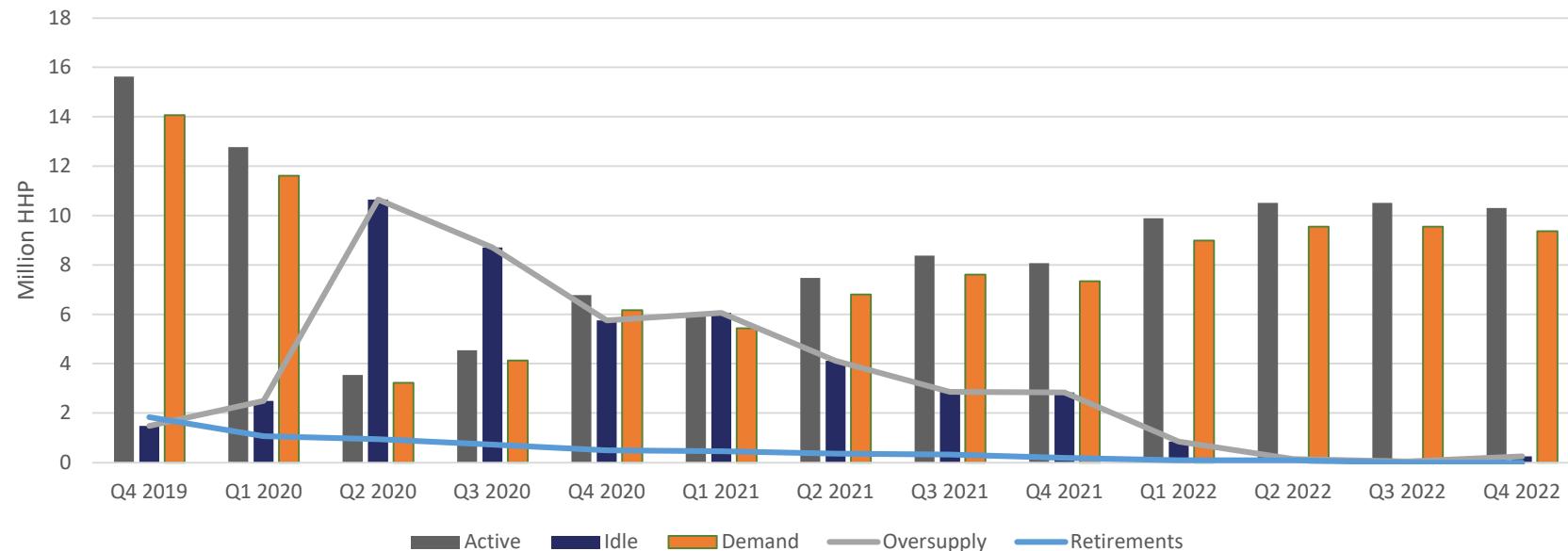
U.S. focused E&P spending is projected to decline by 35 to 50 percent in 2020 compared to 2019 (although this figure is highly fluid). EIAP forecasts that completion activity is projected to be at least 50 percent below 2019 levels based on wells completed to date and E&P indications of CAPEX budgets. Q2-Q4 completion activity is projected to be around 60 percent off and will likely be backloaded towards late Q3 and early Q4. Even with a recovery in oil prices, activity in 2022 will likely be materially lower than 2019 levels according to EIAP forecasts, as the universe of E&Ps developing unconventionalals consolidates, uneconomic wells on non-core acreage are not drilled and completed and well spacing increases. However, there is still considerable uncertainty around sustainable long-term US unconventionalals activity levels.

The rapid drop in active frac fleets compared to other activities is driven by two primary factors, operators' unwillingness to complete wells they have no intention of producing immediately and the lack of firm contracts for frac fleets compared to drilling rigs. Most E&Ps have released fleets as jobs come to an end (and in some cases in the middle of jobs) and frac demand has hit record lows but seems to be leveling off. Near term activity may begin to increase albeit very slowly.

Even as activity begins to recover (likely remaining below 2018-2019 levels for the foreseeable future), the relationship between well completions and number of fleets will continue to change, much the same as the relationship between rigs and wells drilled has. Pressure pumping fleets have grown larger and efficiency has improved. As pumpers continue to focus on and improve operational efficiency, the number of fleets to support a given level of completions activity will continue to decline.

# Where Does the Frac Market Stand Today?

Frac HHP Supply and Demand | EIAP

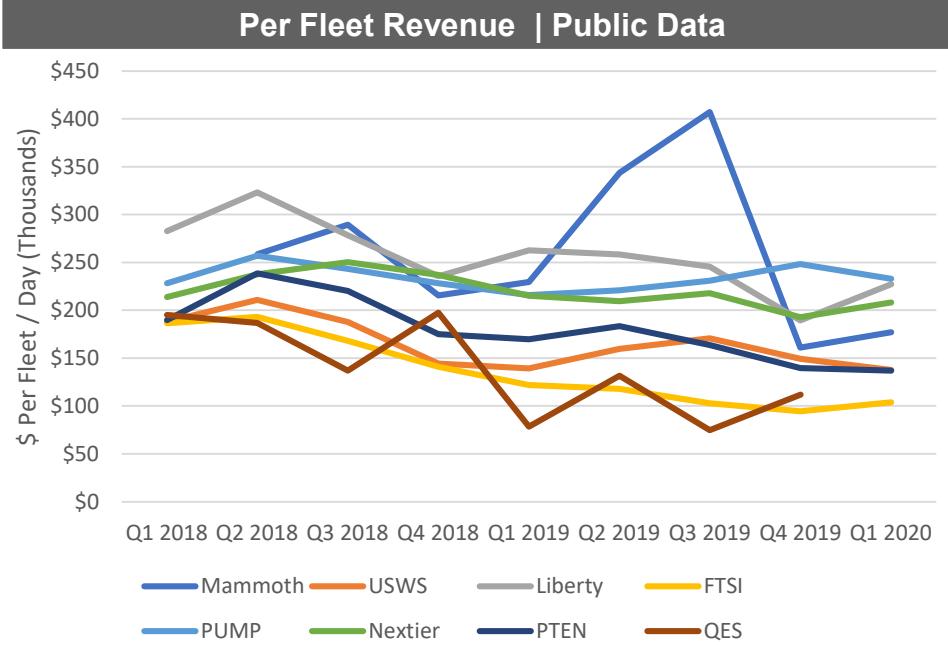
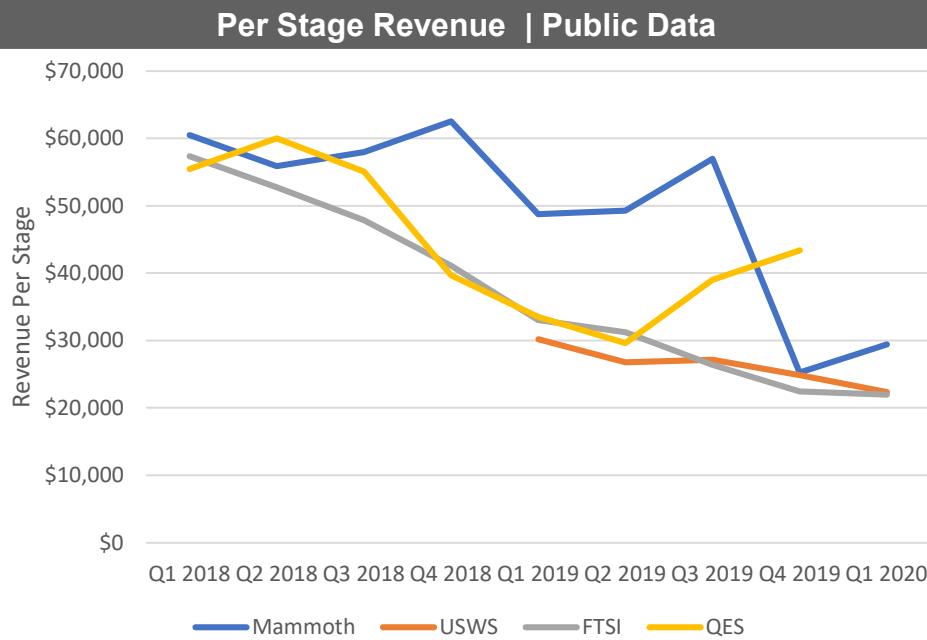


The US Frac fleet was slightly oversupplied (and becoming more so) at the end of 2019, indicated by a lack of pricing power and increased competitiveness for bids. Even prior to the downturn a number of pumpers were indicating that they were either exiting the market (PUMPCO) or reducing capacity (HAL & SLB). Since the start of the current downturn earlier this year significant reduction in capacity has already been announced, led by HAL, SLB and PTEN. However, these supply reductions still leave the fleet extremely over capacity for projected 2021 demand, let alone the incredibly low demand levels the industry will likely experience in 2020. Additionally, increased efficiency has and will continue to reduce demand at a given level of activity.

