

OUTLOOK

Texas Oil and Gas Upstream Picture Brighter as More Jobs Added in October

The Texas oil and gas jobs picture was brighter in October for the second consecutive month, but there remains an overhang from Covid-19's pressure on demand, according to a top energy industry group.

The state's upstream sector added 600 jobs in October, the Texas Oil and Gas Association (TXOGA) said Wednesday. September's job gains also were revised upward, with total upstream job recovery since August's low point now estimated at 2,100, according to data from the Texas Workforce Commission.

"The second consecutive monthly growth in upstream employment is much welcomed news," said ...cont' pg. 4

REGULATORY

Energy Industry Stands to Benefit as Interior Relaxes Migratory Bird Protections

In a potential boon for energy companies, the Trump administration is using its final few weeks in power to advance a new regulation that would explicitly limit a federal law protecting migratory birds to exclude those killed accidentally or unintentionally.

The proposed regulation would clarify what types of actions are prohibited under the 1918 Migratory Bird Treaty Act (MBTA) by excluding the incidental take of migratory birds, according to a final environmental impact statement (EIS) prepared by the U.S. Department of the Interior's Fish and Wildlife Service (FWS) and published Friday in the Federal Register.

The proposed regulation, advancing in ...cont' pg. 5

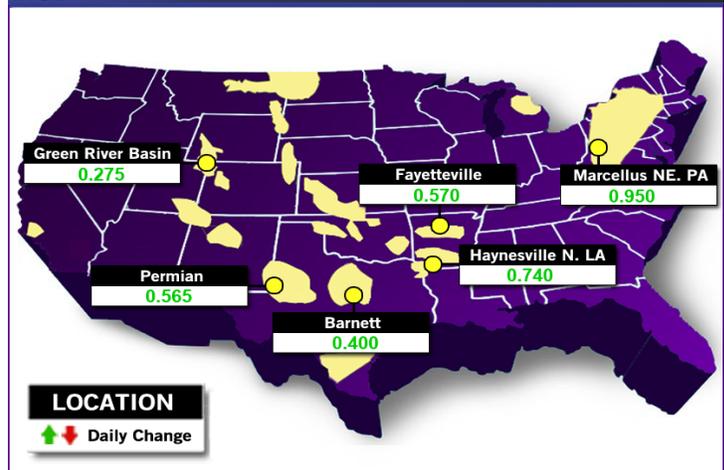
INFRASTRUCTURE

Texas GulfLink Deepwater Crude Export Terminal Gaining Traction

A Sentinel Midstream LLC subsidiary said Monday it has received a draft environmental impact statement (DEIS) for the deepwater crude oil export facility planned the coast of Freeport, TX.

The U.S. Coast Guard and the U.S. Maritime Administration (MARAD) issued the DEIS for the Texas

NGI SHALE NATGAS SPOT PRICE TRACKER



Trade Date: Nov 30; Flow Date(s): Dec 01					
Basin/Region	Range	Avg	Chg	Vol	Deals
Gulf Coast					
Barnett	2.580-2.600	2.595	0.400	11	3
Eagle Ford	2.650-3.060	2.950	0.605	690	111
Haynesville - E. TX	2.420-2.820	2.610	0.450	1,125	173
Haynesville - N. LA	2.700-2.950	2.870	0.740	190	36
Permian1	2.580-2.790	2.705	0.565	1,392	262
Tuscaloosa Marine Shale	2.820-2.950	2.900	0.660	1,195	203
Midcontinent					
Arkoma - Woodford	2.650-2.750	2.690	0.560	123	21
Canva - Woodford	2.675-2.775	2.720	0.365	114	30
Fayetteville	2.670-2.750	2.715	0.570	433	70
Granite Wash*	2.410-2.710	2.635	0.445	720	146
Northeast					
Marcellus - NE PA2	1.860-2.040	1.950	0.950	390	98
Marcellus - NE PA: Other3	1.900-2.040	1.980	0.915	237	64
Marcellus - NE PA: Tenn4	1.860-1.930	1.900	0.955	154	34
Marcellus - SW PA/WV	1.850-2.350	2.010	0.685	1,078	244
Utica5	1.880-2.415	2.105	0.445	556	104
Rocky Mountains / West					
Bakken	--	--	--	--	--
Green River Basin*	3.100-3.350	3.275	0.275	1,411	307
Niobrara-DJ6	2.580-2.700	2.680	0.495	437	68
Piceance Basin*	2.700-2.820	2.790	0.605	432	68
Uinta Basin*	2.795-2.820	2.805	0.620	118	14
San Juan Basin*	2.800-3.000	2.890	0.680	625	142

