

Following the capital trail in oil and gas

Navigating the new environment

A report by the Deloitte Center for Energy Solutions

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Executive summary

AFTER driving a period of record capital inflows and spending, growing supplies from shale have led to a new investment environment for crude oil and natural gas (O&G) companies—one that is low-priced for exploration and production (E&P) companies across the globe, and short-cycled for E&P companies focused on shale. Taken together, these two factors mean a new environment of increased uncertainty and variability for E&P companies, with a ripple effect across the O&G value chain.

Apart from balancing cash flows, this new environment will likely require new capital strategies and greater dynamism in the capital decision-making cycle of an O&G company. Traditional modes of sourcing, deploying, and optimizing capital have to give way to new forms of:

- Raising capital and unlocking value through new low-cost investment mediums, repurposing noncore assets to improve capital utility, and rightsizing capital structure in the light of the changing capital markets and industry environment
- Deploying capital in assets and markets that offer greater portfolio and operational flexibility, allowing for changes in projects' capital intensity or the company's service orientation and providing an opportunity to implement reforms
- Optimizing cost structures by adopting leaner and modular designs, increasing project repeatability, automating and integrating processes, reviewing alternate designs and development options, and enhancing commercial agility in supply chain and contracts

This report provides insights into these possible strategies for company groups across the value chain: from independents, integrated, and national oil companies (resource-rich and resource-poor) focused on E&P, to oilfield service providers and drillers, liquids and natural gas transporters (midstream), and refiners and marketers.

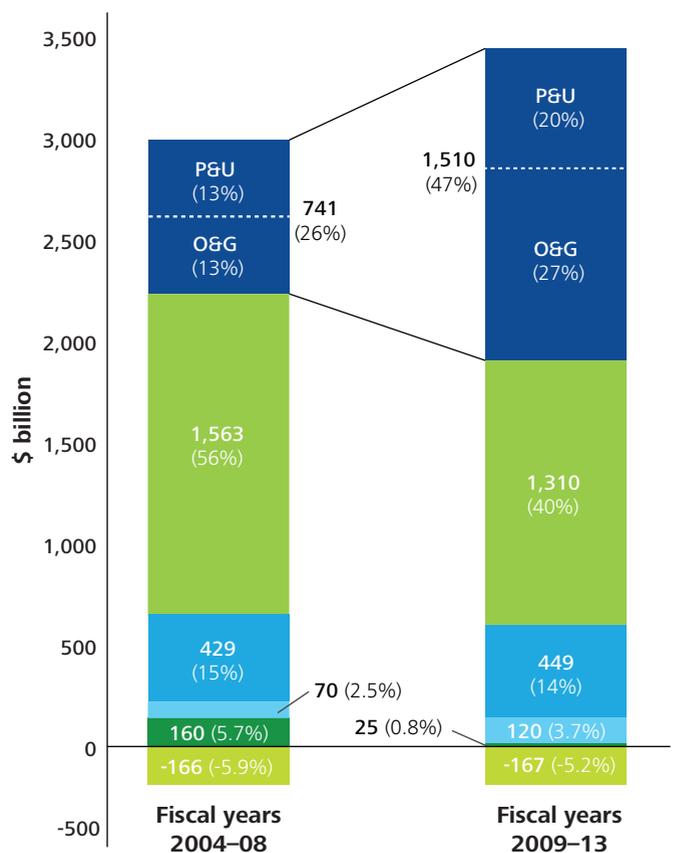
The recent past: Record capital growth

WORLDWIDE growth in energy demand and the emergence of new supplies have led to record inflows of capital into the energy and resources (E&R) industry since 2008. A global study of 39,273 publicly listed companies in nonfinancial industries found that E&R has surpassed manufacturing to become the biggest issuer of net new capital, defined as the sum of net equity and net debt issued. (For more details on the study, refer to the methodology discussion in the appendix.) The E&R industry raised more than \$1.5 trillion during the past five reported fiscal years—almost 50 percent of the total net new capital raised by all nonfinancial industries. In the five-year period before that, it accounted for just 26 percent (figure 1).

Much of the increase came from the booming O&G sector. In fact, the O&G sector became a magnet for new capital: It raised about \$850 billion from 2009 through 2013, accounting for 27 percent of all new capital raised during this period. Cash flowing out of other industries, such as the technology, media, and telecommunications (TMT) industry, reduced the competition for capital and encouraged the migration of capital into the O&G sector. The O&G sector benefited from this momentum, issuing more equity and reducing stock buybacks while taking advantage of low interest rates to issue debt.

