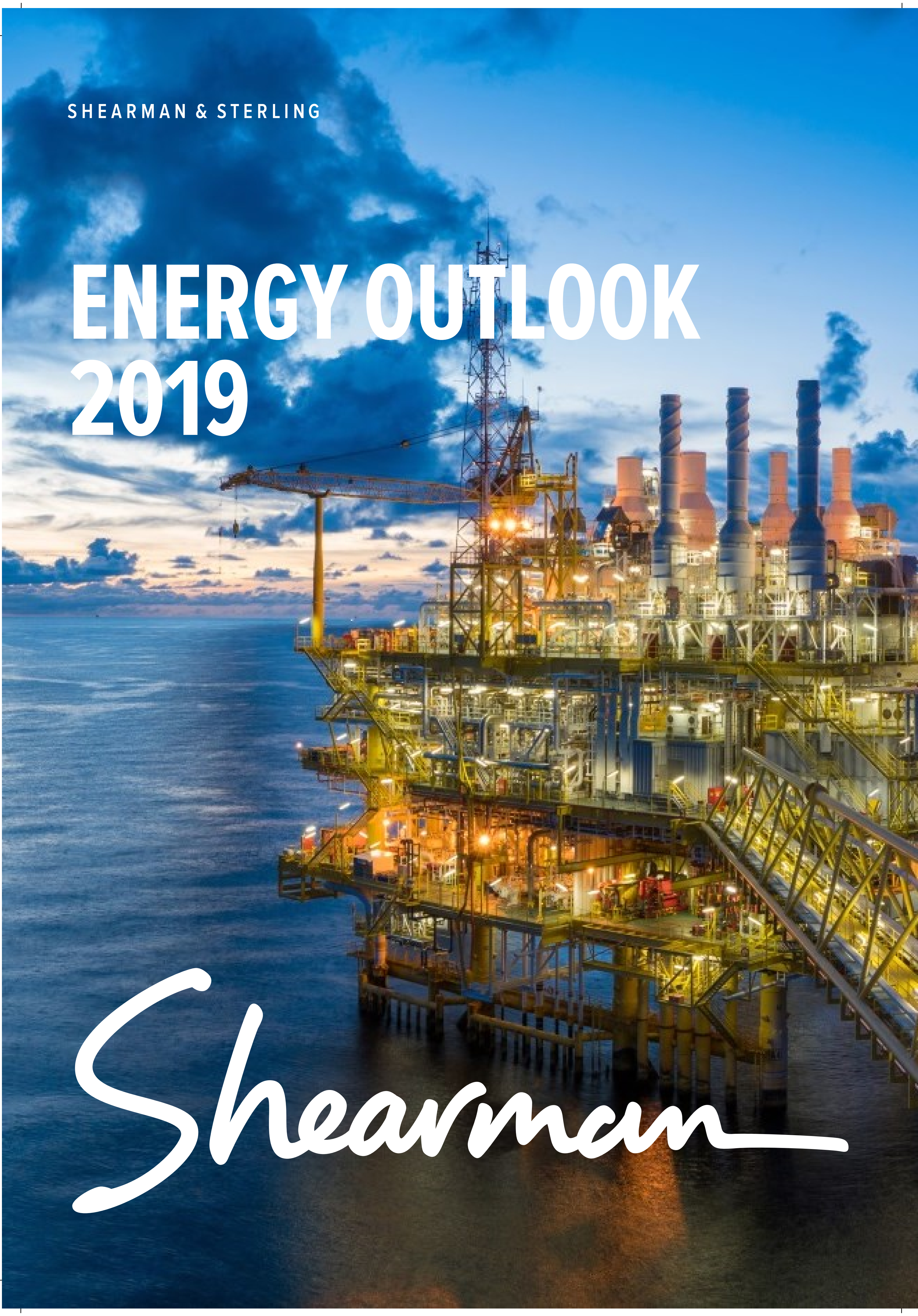
SHEARMAN & STERLING

ENERGY OUTLOOK 2019



Shearman

INTRODUCTION

2018 SAW THE GLOBAL ENERGY INDUSTRY RUNNING AT TWO SPEEDS. ALTHOUGH THE PRICE OF OIL WAS UP SIGNIFICANTLY SINCE IT WENT BELOW $30/BBL IN 2016, THE OIL & GAS INDUSTRY HAD NOT YET RETURNED TO FULL GROWTH MODE. MEANWHILE, RENEWABLE ENERGY KEPT UP THE IMPRESSIVE GROWTH IN CAPACITY AND SUSTAINED COST REDUCTIONS THAT ARE DRIVING IT INTO THE MAINSTREAM.