*Notes: Table represents fixed-price delivered-to pipeline transactions in USD/MMBtu. These data are comprised of deals that NGI believe represent trading activity in the respective resource plays and may contain gas that was produced from conventional formations. * Denotes a tight sands formation. Volumes may not total due to rounding. For more information, please see NGI's Shale Price Methodology.*

OUTLOOK

As Energy Transition Accelerates, E&Ps Forecast to Continue Contracting, Consolidating

Consolidation between oil and gas independents is expected to accelerate as the turn toward an energy transition turns on climate change initiatives, according to research by Wood Mackenzie.

“A world on a 2 C glidepath does not need thousands of Independents chasing volume,” said consultancy Vice President Luke Parker.

Oil and gas investors are gravitating toward stable dividends, which are underpinned by, among other things, solid balance sheets and low capital costs, along with top environmental, social and governance, or ESG, ratings. Putting those together, upstream exploration and production companies (E&P) could face existential choices.

“The independents’ strategies will need to evolve, as they move to minimize risks they can control,” Parker said. “For most, investment horizons will get progressively shorter across the board — exploration, development and acquisition. Anything that does not pay back in a narrowing timeframe will be increasingly overlooked.

“But with that shift, the very nature of the independents will change. The risk-reward balance that has always been core to the E&P ‘value proposition’ gets diluted. Independents increasingly look and act like larger companies, only without the advantages of actually being a larger company.”

The “defining theme” for the coming decades is likely to be consolidation. Many of the “most attractive” E&Ps could combine as “pure-plays with niche attributes at scale or diversified ‘mini-majors’ with growing carbon, capture, utilization and storage, or renewables businesses.”

The E&Ps best positioned for the future would be able to evolve with the times. While they could remain independent the longest, those E&Ps also would “make the most attractive consolidation targets,” Parke said.

Wood Mackenzie said the “consolidation pathways” could go three ways. There could be new “big energy players,” as operators shrink their upstream operator or exit oil and gas completely. For the “new big oil players,” the consultancy expects vertical mergers and value chain integration to be a common feature for late-cycle consolidation.

In addition, some big oil operators could get even bigger. For example, [Chevron Corp.’s takeover](#) of Noble Energy inc. “could be a sign of things to come.”

Other recent tie-ups of late include [ConocoPhillips’](#) stock-for-stock merger with Permian Basin pure-play Concho Resources Inc. In addition, [Devon Energy Inc.](#) is taking over WPX Energy Inc., while [Pioneer Natural Resources Co.](#) is trading stock to buy rival Parsley Energy Inc. Houston-based [Contango Oil & Gas Co.](#) ...cont’ pg. 3