In addition to retirements, the fleet should continue to experience natural attrition as pumpers favor deploying idle equipment in favor of any intensive repair and maintenance activity. Even before the current downturn a significant share of pumpers were deferring maintenance and choosing to instead deploy more HHP to locations. To the extent long term idle fleets were being maintained the majority of this equipment should be retired. The possibility that a large integrated OFS company completely exits the frac market also exists.

In contrast with previous downturns, equipment is much more likely to be truly scrapped (as opposed to stacked or sold at auction and then redeployed by other pumpers at pennies on the dollar). We are expecting a wave of retirements this year with continued attrition through 2021 and 2020. Perhaps optimistically, supply/demand balance may be reached sometime in 2022, albeit at demand levels of slightly over 200 fleets. Compared to 2015-16, private equity's appetite to stand up new pumpers seems to be non-existent and auction prices for equipment will very likely be at or lower than scrap value. This may impact some pumpers willingness to retire equipment as large write downs will be required, though pumpers are unlikely to face much pressure from investors for taking write downs given current conditions.

# Frac Pricing



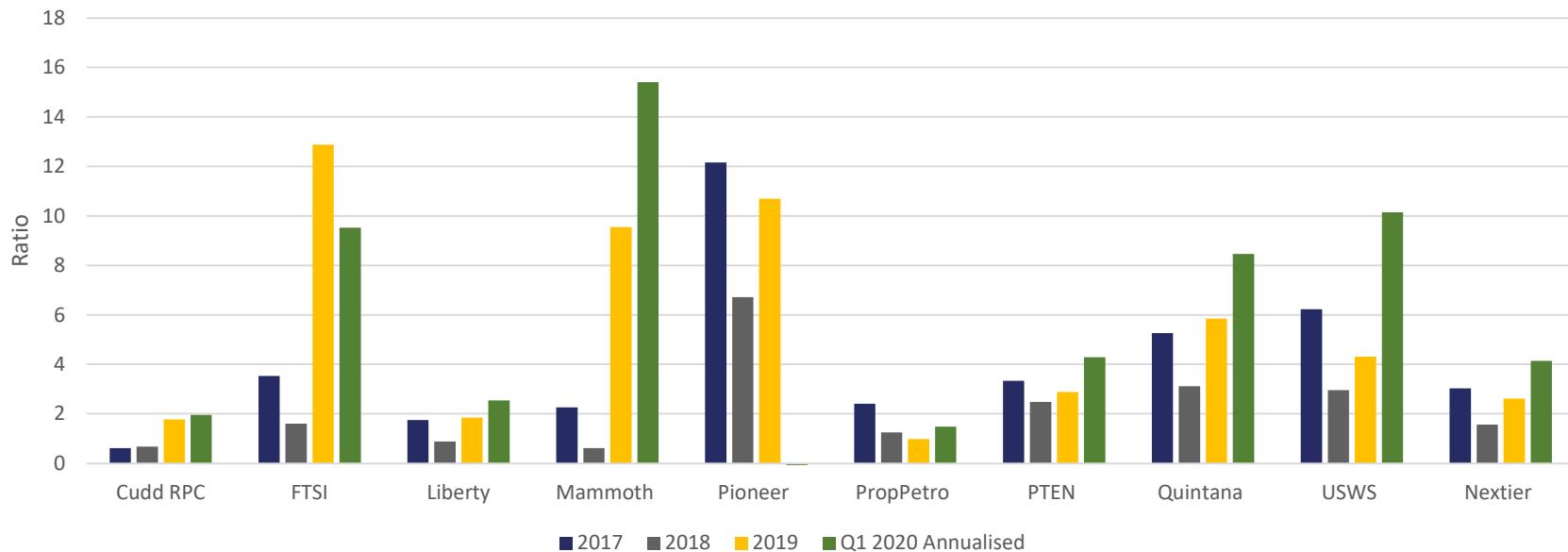
Even prior to the current downturn, frac pricing was at or near historic lows with all but the most efficient pumpers facing near break even conditions. Where work is available pumpers have come under intense pressure to reduce pricing by 20-30%, but in contrast with the 2014-2016 downturn pumpers have little available scope for material reductions as 20-30% reductions would see most losing money at the gross margin level. While some pumpers may be willing to accept such pricing concessions higher quality pumpers are unlikely to do so. Even with 20-30% pricing concessions, the subsequent reduced operational efficiency of a pumper who would accept such pricing is likely to offset that pricing reduction.

While there is minimal public data on per stage pricing, the above data coincides with anecdotal information, per stage pricing has declined much quicker than average revenue per fleet as pumpers have increased efficiency/stages per day through operational improvements, increased use of technology (frac lock, rig lock, quick connects, etc.) and the deployment of more HHP on locations due to both reliability issues and rate and pressure increases. However, this has led to higher costs to pumpers for maintenance, repair, refurbishment and logistics as well as reduced equipment life. Essentially, as pumpers have increased efficiency (and borne the higher costs of doing so), all gains have been captured by E&Ps and revenue per fleet has steadily declined. Pumpers are performing better, facing higher operating costs and receiving less revenue.

Pumpers will continue to high grade equipment and crews, and efficiency should continue to increase especially for well run pumpers. However, if pumpers continue to fail to receive any benefits from improvements, per fleet revenue will continue to decline while maintenance costs increase. Pumpers must deploy technology to fundamentally change their cost structure such as pumps with more HHP (reducing maintenance and labor costs) and improved maintenance programs that allow them to reduce HHP on location without impacting operational efficiency.