For 2019, the Shearman & Sterling Global Energy Group see more even footed growth as oil & gas investment picks up under a more benign pricing environment, as well as the growing realization that new supplies are needed if demand in the medium and long-term is to be met. This will take place alongside a continued acceleration of the energy transition – a changing energy mix with a growing share of low carbon technologies and the increasing electrification of end-user demand. Within this shift, we see a growing role for nuclear power, with new projects beginning the long road to development in frontier markets.

In this outlook, we have sought to pick out some of the key themes we anticipate will shape the energy industry in 2019, across oil & gas, power and renewables, including nuclear power. We have focused on the opportunities and challenges that we expect our clients to face and we look forward to working with them in this dynamic environment.

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INTERNATIONAL OIL & GAS

MARKET CONDITIONS

It is expected fairly volatile oil prices will provide the back drop for 2019, though prices should not drop to some of the lows seen in 2015 and 2016. The impact of potential expiration on waivers for the purchase of Iranian crude (officially under US sanctions) could drive prices up, particularly in the context of falling Venezuelan production and uncertainty around Libyan output; however, a slowdown in economic growth now looks more likely and this could offset any supply side support for prices. Having picked up improved capital efficiency in the downturn, oil and gas companies can expect to be cash generative at a greater range of prices and are likely to be switching back to growth mode in 2019.

UPSTREAM: RETURN OF LONG-CYCLE PROJECTS

M&A and project development activity is expected to reflect a new approach of balancing long-cycle projects like deepwater with short cycle projects such as shale because the market needs the supplies and operators can have more confidence on delivery costs. This will support offshore projects, which had a good 2018 with an increase in FIDs and should lead to the financing of infrastructure and drilling campaigns.

Brazil and Norway, as bellwethers of the offshore industry, are expected to be the major sources of overall oil output growth (outside of the US). 2019 could be a transition year where spending begins to ramp up in order to exploit these prolific but complex reserves. We also expect continued portfolio adjustments as operators continue to learn from the recent down-turn and seek to build a balanced portfolio through M&A that provides resilience to oil price volatility and is focused on operational excellence and regional or basin specialization.

MIDSTREAM: NEW LNG PROJECTS IN AN EVOLVED INDUSTRY

LNG project FIDs are also expected in 2019, bringing to an end a prolonged freeze on development for those projects with momentum such as the Mozambique projects and those in the US, following on from LNG Canada that took FID in October 2018. The LNG market is expected to remain on the tighter side as high Chinese buying continues as part of the emission reduction drive and therefore giving LNG developers strong fundamentals on which to advance their projects. Floating technology will continue its transition to the mainstream and be increasingly used in concert with and not as an alternative for, land based technology.

LNG industry consolidation and M&A could take place as some players exit the market as part of a strategic re-focus as competition rises and seller demands continue to evolve and become more complex. Rising complexity and thinner margins could also lead to price review disputes between buyers and sellers. One issue to watch out for is Asian buyers seeking to gain important flexibility in their LNG sourcing, in both management of deliveries and also in pricing mechanisms. It will be interesting to see how the evolution in the commercial aspects of the industry feed through to the renewal of long-term LNG contracts during 2019.

2018 saw KOGAS, Korea's main LNG buyer and one of the largest globally, take the Northwest Shelf LNG project to arbitration, which was a something of a first for an Asian utility buyer. Whether this heralds more such activity in 2019 will be an issue we will be monitoring closely.

DOWNSTREAM: GROWTH IN UNCERTAIN TIMES

Refining additions will continue to come on stream in 2019, focused in China, India and the Middle East. Large Middle Eastern NOCs will internationalize this downstream push, building on current momentum in partnerships with Asian operators. New refineries and upgrades in Nigeria and South Africa as well as Angola and Ghana could also advance, advantaged by light crude feedstocks that fit well with the looming IMO 0.5% sulphur cap on marine fuels in 2020. These will need careful assessment by project financiers and lenders as the overall refining market appears to be heading to a lower margin future as falling product demand growth butts up against over 7 mbpd of new capacity planned.