2020 Selected North American E&P and Midstream M&A Activity (Through Sep 28, 2020)

Announce Date	Target Name	Acquirer Name	Asset Seller Name	Announced Total			Deal Status
				Value \$US Mil	Payment Type		
1/13/2020	Lillis Energy Inc	Varde Partners LP	--	128.52	Cash	Proposed	
2/5/2020	Eagle Ford shale basin	Potential Buyer	SM Energy Co	500	Cash	Proposed	
2/24/2020	Chinook Energy Inc	Tourmaline Oil Corp	--	16.77	Cash	Completed	
2/26/2020	Natural gas assets/Columbia Gas of Massachusetts	Eversource Energy	NiSource Inc	1100	Cash	Pending	
3/5/2020	Niobrara assets/Southern Denver	Unnamed Buyer	ConocoPhillips	N/A	Cash	Completed	
3/27/2020	Sprague Resources LP	Sprague Resource Holdings LLC	--	138.84	Cash	Withdrawn	
4/8/2020	Appalachian upstream & downstream assets	Diversified Gas & Oil PLC	Carbon Energy Corp	110	Cash	Pending	
4/23/2020	Bellatrix Exploration Ltd	Spartan Delta Corp	--	77.42	Cash	Completed	
6/22/2020	Oil-weighted producing property	W&T Offshore Inc	ConocoPhillips	N/A	Cash	Completed	
7/5/2020	Various Dominion Energy Pipelines	Berkshire Hathaway Inc	Dominion Energy Inc	9700	Cash	Pending	
7/20/2020	Noble Energy Inc	Chevron Corp	--	12680.6	Stock	Pending	
7/20/2020	Denbury Inc	Unnamed Buyer	--	2788.46	Cash	Proposed	
7/28/2020	100 wells/North Louisiana	Unnamed Buyer	Riviera Resources Inc	26.5	Cash	Pending	
8/3/2020	Terryville Upstream Assets/Louisiana	Tokyo Gas Co Ltd,Castleton Commodities	Range Resources Corp	245	Cash	Completed	
8/10/2020	Painted Pony Energy Ltd	Canadian Natural Resources Ltd	--	356.68	Cash	Pending	
8/12/2020	Montage Resources Corp	Southwestern Energy Co	--	868.53	Stock	Pending	
8/18/2020	Canadian Spirit Resources Inc	Potential Buyer	--	3.46	Undisclosed	Proposed	
8/18/2020	Ripple Resources Ltd	DGR Global Ltd	Armour Energy Ltd	N/A	Undisclosed	Pending	
8/26/2020	Arena Energy LP	San Juan Offshore LLC	--	N/A	Undisclosed	Completed	
8/27/2020	SCOOP/Grady County,Haynesville plays	Panhandle Oil and Gas Inc	Red Stone Resources LLC	6.4	Cash and Stock	Pending	
9/2/2020	East Denver assets/Colorado	True Oil LLC	Zoetic International PLC	0.38	Cash	Pending	
9/3/2020	Natural gas mineral/Marcellus Shale	Rising Phoenix Royalties LLC	--	N/A	Cash	Completed	
9/7/2020	Marcellus Shale gas project	Unnamed Buyer	Sumitomo Corp	N/A	Cash	Completed	
9/16/2020	Appalachia gas properties & pipeline	EQT Corp	Chevron Corp	N/A	Cash	Pending	
9/21/2020	Bonterra Energy Corp	Obsidian Energy Ltd	--	236.63	Stock	Pending	
9/24/2020	Canadian Continental Exploration Corp	Conquest Resources Ltd	--	N/A	Undisclosed	Pending	
9/25/2020	Oil & Gas Assets/Oklahoma	Alpha Energy Inc	Kadence Petroleum LLC	N/A	Cash	Pending	
9/28/2020	WPX Energy Inc	Devon Energy Corp	--	5987.94	Stock	Pending	

Source: Compiled by NGI from Bloomberg data

also agreed to an all-stock merger with Mid-Con Energy Partners LP. And Calgary's **Cenovus Energy Inc.** agreed to swap shares to buy rival Husky Energy Inc.

"We may come to look back on the last few months as the beginning of the consolidation that will define the oil and gas sector over the coming decade and beyond," Parker said. Wood Mackenzie also expects privatization to become part of the future. Private equity, hedge funds and sovereign wealth funds should be opportunities to buy "low-multiple and high cash flow companies" that may struggle to attract additional funding.

"Essentially we are talking about companies that will find it increasingly difficult to operate in public hands," Parker said. "Taking them private – free from stakeholder