This massive influx of capital, supported by high oil prices, transformed the O&G sector at its core, making it one of the fastest-growing sectors across all industries. Its revenue grew by 60 percent over the past five years, reaching \$6.6 trillion in fiscal year 2013–14. In comparison, manufacturing revenues grew by 32 percent, life sciences and health care (LSHC)

Figure 1. Net new capital raised by industry (excluding the financial industry*)



- Energy & resources
- Manufacturing
- Real estate
- Life sciences and health care providers
- Consumer business
- Technology, media, and communications

*The analysis excludes the banking, financial services, and insurance sectors, as their business is the sourcing and lending of money.

Notes:
Net new capital raised = net equity issuance (equity issued - buybacks) + net debt issuance (total debt issued - total debt retired). The data consist of 39,273 publicly listed companies worldwide, including those acquired from 2004 to 2013.

Source: FactSet and Deloitte analysis.

Graphic: Deloitte University Press | DUPress.com

revenues grew by 27 percent, and TMT revenues grew by 21 percent.

The O&G sector has not only distinguished itself in raising capital but also in how it has deployed the money raised. While other industries earmarked much of their capital outflows for distributions (share buybacks and dividends) and refinancing (conversion of liabilities and retirement of debt added

during 2004–2008), the O&G sector increased its capital spending significantly. Spending for the sector rose by 50 percent over the past five years, to \$890 billion in the last fiscal year. This compares with a 40 percent rise in the real estate industry, 36 percent in consumer business, 29 percent in LSHC, and 27 percent in TMT.

The situation today: A period of capital disturbance

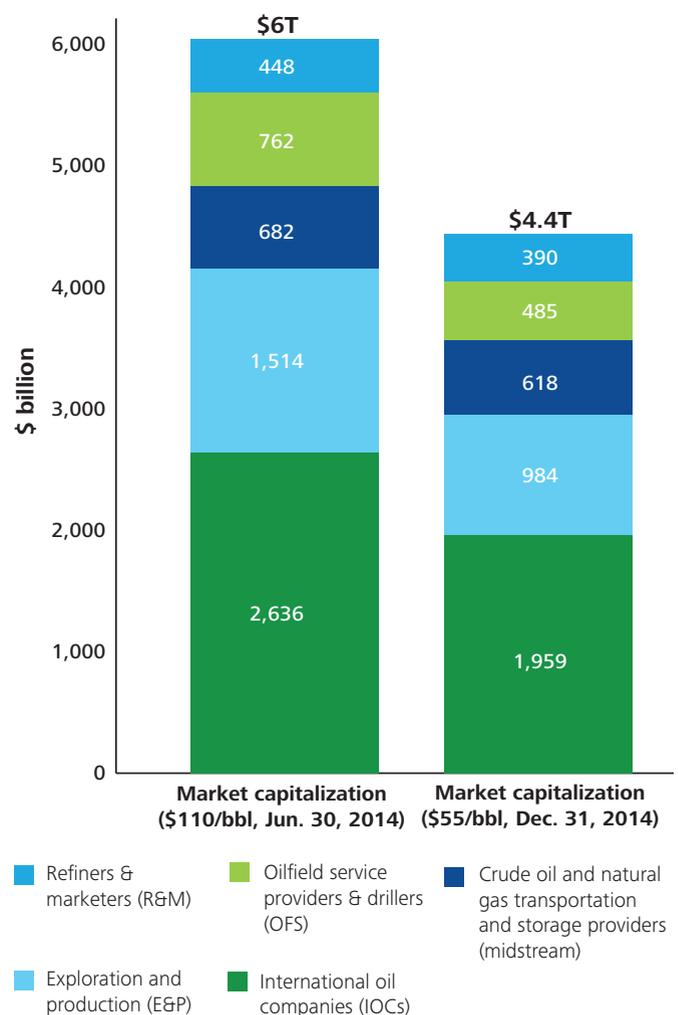
THE growth in spending in the O&G sector boosted oil and gas supplies considerably. Supplies of crude oil increased by 5.5 million barrels a day (MMbbl/d) during the past five years, despite 2.7 MMbbl/d of production going offline in the Middle East and Africa due to political unrest.¹ Such an increase in supply has not occurred since the late 1990s, when Iraq and Venezuela increased their production significantly. Of the 5.5 MMbbl/d, about 50 percent came from the United States alone due to the shale (tight oil and gas) boom. In 2014, US tight oil supply increased by more than 1 MMbbl/d, the highest growth recorded in any year.²

