OTC paper: Private equity, third-party infrastructure will grow GOM

Sandeep Khurana

A head advisor at Ryder Scott, **Sandeep Khurana**, said private equity (PE) firms will continue to turn to creative financing models to increase investments in infrastructure, including tiebacks, in the U.S. Gulf of Mexico.

He helped develop a chart that shows PE taking a bigger bite of facilities costs historically and over the next five years. Khurana was on a team that conducted an in-depth survey and analysis of the evolution of ownership and financing for upstream and midstream infrastructure in deepwater provinces worldwide.

"Whatever may come, there are a lot of opportunities and a foundation here to leap forward in this fluctuating market and rather depressed oil prices," said the leader of the Ryder Scott midstream services group.

He had planned to present at the 2020 Offshore Technology Conference (OTC) in Houston in early May. However, organizers canceled the event for the first time because of the Covid-19 pandemic and health and travel concerns.

By posting a video of Khurana's slides and commentary, OTC 2020 organizers sidestepped the philosophical question, "If a tree falls in a forest and no one is around to hear it, does it make a sound?" OTC videos and associated technical papers are available at www.onepetro.org by searching by paper number, author, subject, etc.

Khurana, with **Justin Rostant** and **Julie Wilson** at Wood Mackenzie, wrote the posted paper, OTC-30806-MS, "Private Equity Financing and Third-party Infrastructure: Future Enabler."

They wrote it before the collapse of oil prices April 20 and the current aftermath. However, Khurana had the benefit of weighing recent events in his video, indicating little had changed in the conclusions of the paper.

The paper and others in the OTC technical-session series took into account historical perspective in keeping with the theme, "Floating Memories – Look Back to Leap Forward."

In his OTC video, Khurana showed since 2014, industry has steadily reduced development capital costs. Innovations, such as digitalization leading to unmanned facilities, are poised to lower breakeven oil prices to below $30 per BOE for life-cycle deepwater developments.

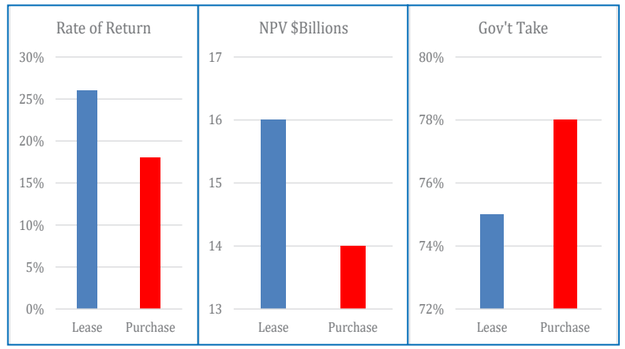
Khurana traced the history of ownership and financing beginning in the late 1980s, when oil companies began building offshore facilities in deeper waters. For deployment in the Campos Basin in Brazil, companies designed and built FPSO (floating production storage and offloading) facilities under contracts with shipyards.

In the 1990s, the model shifted to leasing. Shell was the first operator to start leasing FPSOs then.

"The trend has grown stronger over time, especially among majors," said Khurana. "The decision criterion for an oil company to lease vs. purchase is usually a financial one based on fiscal regime and incentives."

Khurana took a deep dive into financial drivers behind build-or-lease decisions, including balance-sheet impacts, ring fencing, low cost recovery and high value-added taxes. The paper detailed fiscal metrics in Brazil, and concluded that incentives to lease outweigh ownership, considering the low cost recovery and high taxes.

Two of the highest project-cost items are drilling and facility outlays. Khurana analyzed the economics for the Mero field project in Brazil, and identified the ownership structure of the facility that generates the biggest returns to field owners. The authors of the paper also conducted a sensitivity analysis of the field to evaluate returns to the field owner based on either purchasing or

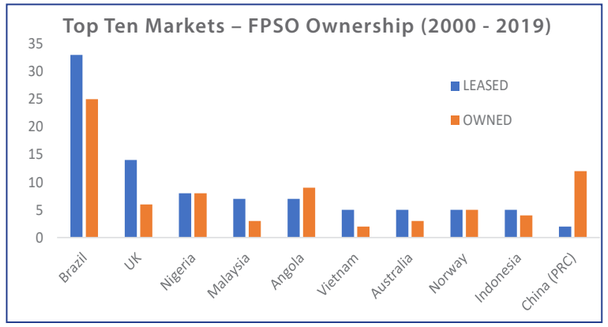


Economic indicators for field owners of FPSO leases vs. purchases (Source: Wood Mackenzie Global Economic Model)

leasing the FPSO, as shown in the above chart.

In Angola, field owners opted for owning over leasing to amortize all pre-investments before paying taxes.

The following chart shows the top ten markets for leased vs. owned FPSOs by country over the past 20 years. A cumulative count for that duration shows 50 percent owned and 50 percent leased.



Ownership decisions during 2000 to 2019
Brazil had more leased vs. Angola with more owned.