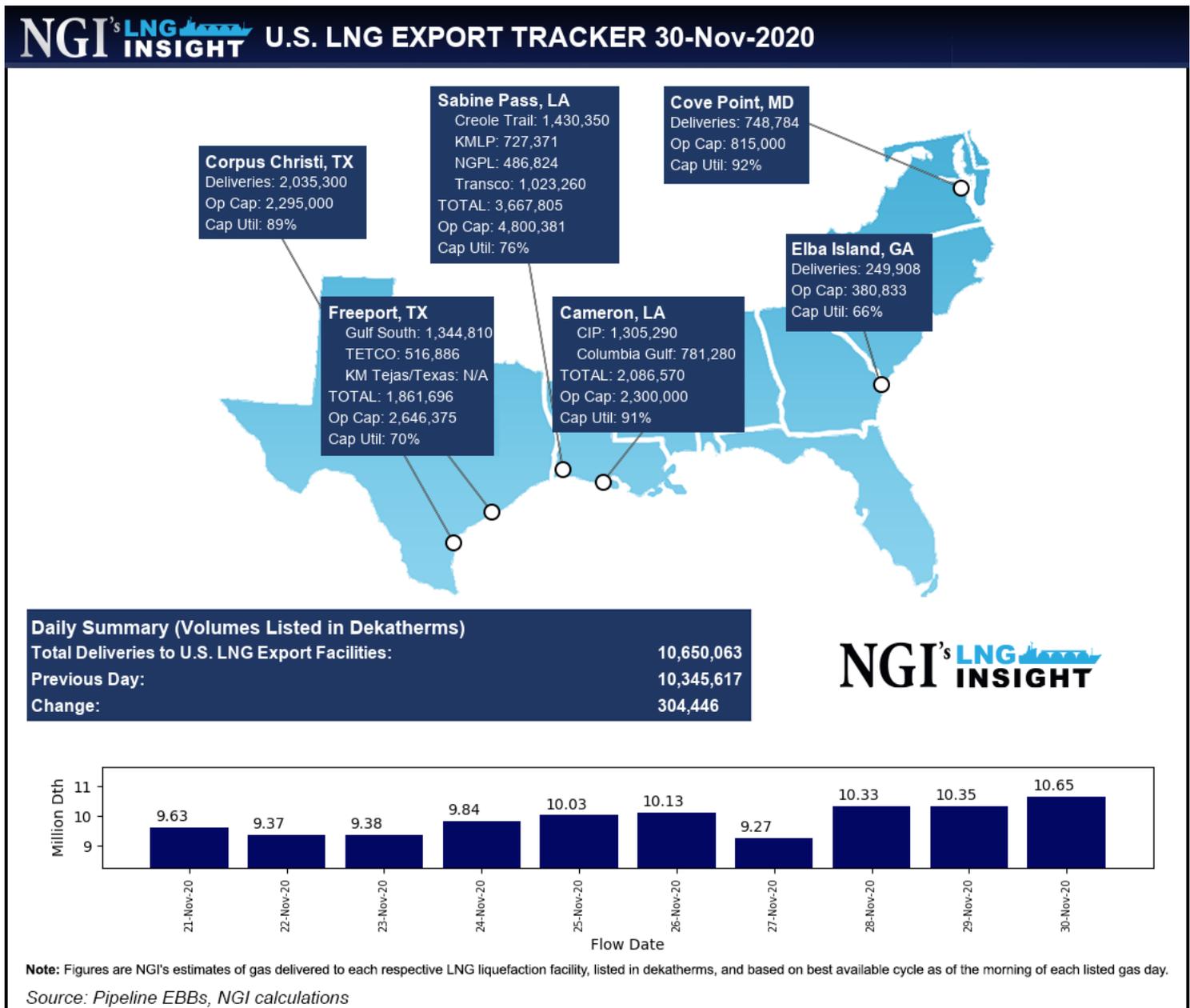
pressure, with an advantaged cost of capital and different investment horizon – could be a lifeline to many. But while this will be a theme in the evolving corporate landscape, it will not be dominant. We do not expect to see the entire E&P space taken private. Cost will be an issue for one."

The overall dynamic is shifting, he said. "The Independents will no longer get endless chances to re-invent themselves. Failure at the margin will, increasingly, be terminal."

[Plan for natural gas pricing 10 years out with NGI's Forward Look – forward curve data.]

Flat E&P Spending

In related news, Rystad Energy said in a recent report the global E&Ps are forecast to invest \$380 ...cont' pg. 4



billion next year, flat from 2020. However, about 20% of the estimated spend “could be at risk of deferral or reduction, with the remaining amount being categorized in the safer tiers of low and medium-range risk.”

With the “uncertain roll-out timing of the recently announced Covid-19 vaccines, it’s worth expanding the forecast to a range of \$350 billion to \$430 billion, incorporating some scenario deviation,” analysts said.

E&P Investments could rebound to the pre-Covid level of \$530 billion by 2023 if oil prices rise to around \$65/bbl. However, analysts noted that after the market crisis in 2014 with oil prices plummeted, “annual E&P

investments never recovered to the pre-crisis level of about \$880 billion,” instead settling at \$500-550 billion.”

Some of the spending reduction came from efficiencies, but there’s little room to do that this time. E&Ps now are pulling other levers, said Rystad, by deferring infill drilling programs, delaying sanctioning and start-ups, writing off stranded assets and reshaping portfolios.