# How will the Downturn Impact the Supply Landscape?

EBITDA / Total Liabilities Ratio | Public Data

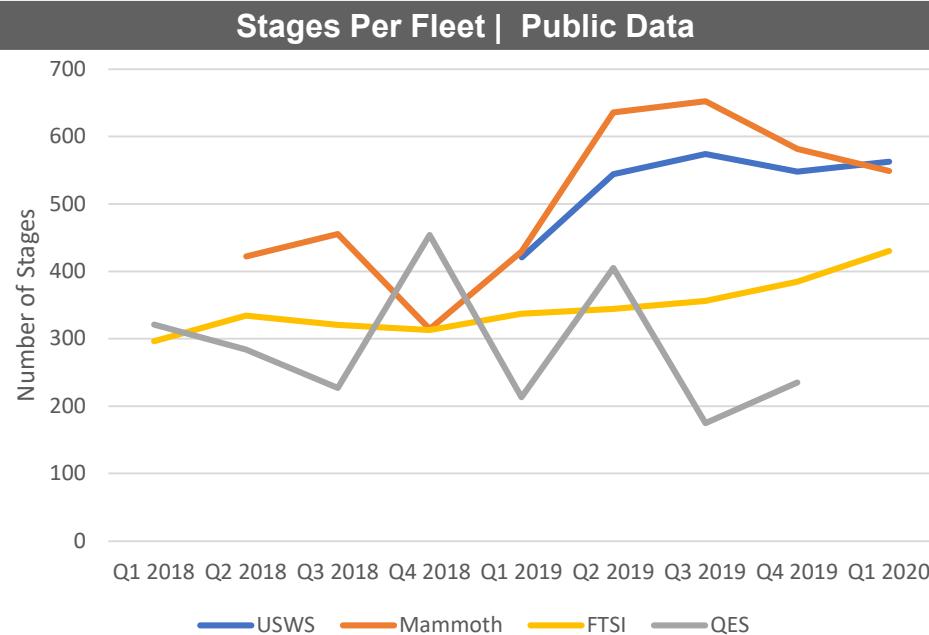


It's important to note that the above graph does not account for cash on hand, debt maturities, or undrawn revolvers which will all play a role in the potential need for restructuring amongst companies involved in the frac sector. Additionally, Q2-Q4 EBITDA numbers will almost certainly be materially lower (and in some cases negative) than Q1 for the sector. The length of the downturn and speed at which activity recovers will also play a role, especially for companies with cash on hand who are not faced with near-term maturities. Customer quality will also have a large impact on near-term performance, as activity will rebound faster among E&Ps with stronger balance sheets. The overall E&P universe will also likely concentrate demand with high quality pumpers.

Of the above list, Pioneer has already announced a pre-packaged restructuring, and QES entered into an all stock merger with KLX energy services (at a discount to their share price). Sources indicated that FTSI has appointed advisors to consider its balance sheet, which is unsurprising given its debt load and a restructuring is likely. From the above data, Mammoth and USWS' debt loads are also potentially unsustainable. Of the two, USWS, which possesses long term electric frac contracts, may be better positioned to respond to the downturn. These contracts also could potentially position the company as an acquisition candidate. A number of private and PE backed pumpers are also potentially vulnerable, especially those with highly levered balance sheets.

Even pumpers with "relatively" healthy balance sheets may not be positioned to sustain a lengthy downturn, as industry ratios for all but the healthiest companies far exceed corporate averages and continued EBITDA reductions could lead to debt loads becoming more and more unsustainable. Pumpers with the healthy balance sheets (for example Liberty and ProPetro) may use the current situation to expand market share via all stock mergers with companies with weaker balance sheets but given the unprecedented situation should be cautious. Potential combinations should be based on geographic, equipment and culture fit. All pumpers should continue to focus on deleveraging as high debt loads do not fit with such a cyclical industry.

# Successful Pumpers Must Become Efficiency Fanatics



Upgraded Frac Pump | MGB Oilfield Solutions



To succeed in the future, pressure pumpers must become “Efficiency Fanatics” who make completion efficiency on location their primary driver. All pumpers’ objective should be pumping 18-20 hours per day on location with no frac related NPT.

## Keys to accomplishing this goal:

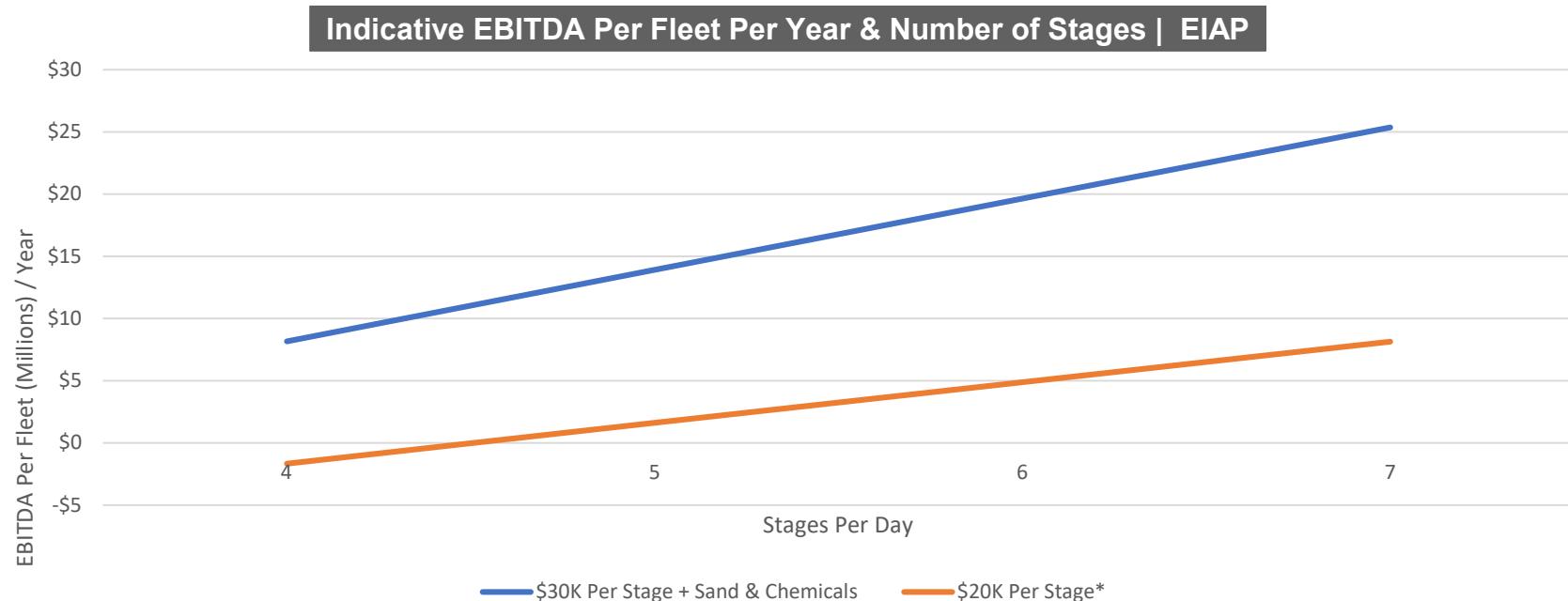
Deploy Comprehensive Maintenance Programs - Increase focus on proactive maintenance provides returns and shows up on both income statement and the balance sheet. Underestimating the need for repairs leads to higher costs (manpower, overtime) and to pumpers deploying more assets instead of understanding the root causes of the problem.

Embrace key technologies - real time diagnostics, preventive as opposed to reactive maintenance programs, vibration analysis, enhanced frac iron, and other technologies which improve efficiency.

Upgrade pumping equipment - to improve maintenance costs and reach efficiency goals (stages and pumping hours per day) with less HHP on location.

Develop a culture focused on key metrics to focus your organization on operational efficiency on location including pump time on location, NPT, HSE, and carbon emissions.