In case of early lease terminations or contract non-extensions, service companies may have to deal with minimal residual values of facilities and the potential for high abandonment liabilities. To avoid demobilizations and lay ups, service companies redeploy FPSOs, but this requires field matching with, at times, high capital costs to upgrade.

BW Offshore Ltd. has a successful model to ensure it redeploys its FPSOs to offshore projects. The company becomes the operator. BWO says it looks for opportunities to buy marginal properties from majors and develop them more efficiently at reduced costs.

"This is a total paradigm shift where the oil company turnkeys the project, controls and manages capex and derisks the reservoirs with appraisal wells," said Khurana.

The model worked for redeploying BW's Murphy Azurite FPSO as the Adolo FPSO in 2018 for Dussafu field offshore Gabon. BW Energy is the E&P operator of the field. No oil and gas operations are immune to the market crash of 2020, however.

In late May, BWO recorded a non-cash impairment to the book value of its FPSO fleet and other assets of $233 million for Q1 because of uncertainty on redeployment amid market turmoil and pressure on oil prices.

Of the 15 owned FPSOs, BW impaired six. IPO spinoff BW Energy Ltd. more than halved its 2020 capital-spending program from $250 million to $115 million, of which $49 million was spent in the first quarter.

Last year, BW Offshore planned to use its "repeatable model" after receiving approvals by Brazil to assume participating interests in the Maromba field as the operator. The company also planned to redeploy the Berge Helene to Maromba.

U.S. GOM: Innovation over 20 years

The U.S. Gulf of Mexico (GOM) has been at the forefront of ownership and financing innovation for more than 50 sanctioned FPS (floating production storage) facilities since 1993.

Major oil companies in the U.S. GOM deepwater — a royalty tax fiscal regime — normally purchase facilities rather than lease.

Drivers for decisions to purchase are no ring-fencing, lower costs of capital and accelerated depreciation. With less favorable credit ratings, service companies typically pass on higher capital costs to oil companies.

Leasing may be the only viable option for smaller, capital-constrained oil companies. In the early 2000s, several GOM deepwater developments stalled because of low commodity prices and high upfront capital costs, the paper stated. That was particularly financially distressing to independents and smaller private companies, so to ameliorate that, a new model emerged — the multi-operator approach.

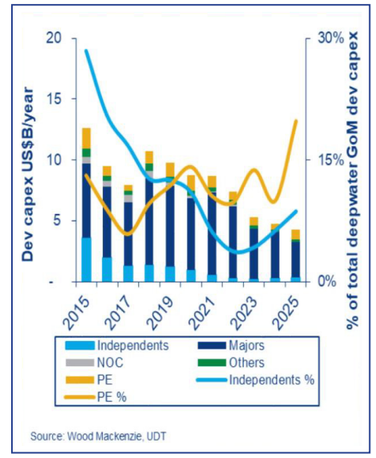
At the same time, third parties invested upfront capital to become owners of the infrastructure and collect monthly fixed fees operators. That reduced risks and freed up capital for independents to focus on core E&P activities.

In 2005, Anadarko Corp. pioneered the multi-operator, third-party FPS approach in the GOM with Independence Hub project. Five independent E&P companies and a midstream energy company collaborated to facilitate the development of six gas fields in the Atwater Valley, DeSoto Canyon and Lloyd Ridge GOM blocks.

Immediate followers with partnering groups contracted third-party FPS facilities in the Marco Polo, Devil's Tower, and Thunder Hawk offshore projects. The repeatable model in 2014 was the Tubular Bells project. Hess Corp. and its partners had a facilities agreement with Williams Partners to construct and operate Gulfstar1 FPS and related export pipeline system.

Private equity and the future

While the annual capital expenditure in the U.S. GOM from PE-backed companies is less than 15 percent, as seen in the chart below, their strategy is to focus on subsea tiebacks with opportunities for higher returns, providing a good fit for PE capital, the paper states.



U.S. GOM development capex by company type

These smaller, infrastructure-led projects, usually immaterial to majors, fit very well with the PE model, which requires quick payback. The average cycle time for these subsea tieback projects from discovery to first production is only three years, with some fields able to come online within 12 months of discovery.

Financing of the FPS and export pipelines for the Delta House project four years ago involved PE firm Arclight Capital Partners LLC and LLOG Exploration Co. LLC, the operator. PE-backed infrastructure in the GOM became a repeatable model with the King's Quay FPS project, which is 50-percent owned by Arclight.

The schedule calls for the project to go into service in 2022. Murphy Oil Corp. is the E&P operator and owner of 50 percent, with Ridgewood King's Quay LLC owning the other 50 percent.

"The future could be PE taking both sides of E&P and infrastructure in the GOM to connect the dots — whatever it can for smaller, quick-turnaround developments," said Khurana. "Another possibility is to monetize existing infrastructures. Major oil companies and large independents may just bring in third parties to own the FPS facilities. That way, the FPS can be expanded by third parties and becomes a separate midstream business for them."