“As E&Ps are also speeding up a transition into low-carbon energy, it is possible that this time, too, upstream investments will not return to pre-crisis levels in the long-term, even if they do recover somewhat over the next few years,” said Rystad’s Olga Savenkova, upstream analyst. ■

Texas Oil and Gas Upstream Picture Brighter as More Jobs Added in October

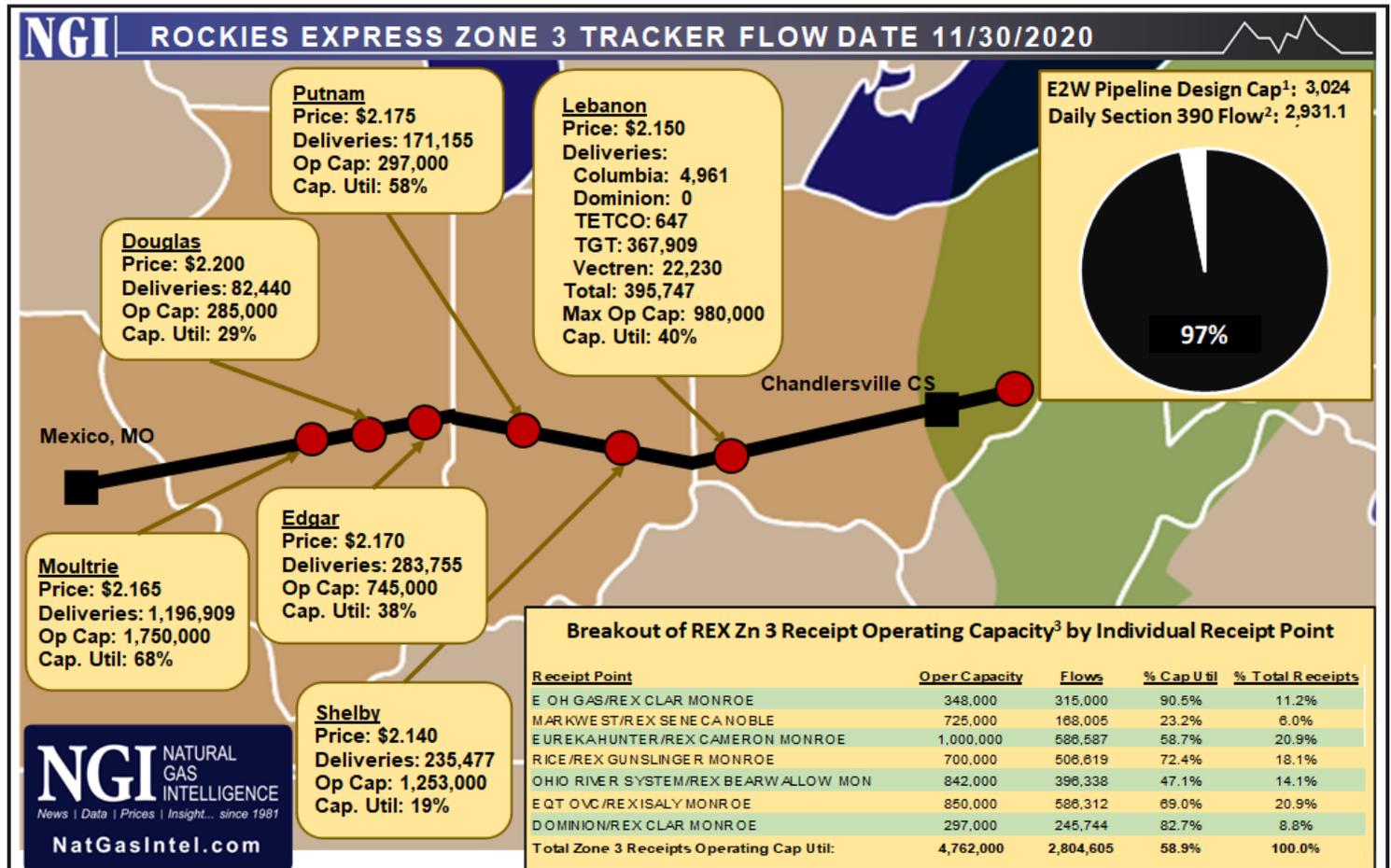
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TXOGA President Todd Staples. “While the impact of the pandemic is far from over and the supply glut still has to be fully worked through, back to back upstream employment gains confirm the vital role oil and natural gas plays in our economy.