# How Stages Per Day Affect EBITDA



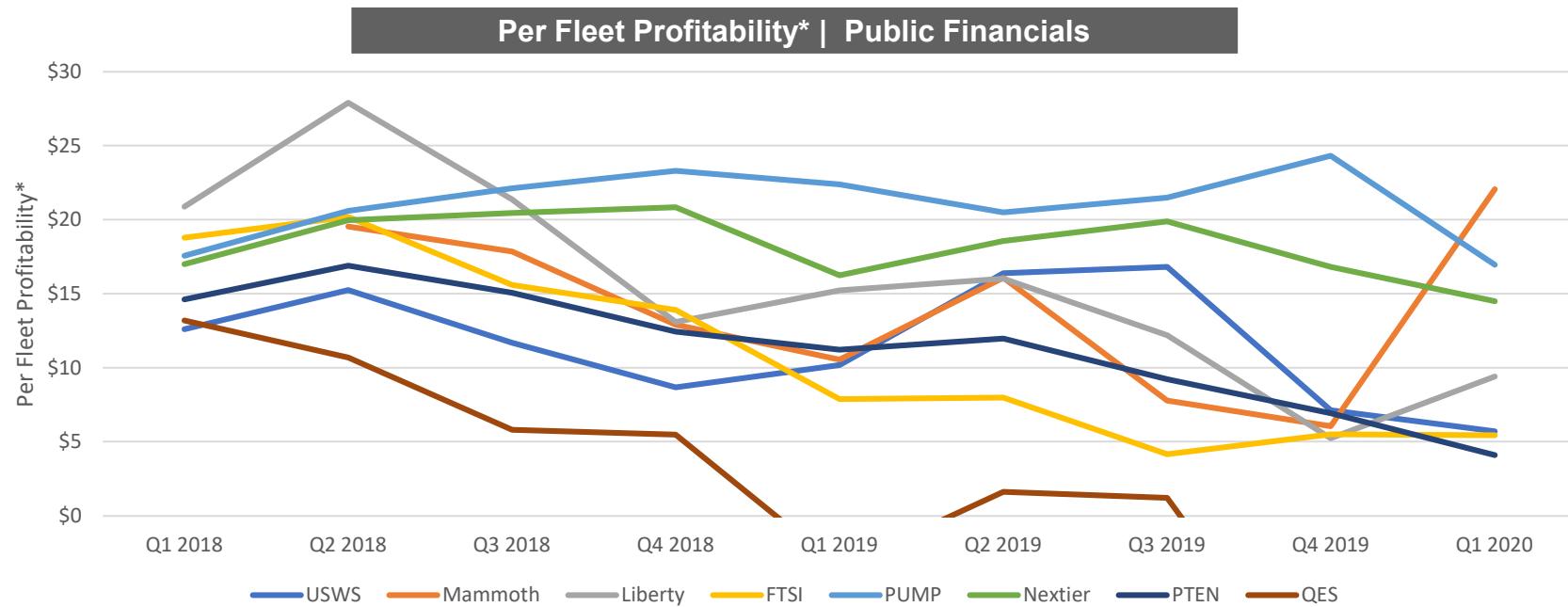
Pressure pumpers have consistently improved their operational performance in recent years, pumping more stages and hours per day. 4-5 years ago it was common for pumper to pump 10-12 hours per day due to NPT, a lack of simops, long cycle times between stages, and a lack of multi-well pads. Today, the best pumpers consistently pump 18-20+ hours per day while also pumping at higher rates and pressures with improved safety performance.

Historically, the rule of thumb for pressure pumpers has been that by pumping more hours per day, revenues and profits will increase. However, in recent years this relationship has broken down primarily due to decoupling of sand, chemicals, and diesel and consistent pricing erosion. Decoupling of sand and chemicals has a significant impact on pumper bottom lines. Pumpers would often charge ~15-20% gross margins on chemical revenue of \$6-10,000 per stage and ~5-10% gross margins on sand revenue of ~\$20-30,000 per stage. Per stage pricing excluding sand and chemicals has also degraded steadily, with stage pricing (which varies based on a number of factors) falling by around 30-35% over the last 2-3 years (The graph reflects pricing declining from \$30,000 per stage indicative of 2018 pricing to \$20,000 per stage). Pumping more hours/stages per day also leads to increased wear and tear on equipment, increasing R&M costs which further eats into EBITDA margins.

The above example, which is indicative only, demonstrates how decoupling of sand and chemicals, in addition to degradation of pricing and increased R&M costs impact EBITDA per spread despite increased operational performance. Pressure pumpers have not been rewarded for their continued operational improvements, and instead have seen shrinking margins. Pumper need to decrease costs through improved maintenance programs, reductions in HHP on location but also refrain from accepting work at prices that are margin dilutive.

\*Assumes 25% reduction in R&M costs per hour pumped in second and 15% margin on chemicals and 75 margin on sand in first case. Both cases exclude diesel and assume 3-hour stages.

# Pumpers Need to Maintain Capital and Pricing Discipline



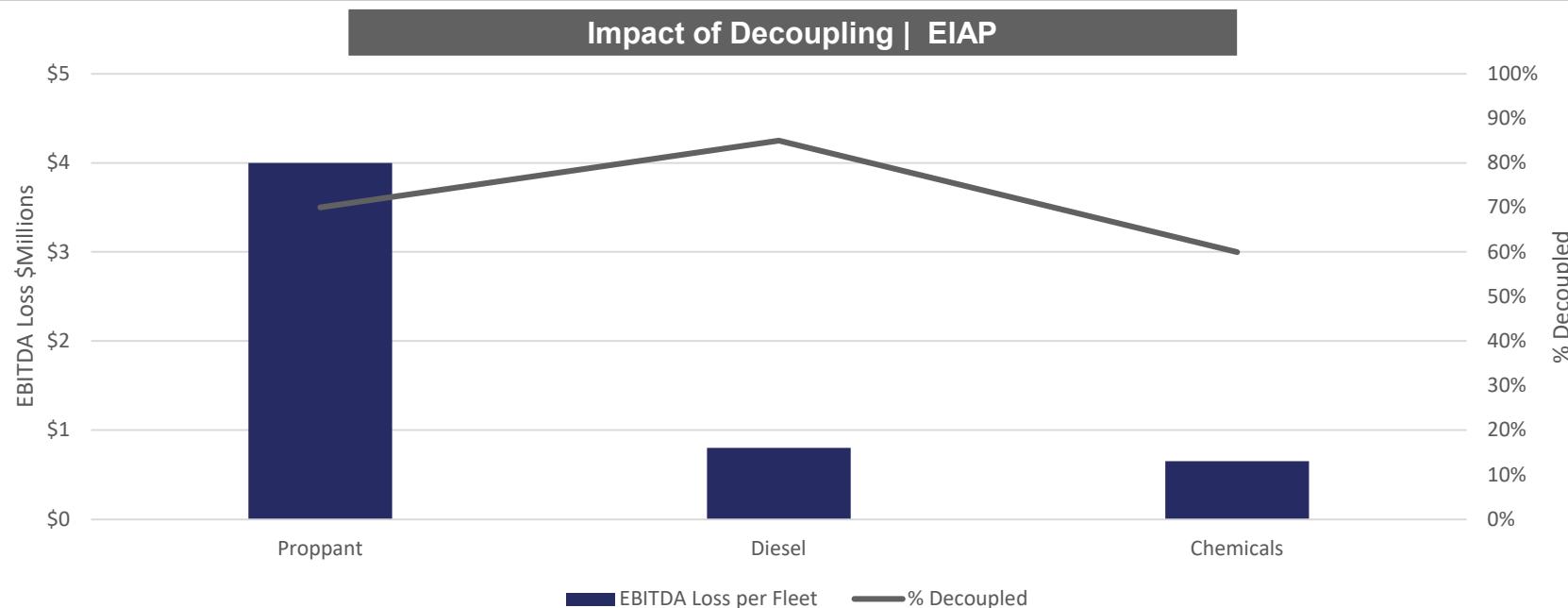
Pressure pumpers have fairly consistently seen declining EBITDA per spread due to reduced pricing, increased maintenance costs due to increased pumping hours and the need to deploy more equipment on locations. Pumpers need to focus on arresting the trend of doing more for less and allowing E&Ps to continue to capture all operational gains.

Pumpers need to maintain capital and pricing discipline in the new environment. The pressure pumping industry has long been characterized by bad competitors who chase market share with little focus on profitability. Pumpers with good operational performance should be willing to decline jobs to emphasize to E&Ps that in the long run, cheaper pricing from a pumper with poor operations does not save money. Pumpers should view all bids through financial metrics including return on capital employed and EBITDA per spread and not accept dilutive contracts unless there is a strong strategic reasoning.