This rapid growth in supply (particularly from shale), along with weaker-than-expected growth in demand from Asia as well as the Organization of the Petroleum Exporting Companies (OPEC) declining to cut output to regulate the market, was the perfect recipe for a collapse in crude oil prices.³ In fact, oil prices fell from \$110 per barrel in June 2014 to \$55 per barrel by the end of 2014. This crash, and the market pessimism that remains ominously in place as 2015 progresses, has degraded the value of the capital flows of the recent past and threatens the profitability and, in some cases, even the survival of O&G companies.

The signs of degradation are starkly evident, with the market shaving \$1.6 trillion from the sector's market capitalization in the last six months of 2014. With about \$1 trillion in future oil projects at risk, the market had to react severely.⁴ The loss was spread across all O&G segments and regions, although the

degree of loss varied. US O&G companies, which were the principal issuers and spenders of capital, lost more than \$550 billion in market capitalization (figure 2).

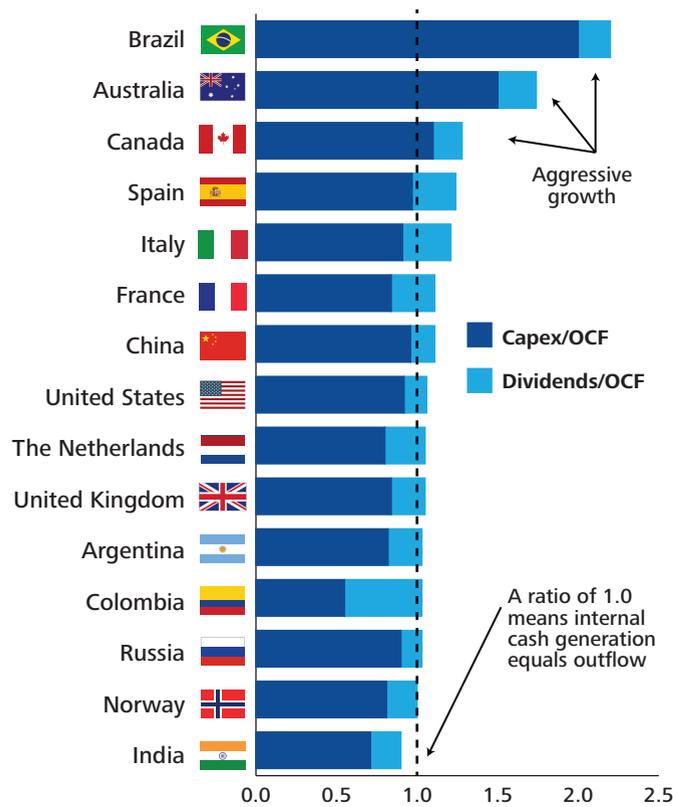
Figure 2. Market capitalization of O&G segments (before and after oil price decline)



Source: FactSet and Deloitte analysis.

Graphic: Deloitte University Press | DUPress.com

Figure 3. Ratio of capex and dividends to OCF (E&P and IOCs, past five years)



Note: Capex includes net purchase of assets.

Source: FactSet and Deloitte analysis.

Graphic: Deloitte University Press | DUPress.com

Internationally, the situation has become problematic for Brazilian, Australian, and Canadian upstream and integrated oil companies (figure 3). Over the past five years, companies in these nations have aggressively invested and locked their capital in large, long-lived

resources that are among the most expensive to develop (for example, pre-salt, liquefied natural gas [LNG], and oil sands). Such resource developments are difficult to stop and start in response to commodity price fluctuations.