“Many companies are still working through the

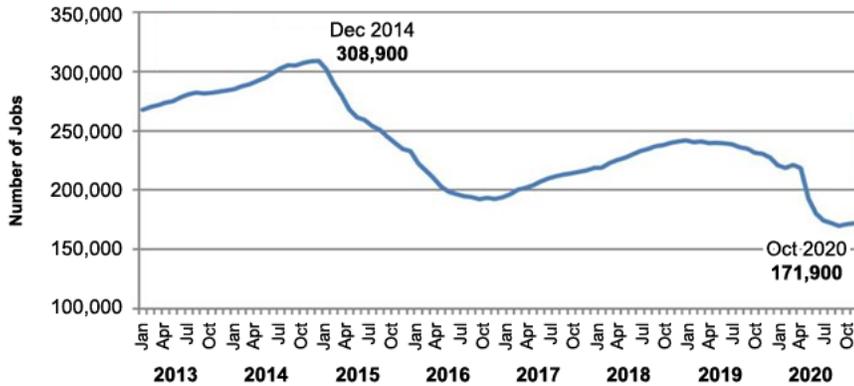
adjustments necessary to address the contracted economy due to Covid-19, yet this second month of positive job growth numbers are a good reminder of the essential role of oil and natural gas in our everyday lives.”

The job growth at the end of October brought total upstream employment in Texas to 171,900 ...cont' pg. 5



Source: Tallgrass Energy LP, NGI calculations. For more info and daily 10am ET updates of this chart, go to natgasintel.com/rextracker.

Texas Jobs in Upstream Oil and Gas



Notes: Sectors are "oil and gas extraction" and "support activities for mining." Excludes downstream sectors such as pipelines and refining.

Sources: TXOGA, Texas Workforce Commission

jobs, whose staffing positions pay among the highest wages in the state, the industry group noted.

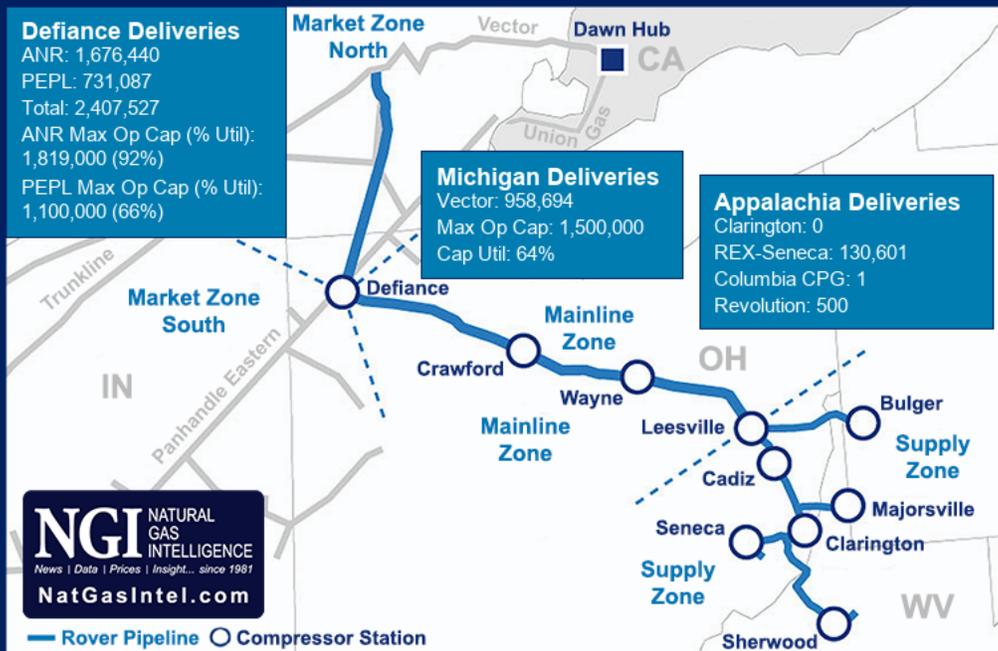
Upstream sector jobs involve oil and natural gas extraction, and they exclude other refining, petrochemicals, fuels wholesaling, oilfield equipment manufacturing, pipelines, and gas utilities jobs, which support "hundreds of thousands of additional jobs," TXOGA noted.