US OIL & GAS

GULF OF MEXICO COMEBACK

With long-cycle back on the radar of oil producers, we predict the beginnings of a comeback in Gulf of Mexico offshore activity. Recent tax cuts are making the region more attractive by lowering break even prices. Notwithstanding that the Interior Department rejected a proposed cut in the deepwater royalty rate from current the 18.75% to 12.50%, significant investment could be attracted to the Gulf of Mexico. We see the sector outlook being helped by improving drilling technology and efficiencies picked up in the downturn, the potential to tie new developments to existing infrastructure and capture cost reductions as well as the need to address the significant backlog of projects.

SHALE PRODUCERS REMAIN CAUTIOUS

Portfolio adjustments will continue across the industry driven by changing strategies, a focus on profitability (in lieu of growth) and commercial pressures such as the re-negotiation of major transmission pipeline tariffs. These factors each provide a reason for an exit. Private equity has been a driving force and this will continue as investors target cash generative businesses in the upstream sector. Following a back-up in the IPO pipeline due to tight capital markets, more public offerings are possible in 2019 for small and medium sized shale operators with strong management and quality assets.

We also see the possibility for a modest increase in M&A activity in 2019 with smaller producers being pressured to sell. Pressures may come from (i) activist investors or investors that were forced to become equity owners in the last round of restructurings or (ii) due to moderating prices. 2019 is poised for growth in certain basins as infrastructure bottlenecks are remedied; however, delays in those debottleneck projects will slow growth. Well run companies with good balance sheets and quality assets have reason for optimism while others will find 2019 challenging

MIDSTREAM: CONSTRAINTS AND EXPANSION

2019 is expected to see new pipelines entering development and coming into operation to alleviate bottlenecks that are beginning to constrain output growth in basins such as the Permian. Private equity involvement could begin to shift to the gathering and processing sectors due to more favorable contractual terms that can be put to shippers, as opposed to transmission. As with the upstream, midstream companies could increasingly tap capital markets for growth in 2019.

US LNG project development is projected to see some possible FIDs such as Venture Global's Calcasieu Pass project. This project has in some ways shocked the market by offering tolling fees as low as $1.75/MMbtu, far below the market rate of around $2.50/MMbtu. While for other projects we expect other forms of innovation to take hold such as the adoption of new project structures that are more integrated with the upstream and midstream. On the oil side, exports from the US will continue to climb steadily as the relevant infrastructure is developed, focused around the port of Corpus Christi.

DOWNSTREAM: CAPTURING FEEDSTOCK ADVANTAGE

Recent rises in Henry Hub prices notwithstanding, growth in gas based chemical projects is likely to continue by leveraging remaining feed stock price advantage, though with a possible narrowing of the oil/gas price spread. Low gas prices will also aide the expansion in adjacent, energy intensive industries such as steel making in the Gulf Coast region. New refineries coming up for development may need to carefully plan for a longer-term reduction in gasoline demand from growing efficiency of combustion engines and possible growth in electric vehicles.

CFIUS CHANGES AND THE POTENTIAL IMPACT TO INBOUND INVESTMENT

The Foreign Investment Risk Review Modernization Act of 2018 (FIRRMA) seeks to reform national security reviews by the Committee on Foreign Investment in the United States (CFIUS). FIRRMA largely codifies certain CFIUS practices seen in recent years and of relevance to the upstream sector (e.g., longer review timelines, which can be a material factor to commodity-based transactions). FIRRMA also expands CFIUS's jurisdiction in ways that may be relevant to upstream oil & gas transactions (e.g., expanded authorization to review non-controlling, minority interest, foreign investments in "critical infrastructure"). The practical results of these reforms will reveal themselves over the course of 2019 (and beyond), with transacting parties considering foreign investments accordingly, and energy companies, private equity, and other affected parties having an ongoing opportunity to comment to regulators on the scoping of key issues in the regulations.