Pumpers need to understand what kinds of pumper they want to be in long term and not make decisions (capital or customer) on short term trends or impulses. Too often, pressure pumpers buy on short term market trends and even impulse. In most cases pumpers should be reluctant to deploy newbuild equipment without a relatively firm contractual commitment and should instead focus on repairing or upgrading existing equipment to increase efficiency and reduce costs. Maintaining per fleet EBITDA has proven difficult for pumpers and based on current trends even the best performing companies will likely see degradation.

\*Adjusted EBITDA per Spread except Nextier (Adjusted Gross Profit) and PTEN (Margin). Some pumpers report EBITDA per spread differently (Ex. USWS excludes fluid end maintenance.)

# Pumpers Need to Streamline their Business Models



The pressure pumper of the future must streamline its business model (and balance sheet) to “absolute essentials” which meet the requirement of its customer and the market. Pumpers must eliminate non-core functions from their organizations based on a deep understanding of their customers actual needs.

## Keys to accomplishing this goal:

Eliminate internal capabilities to provide proppant on location and develop relationships with select third party providers who will provide a commission back to the pressure pumper.

Reduce/eliminate internal capabilities to provide chemistry on location and develop relationships with select third party providers who will provide a commission back to the pressure pumper.

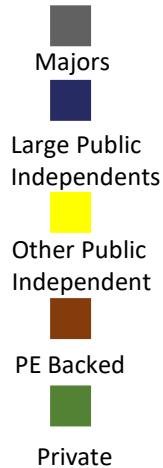
Divest holdovers from coupled strategies such as sand logistics infrastructure, chemical R&D, and niche businesses acquired to support pressure pumping.

Reduce/eliminate internal capabilities to mobilize/demobilize equipment on location and develop relationships with select third party providers who will provide a commission back to the pressure pumper.

Continue to consolidate yard locations based on a deep understanding of the tradeoffs between keeping additional equipment on location, the logistics costs of transportation and the cost of maintaining yards.

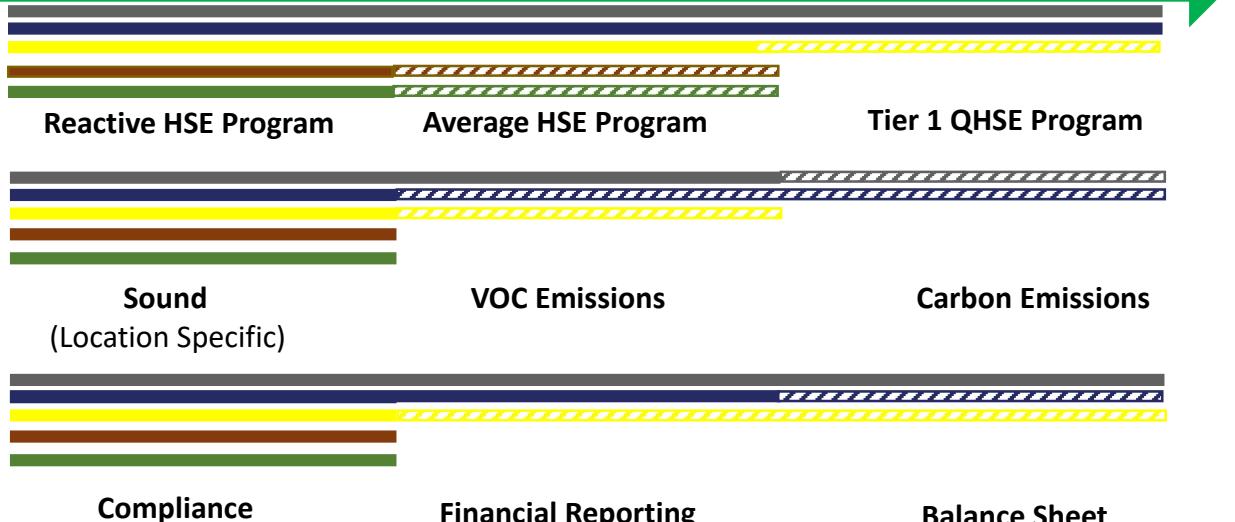
# Pumpers Need to Focus on ESG

## Importance



### Safety

Primary Importance to all operators



### Environmental

Growing importance, wide variations

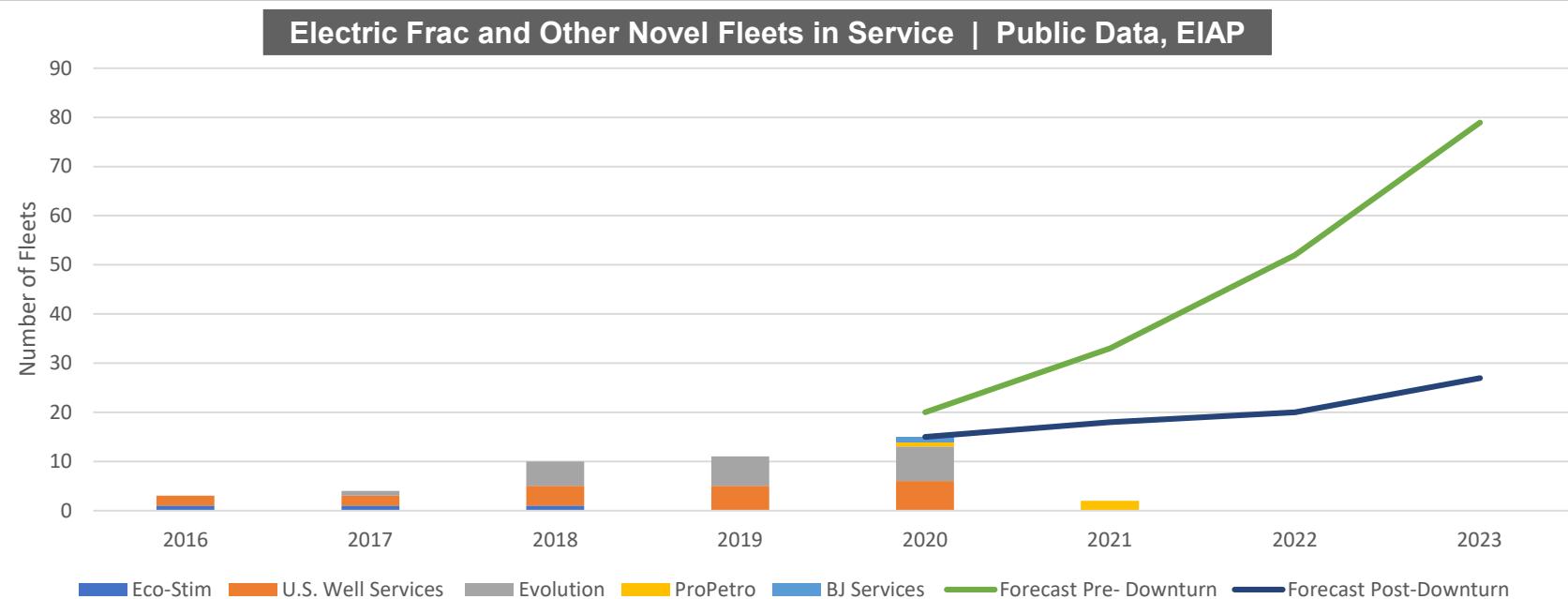
### Governance

More important to investors, major issues can impact ability to win contracts

Pumpers must focus (selectively and realistically) on ESG issues without impacting operational efficiency. Different types of, and individual operators have differing ESG focuses. While in general majors are more focused on emissions than independents, some large independents have been leaders in deploying technology to reduce emissions. Pumpers should focus on meeting the realistic ESG requirements for their top 10 customers and understand how those ESG requirements may change over time. Accomplishing ESG goals must be done collaboratively, and with commitment from customers using the most up to date technology.