Earlier this month Houston-based trade group **Petroleum Equipment & Services Association** (PESA) said employment in the U.S. oilfield services ...cont' pg. 5

(OFS) and equipment sector also rose in October for the second consecutive month. The OFS sector sustained massive losses of more than 90,000 jobs earlier this year because of Covid-19.

OFS employment increased by 6,430 jobs in October as U.S. production began rising, according to a PESA analysis of preliminary data from the U.S. Bureau of Labor Statistics. The sector gained 2,202 jobs in September but lost 1,187 jobs in August. ■

NGI Rover NatGas Flow Tracker for Gas Day 30-Nov-2020



Rover Receipt Points	Op Cap	Receipt Vol	% Util
BERNE	350,000	324,266	93%
CADIZ-MW	300,000	43,529	15%
CADIZ-ORS	1,070,000	745,003	70%
CLARINGTON-EUREKA	350,000	204,851	59%
CLARINGTON-OVC	300,000	264,232	88%
CRAWFORD-UGS	350,000	0	0%
HARMON CREEK	400,000	183,089	46%
MADISON	400,000	80,600	20%
MAJORSVILLE	400,000	400,000	100%
REVOLUTION	525,000	0	0%
SENECA	800,000	51,500	6%
SHERWOOD	840,000	838,425	100%
SUNDANCE	406,000	335,673	83%
Total Rover Receipts	3,250,000	3,471,168	107%
Total Rover Deliveries	3,250,000	3,497,323	108%

*Represents stated full system capacity. All units in dekatherms.

Source: Rover EBB, NGI calculations & estimates

Energy Industry Stands to Benefit as Interior Relaxes Migratory Bird Protections

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the waning days of the Trump presidency, would provide "legal certainty for the public" and "improve consistency and efficiency" in enforcing the MBTA, the FWS wrote.

"The strict liability standard makes any unauthorized taking of migratory birds an illegal action, regardless of intent," the FWS wrote. "Historically, federal courts have interpreted the MBTA inconsistently, both by creating different ...cont' pg. 6

exceptions to strict liability and in its application to incidental take...which has created a patchwork system of enforcement across the country.”

Energy companies, including oil and gas operators, would stand to benefit from narrowing the scope of the law.

From 2010 to 2018, most of the enforcement investigations into the incidental killing of migratory birds were of electrical or oil and gas businesses, about 47 investigations annually, according to the FWS. Fine collections under the MBTA during the same period totaled \$105.8 million.

The regulation would reinforce the Trump Administration's previous interpretation of the MBTA, an interpretation that has been [challenged](#) in court. A controversial [legal opinion](#) from a Department of Interior official in late 2017 was vacated by a federal district court earlier this year.

“It is not only a sin to kill a mockingbird, it is also a crime,” U.S. District Judge Valerie Caproni wrote in an August opinion. “That has been the letter of the law for the past century. But if the Department of the Interior has its way, many mockingbirds and other migratory birds that delight people and support ecosystems throughout the country will be killed without legal consequence.”

In the EIS, FWS officials said they “respectfully disagree” with the court's ruling, adding that the case “does not directly affect our rulemaking process and effectively underscores the need to codify our official interpretation of the MBTA's application to incidental take.”

Research suggests hundreds of millions, possibly more than a billion, of migratory birds are killed annually due to incidental take, with most of those resulting from collisions with building glass or with vehicles, according to figures published in the EIS.

Comments on the EIS are due by Dec. 28. ■

Texas GulfLink Deepwater Crude Export Terminal Gaining Traction

Continued from Page 1

and the United States Coast Guard to timely address questions and provide additional information relevant to the DEIS,” said Sentinel CEO Jeff Ballard.

Texas GulfLink is to include an onshore oil storage terminal connected by a 42-inch diameter pipeline to a manned offshore platform about 30 miles off the Texas coast. From the platform, the crude would be transported to two single point mooring buoys to allow for VLCCs to receive up to 2 million bbl of oil with loading rates up to 85,000 bbl/hour. The offshore platform is to have

around-the-clock monitoring.

Ballard noted the “challenging times” in the energy industry, but said Texas GulfLink would be positioned to benefit from the expected energy market recovery, as it would address the current VLCC loading limitations off the Texas coast by offering “a more safe, reliable, and economic crude oil movement solution.