CONVENTIONAL AND RENEWABLE POWER

Reflecting the strong growth trajectory across the renewable sector, the development and financing of solar capacity in the Middle East should continue, building on the strong momentum built up in 2018 from projects like the 300 MW Sakaka project in Saudi Arabia. This project saw two of the lowest solar bids ever submitted in what was a highly competitive process, and with a plan to build 9.5 GW of renewable capacity in five years, the Kingdom is likely to be a focal point for developers in 2019. We also see investors and developers deepening their involvement in African projects from the Bumbuna II hydro project in Sierra Leone to wind developments in Ethiopia.

For wind generation, Europe will continue to be at the heart of the wider trend of renewable projects moving towards an unsupported, merchant model as development costs continue to reduce, making developers able to bid at the wholesale power price during auctions. It is important to note that these are still costs and only once they are constructed will we know if they can operate profitably at these prices; though the competitive bidding shows developers are confident they can.

We have already seen zero-subsidy bids for offshore wind in the Netherlands and the move towards unsupported projects could be a growing part of the narrative next year. This may see governments in mature European markets agreeing to cover interconnection costs in the place of subsidies and in certain projects which could make the economics work without subsidies. This is tied in with expectations that wholesale electricity prices in Europe may rise next year.

In Asia, growing power demand coupled with an increasing policy focus on renewables is growing the pipeline of offshore wind projects, led by Taiwan that already has 5.5 GW of capacity in various stages of development. While the offshore wind sector will still be immature next year, interest in Japan and South Korea is expected to pick up. Developers will need to navigate issues such as PPA structures and the implementation of limited recourse financing, both of which are still developing in these growing markets.

In emerging markets such as Indonesia, we expect that the implementation of portfolio financing will continue for small scale greenfield projects to help overcome challenges in attracting financing. In 2018, this model was applied in the Eastern Indonesia Renewable Energy Project (where we advised the Asian Development Bank as sole lender) consisting of one 72 MW wind project and four small scale solar plants with a combined capacity of 42 MW.

In the US we expect to see continued growth in renewables development, wind and solar, although matters in California will make that market challenging for at least the near term. Some additional new build for gas-fired projects in active markets such as PJM is still expected, as well as refinancings for projects at or nearing completion in that market. 2018 saw increased use of syndicated equity structures as a way for sponsors to sell down their interests, and we expect to see that trend continue as non-US investors look to stay active in the market through participation in those structures. M&A activity is expected to also remain strong, particularly in renewables as investors look for platform investments which include pipelines of development projects.

NUCLEAR POWER

NEW PROJECTS AND TECHNOLOGIES

Following the post-Fukushima development slow-down, new nuclear power projects are beginning once again to progress. New plants in the UAE and Belarus may come online in 2019 and new build projects in Turkey and Egypt are underway. 2019 could also see a significant new country entrant: Saudi Arabia. 2018 saw the settlement of the long-running arbitration between Areva and Finland's Teollisuuden Voima. However, this arbitration shall act as a reminder of the potential for disputes in this highly complex industry and arbitrations over construction contracts could arise in 2019 if unforeseen issues affect those projects under construction.

In 2018, the first European Pressurised Reactor (EPR) was connected to the grid at the Taishan plant in China and the first AP1000 began commercial operations at the Sanmen plant in China's Zhejiang province. This makes 2019 a landmark year for the industry as a number of Gen III+ designs in commercial operation now provide proof of concept for important technological developments and putting the difficulties of development and construction behind them.

CHANGING PERCEPTIONS AMONGST INVESTORS AND THE WIDER MARKET

2019 could also see the narrative begin to change around nuclear power to one of growth and the role the industry can play in combatting climate change, while still providing large capacity and reliable baseload power. The 2018 IPCC special report on the impacts of global of 1.5 °C above pre-industrial levels highlighted the urgency required for the decarbonizing of our energy production and many policy makers and environmental groups may revisit the need to support nuclear power.

Also changing is the growing awareness of the risks for institutional investors of asset stranding with potentially significant consequential financial risks, particularly for hydrocarbon projects. Increasingly, this is driving diversification into renewables and may now also be moving into the nuclear sector. Brookfield Asset Management's purchase of Westinghouse from Toshiba showed there is an investment case for the sector. This is likely to be a prolonged process but 2019 may see the start of this perception change. Furthermore, with a focus on cost effective, standardized or even modular projects, the potential for expanded development supporting decarbonization of the energy sector will continue.

Therefore, if nuclear power can continue to demonstrate cost effective base load low carbon power generation, then it will continue to play a significant role in the global energy market.

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