- Develop short term plans to reduce conventional equipment and personnel on location using technology and automation.
- Convert to high hydraulic horsepower pumps improving HHP/trailer over time with customer support.
- Eliminate tractors on location utilizing alternative technology (PowerCell, electric start).
- Develop long term plans to upgrade/convert equipment to dual fuel and/or electric fleets with customer support.
- Safety is an absolute necessity for working in this sector-NO EXCUSES! Pumpers must continue to improve safety programs and reduce personnel entrance into the red zone via technology such as automated bleed off systems. Pumpers who wish to work with majors and large independents must implement a Tier I QHSE Program that includes behavior-based safety, SOPs, extensive tracking and reporting, root cause analysis, etc.
- Governance – continue to improve governance, avoid even the appearance of impropriety in bidding activity, continue to reduce the impact of the “old boys” culture and communicate to customers the company’s financial strength.

# Pumpers Should Continue to Consider Next Gen Equipment



Prior to the downturn there was a growing demand for next generation fleets, although the sticking point for most operators was a lack of willingness to pay materially higher rates (or to sign the long-term contracts required to justify the pumper's CAPEX). Channel checks indicate that many E-Fleets from a variety of providers continue to fail to achieve the efficiency touted in promotional materials. Given the current situation, and the massive overhang of high-quality conventional fleets significant near-term investment in next generation frac technology looks unlikely.

Still the future of these technologies is bright, albeit with that future pushed out a further 2-4 years due to the current downturn. Winners and losers remain to be seen. For the near term at least, Tier 4 dual fuel units will likely dominate the relatively small amount of new equipment ordered, with select opportunities for E-Fleets and other technologies such as direct drive.

Electric frac focused companies themselves are likely to exit this downturn relatively unscathed given the long term take or pay contracts signed by operators. As most electric frac fleets are utilized their share of active fleets has increased dramatically. In the long run, the pause in new orders and focus on operations may allow electric frac to emerge as a preferred technology. In general, the highest quality/newest fleets including dual fuel, quiet, etc. will see higher utilizations in depressed conditions albeit E&Ps willingness to pay a premium for these fleets will decline. Conventional pumpers with strong balance sheets may consider acquiring dedicated electric frac providers.

Although electric frac is the most widely discussed technology, pumpers should be willing to consider and deploy other technologies such as direct drive which meet ESG requirements and enable them to deploy more HHP per trailer. Pumpers need to understand trade offs and operational issues with next gen equipment (rig up time, operational efficiency, availability of fuel gas, issues with gas processing) and focus on designing and building equipment which can meet the operational requirements of their customers.

# Electric Frac Interest Will Continue, But Adoption Will Slow

The largest barriers to electric frac deployments remain pricing and contract structures. Given current market conditions, these barriers will only be larger than prior to the downturn. E&Ps are relatively unwilling to deploy technology which is a detriment to overall well costs especially due to concerns around projected diesel savings being realized due to field gas availability. Concerns around the ability of pumper to cost effectively process field gas and maintain availability only add to these concerns. Electric frac pricing is typically 3-5k per stage higher than conventional spreads and without similar or greater savings due to reduced diesel use this technology will lead to increased well costs. E&Ps are not only concerned with materially higher stage costs but also with the need for a long-term contract to justify the CAPEX required for a new electric frac fleet given how this conflicts with their desire to be able to flex CAPEX.

Prior to the downturn electric frac pricing was seen to be dropping, though whether reductions were due to reduced equipment costs or margin reductions is still unclear. Significant uncertainty remains on the actual deployed build cost of electric frac spreads including turbines. Pressure pumper who wish to lead the deployment on electric frac may have to accept pricing structures with more flexibility (perhaps based on actual diesel savings instead of a flat per stage rate).

To successfully deploy electric frac, pumpers must keep operational efficiency as their priority. Many E&Ps who have utilized older generations of electric frac equipment have negative opinions about the technology which will hinder efforts to deploy fleets. Channel checks continue to indicate operational issues with electric frac fleets including longer rig up times materially impacting cycle times.

## Electric Frac Pump | Lime Instruments



To eventually see greater adoption issues around fuel gas availability/processing and rig up times need to be corrected and the purported benefits of electric frac on pad sizes, sound reduction, wear on fluid and power ends and frac iron, reduced emissions and greater efficiency must be realized. Pumpers should focus on customers with strong ESG goals which can be met by electric frac as these customers will account for most uptake in the near to medium term.

Even accounting for these benefits, given market conditions pumper will likely remain unwilling to take on additional risk and deploy capital to build new fleets, and E&Ps will be reluctant to provide the firm contractual commitments they would require to build fleets without doing so.

Pumpers should also seriously consider if they should be in the business of owning turbines due to the threat of in-field power increasingly replacing turbines. Also, turbine technology continues to improve (modular designs, higher efficiencies) so the risk of owning outdated technology may be too great to bear for pumpers

# Dual Fuel Should Be a New Base Line

Although deployment of dual fuel fleets will be reduced due to current conditions, prior to the downturn adoption seemed to be rapidly increasing. In fact, most E&Ps were considering the use of dual fuel fleets when contracting, although a lack of willingness to pay for the technology hindered actual deployments.

E&Ps interest in dual fuel spreads is focused on the potential for savings on diesel fuel. The major barriers to adoption are field gas availability and concerns around actual diesel replacement rates. Deployments will likely continue to be focused on E&Ps who have consistent fuel gas availability (or who have run the economics on CNG use) on most of their pads as well as operators whose pumping jobs provide load characteristics which would allow them to achieve higher replacement rates.

E&Ps are also interested in the emissions reduction potential of dual fuel engines, especially new tier-4 dual fuel engines which can potentially provide similar emissions reductions to electric frac spreads. These tier 4 engines also offer significantly higher replacement rates compared to legacy tier-2 dual fuel engines (~80% depending on load characteristics compared to 40-60% for tier 2 engines). Deploying technology to reduce idle times in unison with dual fuel units could also lead to significant additional cost savings as engines typically run on 100% diesel when idling.

Tier 4 Dynamic Gas Blending Engine | Caterpillar

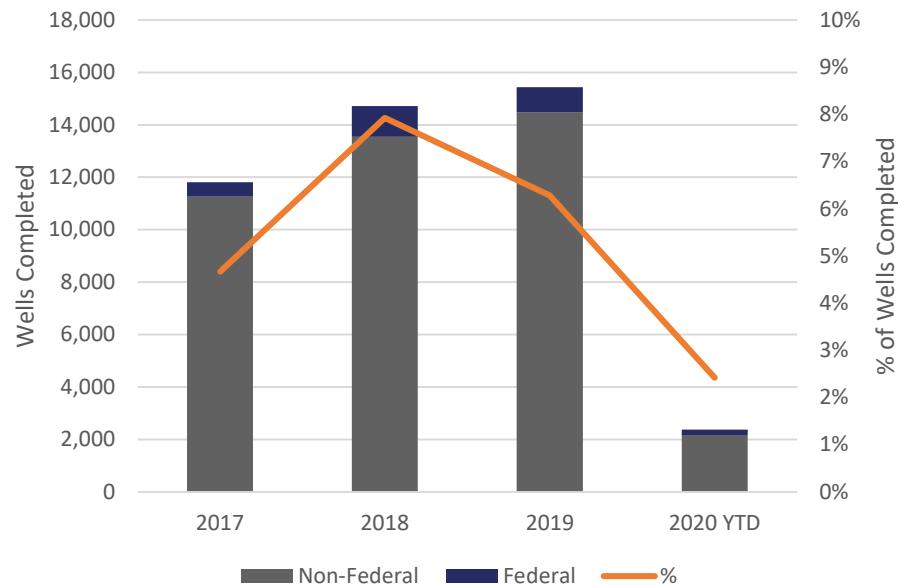


One major concern for both dual fuel and electric frac is field gas processing. Processing and compressing gas streams of differing quality to meet the standards required for dual fuel engines or turbines is still a major shortcoming for pumpers and they should seriously consider if this skillset is a core functionality of their company or if this work should be outsourced to a 3<sup>rd</sup> party provider.