“We believe Texas GulfLink is the infrastructure that is needed for the U.S. to link domestic crude oil supply with global markets, especially through ...cont' pg. 7

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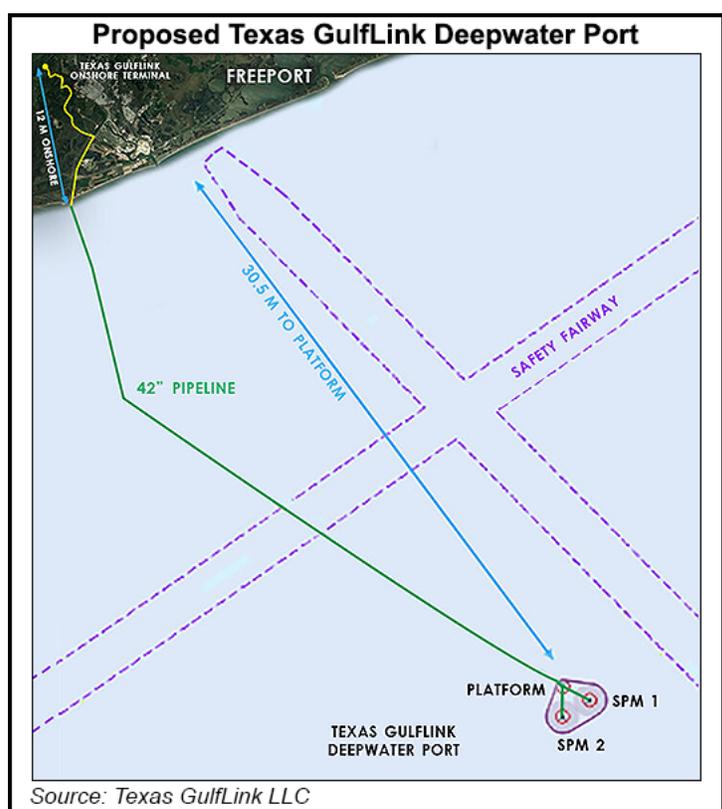
chartered VLCCs bound for Asia,” he said.

Texas GulfLink also would allow for “more efficient” loading of VLCCs, according to the CEO. The platform is expected to “significantly reduce” overall emissions including carbon and other greenhouse gases by around 80% when compared to the cumulative effects of reverse lightering, which is the current ship-to-ship transfer practice off the Texas coast. Ballard said the facility also would reduce congestion in shore-based ports.

“All of these factors lead us to believe that Texas GulfLink will be a major step forward for U.S. crude oil exports and a driving factor toward a low-carbon emissions future.”

Richardson, TX-based Sentinel in January aligned with Asia market-focused Freepoint Commodities LLC to further the project, utilizing Freepoint’s global and commercial resources to create value for customers as it moves through the license application process.

After what was once a crowded field of offshore terminal prospects, Sentinel has one of the few remaining projects as momentum has waned over the past year, even before the Covid-19 pandemic struck ...cont' pg. 8



Source: Texas GulfLink LLC

the United States.

Enbridge Inc. in January **dropped out** of the race to build and operate a terminal that also would be offshore the Upper Texas coast. Enterprise Products Partners LP's proposed Sea Port Oil Terminal, designed to load VLCC at rates of up to 2 million b/d, remained off the backlog as of the **third quarter 2020**.

Phillips 66 and Trafigura Group Pte Ltd. **tied up** in February to move forward with the Bluewater Texas Terminal LLC project. In recent months they told MARAD the project's footprint would be reduced by relocating pumps and four storage tanks to the planned onshore multi-use terminal near Taft, in South Texas.

[NGI's natural gas price indexes have included trade data from both price reporters and the Intercontinental Exchange (ICE) since 2008. Find out more about our price index data here.]

Phillips 66 also has a 25% stake in the **South Texas Gateway** terminals. The first dock and 5.1 million bbl of storage capacity have been commissioned, and the terminal began oil export operations in July.

Houston-based Axis Midstream Holdings LLC also has an South Texas oil export project on the table that would be sited on Harbor Island in Port Aransas, according to the U.S. Army Corps of Engineers. The project, however, has received substantial pushback by area residents as Port Aransas is a tourist and fishing mecca. ■

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