Outsourcing procurement and operations of gas processing skids would also reduce CAPEX requirements and prevent pumpers from requiring a large inventory of skids to meet the processing needs of gas with different levels of CO<sub>2</sub>, water, NGLs, solids and other contaminants. The need for gas processing can also greatly reduce claimed footprint reductions of next generation equipment.

# Pumpers Should Understand the Regulatory Landscape

US Well Completions Federal vs. Non-Federal | Frac Focus



E&P Federal Completions 2017-2020 YTD | Frac Focus

Operator	Federal	Total	% Federal
TEP	169	255	66%
Hillcorp	119	202	59%
WPX Energy	169	340	50%
Mewbourne	67	261	26%
Cimarex	67	296	23%
Laramie Energy	37	201	18%
OXY	195	1448	13%
ConocoPhillips	85	672	13%
Extraction	32	323	10%

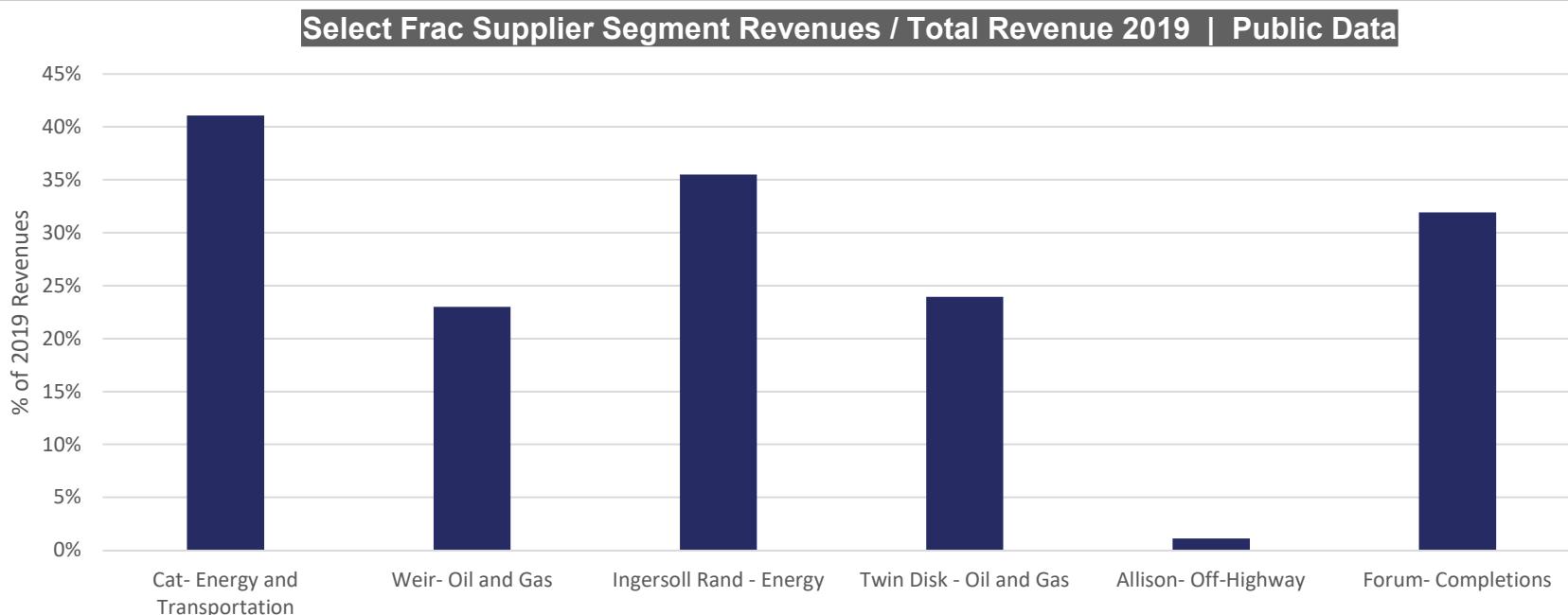
Another concern for US onshore completion activity is the November election, when President Donald Trump will face the democratic nominee Vice President Joe Biden. Although the potential consequences of the election to the industry were undoubtably reduced when Vice President Biden won the Democratic nomination over Senator Bernie Sanders, a change in administration could still have consequences for the industry. If President Trump retains the White House little to no regulatory change is likely. However, in the event Biden wins his administration will likely attempt to enact policies that could lead to reduced activity.

As part of his platform Biden has stated that he would ban fracking on Federal lands, although he has flirted with the idea of banning fracking completely, and more progressive elements in the party will likely continue to push him on this issue. That outcome is much less likely than a ban only on federal lands. Even banning fracking on federal lands is not a given and would undoubtably be slowed by courts. Fracking on federal lands has accounted for between 4.5% and 8% of activity in recent years, so it would have a material impact on overall demand. For pumpers who are particularly exposed to E&Ps active on federal land the impact could be much larger, though some E&Ps who are particularly exposed (such as WPX and OXY) have completed acquisitions which should reduce their reliance on federal lands going forward. Pumpers should closely track how such a ban could impact their activity levels.

In the long term, policies such as the green new deal and zero emission targets may have major implications for pressure pumpers and the industry as a whole. While oil and natural gas will continue to play a role in primary energy production and be needed for petrochemicals and other products, demand for hydrocarbons in the 20-40 year time frame may be materially lower.

# Impact on Key Suppliers to the Frac Industry

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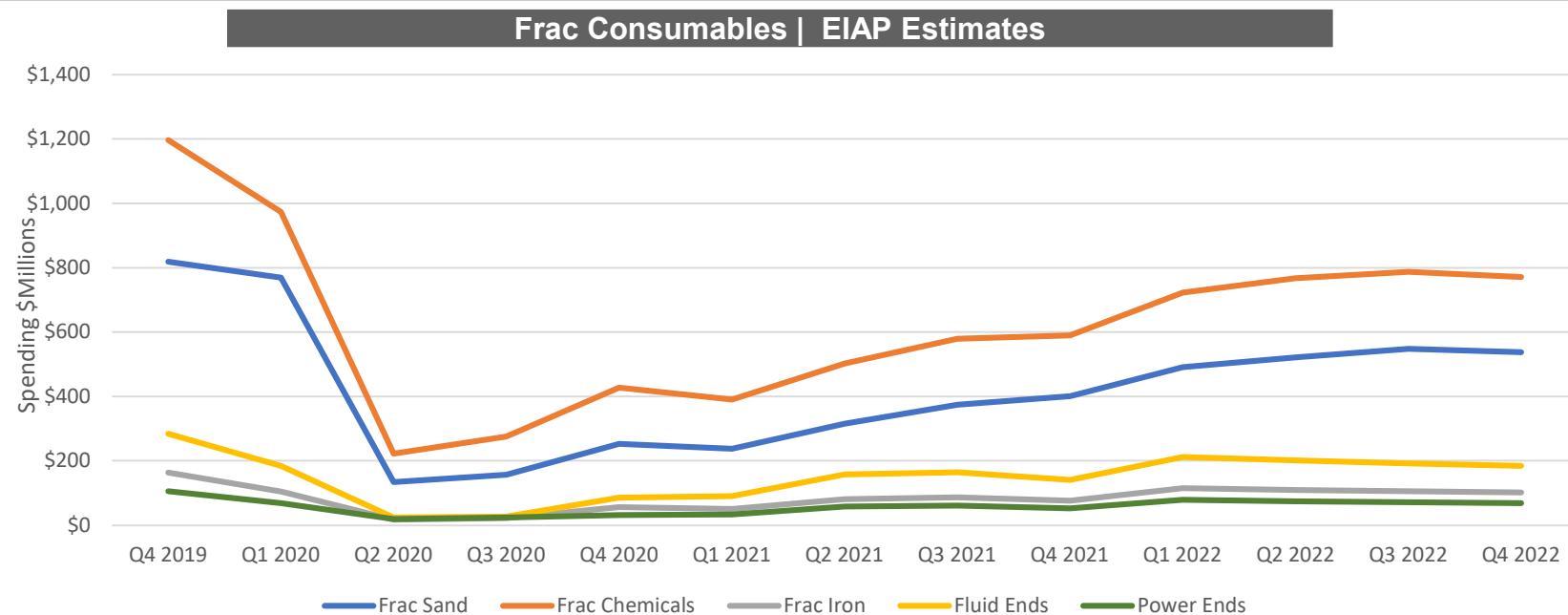


Reduced pressure pumping demand will also have a material impact on large industrial companies who supply the industry with prime movers, transmissions, pumps, fluid ends and other products. New order activity is likely to be minimal to non-existent and pumpers will defer repairs and maintenance, trade out pumps on location and cannibalize equipment. This will lead to a major drop in both new and aftermarket spending after most companies already saw reduction in frac related revenues in 2019.

Although these companies typically report pressure pumping related spending as part of larger segments, demand from frac providers has accounted for a significant portion of many industrial companies' energy or oil and gas spending. Given the depressed activity outlook and significant over capacity in the market industrial companies selling into the frac market will likely be faced with a multi-year reduction in demand.

In the long term, suppliers who provide equipment which increases efficiency and reduces repair and maintenance costs are best positioned for an eventual recovery (for example Caterpillar which leads dual fuel engine production). If demand remains depressed, industrial companies with dedicated pressure pumping product lines may either end up shutting down or divesting these divisions. However, in the near-term, valuations for these types of businesses will likely be incredibly depressed. If industrial suppliers seek to exit the space, reduced competition may potentially lead to higher equipment pricing for pumpers.

# Impact on Frac Consumables



Reduced pressure pumping demand has had an immediate impact on suppliers of consumables used in pumping operations including sand, chemicals, iron, fluid and power ends, and other products. Frac sand demand and pricing is dropping sharply and current conditions will likely lead to the near elimination of Northern White Sand in favor of in-basin sand (which will also be oversupplied) in the Permian, Eagle Ford, Haynesville and SCOOP/STACK. Northern White capacity greatly outstrips demand from the Marcellus, Bakken and other plays and many mines will shut (with little potential recovery for creditors).

Chemical demand will also drop sharply in line with completions, and the sector requires consolidation to reduce capacity in addition to pumpers exiting the chemical business. In contrast to sand, blending and other chemical infrastructure may be able to be redeployed to other industries in some cases.

Frac iron demand is projected to decrease faster than sand and chemicals as pumpers scavenge iron from inactive spreads to reduce costs. Even before the current downturn suppliers from lower cost countries were steadily gaining a foothold in the market. Given pumpers need to focus on reducing costs this trend should accelerate. US suppliers should focus on providing products which increase operational efficiency. Large bore single line solutions and updated frac manifolds had been gaining increasing acceptance prior to the downturn and pumper's need to focus on costs and operational efficiency should see this trend continue (albeit slowed due to a lack of CAPEX and the likelihood that equipment is scavenged off inactive spreads). Equipment manufacturers should focus on cost effective solutions, as expensive and overly complex equipment likely won't meet the needs of customer in the near to medium term.

Fluid end demand is also expected to see a slower recovery due to both scavenging and increased fluid end life spans. However, when fleets are reactivated demand should increase more rapidly due to scavenging. Although demand will be muted in the near term, providers who can provide ends which lower operating costs should be successful, though the threat of cheaper ends from lower costs countries is also a concern.

# **Conclusions (How Does the Pumper of the Future Look?)**

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- The dramatic changes in market dynamics demand that Pressure Pumpers significantly change their business model;
  - A Re-sized market
  - Higher expectations from Oil and Gas Operators
  - De-coupling of Pressure Pumping Services
- Looking in the rearview mirror can be fatal to today's Pressure Pumper
  - Customers, in general, ARE NOT willing to pay for chemical technology and sand packaging
  - Customers WILL pay for efficiency technology IF it pays for itself
  - Customers EXPECT superior HSE performance on location
  - Customers MAY pay for "greener" technology but will be dependent on in-field capabilities and overall economics
- Market consolidation/equipment retirement is inevitable
- The "efficiency fanatics" will be successful
  - Deploy comprehensive, long term maintenance programs
  - Upgrade pumping equipment with key technologies
  - Develop a culture driven by metrics focused on operational efficiency
  - Streamline their business model
- Focus selectively (and realistically) on ESG issues that align with their top 10 customers
- Invest in next generation equipment with customer support
  - electric frac fleets remain well utilized but investment capital is problematic
  - Dual fuel fleets appear to be better economic alternative and should be evaluated
  - A Clear understanding of what customers are willing to pay for is critical

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  - Market Trend Evaluation
  - Competitive Intelligence Gathering
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  - Synergy Valuation Estimation
  - Operational Reorganization Support
  - Support Creditor Negotiations
- Equipment Manufacturers
  - Demand / Supply Dynamic Analyses
  - Risk Assessment Reviews
  - Customer Due Diligence
  - Target Identification
  - M&A Due Diligence
  - Synergy Valuation Estimation
  - Support Creditor Negotiations
- Institutional Investors [equity and credit]
  - Strategic, Commercial and Operational Due Diligence
  - Market Sizing; TAM, Demand v. Supply Analyses
  - Customer Due Diligence
  - Competitive Intelligence Gathering
- Investment Banks
  - Market Intelligence Gathering / Referencing
  - Merger Synergy Valuation Estimation
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  - Voice of the Customer

To find out more about these services, please speak to one of our senior team members: [inquiries@eiapartners.com](mailto:inquiries@eiapartners.com)

# Author Bios

## John Jameson

John is a senior executive with proven experience in running all facets of an integrated oilfield service company. John is a former President of Weir Oil & Gas' Pressure Control division; covering Wellheads, Drilling and Completion Rental Services and Frac Flowback capabilities. From 2010-2012 John served as President & CEO of Universal Pegasus where he was directly responsible for all aspects of oil and gas engineering. From 2010 to 2012 he was SVP of Weatherford International (US region) with direct responsibility for all aspects of Weatherford's US business units. Prior to that John held multiple senior positions at Weatherford including managing their US pressure pumping business and product lines including Progressive Cavity Pumps (US), Completions and Production Systems (Mexico) and all product lines in Canada as well as various senior positions at Halliburton where he began his career.

## Sean Shafer

Sean has led or worked on over 100 transactions in the OFS, E&P, and energy services space as well dozens of strategic projects. Prior to founding EIAP he managed the US consulting practices at a leading boutique OFS due diligence provider and before that at Quest Offshore, a leading oil and gas data provider and consultancy. He has experience working on diligence and strategy projects across industry sectors for clients ranging from small service companies, to mid and large PE firms, to large E&P companies. Sean's industry experience also includes positions ranging from data analyst to field positions at a Russia based well service company. Sean is also a recognized expert on the economic impacts of the oil and gas industry having testified before U.S. House and Senate Natural Resources Committees and as other U.S. regulatory officials.

## Cameron Lynch

Cameron has spent his entire career working within energy and adjacent industrial sectors. Prior to EIAP, Cameron spent over 7 years in M&A consulting having established and grown the US division of a boutique consulting firm in New York City and Houston, having previously established its London office. During this tenure, Cameron consulted on a large number of transaction and strategy related projects, which included working with some of the world's leading institutional investors. Cameron has an extensive M&A professional network both in the US and internationally. Prior to his advisory career, Cameron spent over 7 years working in industry; first, working in capital equipment manufacturing and later in the rental of specialist industrial equipment. Cameron has a BA in Civil, Structural and Environmental Engineering from Trinity College, Dublin.

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