Chinese O&G companies, the biggest buyers of foreign assets, primarily relied on debt to finance the country's growing energy security needs, pay dividends, and refinance old debt. Over the past five years, PetroChina, for example, took \$50 billion of new debt to fund its \$250 billion capital expenditure (capex) and pay \$35 billion in dividends.⁵

Colombia's O&G companies, dominated by state-owned Ecopetrol, face challenges around maintaining their high payouts to the Colombian government. Dividends constituted about 45 percent of the country's operating cash flows (OCF) activities during the past five years.⁶

Similarly, many nations in the Middle East and Africa depend heavily on their closely held (unlisted) state-owned entities for their national budgets. About 30 percent of the Middle East and North Africa's gross domestic product (GDP) depends directly on the O&G sector.⁷

Clearly, 2015 and 2016 will be challenging years for the O&G sector. Analysts predict spending cuts of 20–30 percent in upstream alone, along with sizable asset write-downs and project deferrals across the value chain.⁸ Uncertain interest rate movements, currency fluctuations, and deflation concerns will create additional complications.

Finding a new balance

AT a global level, the challenge for O&G companies is to respond to this new environment of lower oil prices. The Energy Information Administration projects oil prices to remain below \$75 per barrel over the next few years.⁹ Smaller cash flows, as a result, will likely challenge companies' ability to fund committed and in-progress projects, which have already seen a substantial reduction in their capital values. Issuing new equity to either fund these projects or reduce debt will likely be difficult, especially when stocks are down by up to 50 percent. Refinancing old or maturing debt will likely come at a higher cost and with greater restrictions.

At a regional level, North American shale-focused O&G companies face an additional challenge of operating in a new, short-cycled, price-sensitive resource and capital environment. Shale investments are not only granular (\$8–12 million per well), but their investment

cycle is far shorter. Spud-to-well completion takes two to four months, compared with offshore projects that take two to five years to produce first oil.¹⁰ This shorter investment cycle, coupled with high production decline rates, makes production from shale highly responsive to short-term price fluctuations. As shale's "swing" production impacts global supply and prices, companies operating outside shale are also impacted by the increased variability in production and prices.

At a segment (or company group) level, the impact is not limited to exploration and production (E&P). Any change or adjustment by E&P companies will necessitate a change by segments or company groups directly related to E&P. For example, spending cuts by E&P companies and variable production from shale directly impact the revenue and service/asset intensity of oilfield service providers and drillers.

Options for O&G players

THE implications of operating in this new environment will differ by company groups across regions and segments, requiring new strategies from, or presenting new options to, each. This report provides insight into these strategies and options for all company groups: independent, integrated, and national oil companies (NOCs, both resource-rich and resource-poor), focused on E&P; oilfield service providers and drillers (OFS); crude oil and natural gas transporters and storage providers (midstream); and refiners and marketers (R&M).

Independent E&P companies: Back to fundamentals

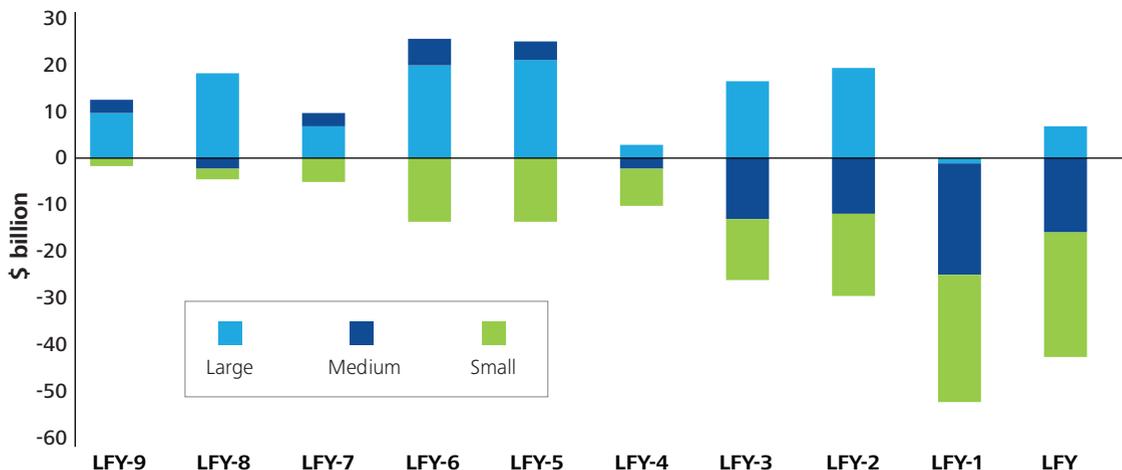
Over the past five years, E&P companies worldwide outspent their OCF (that is, registered negative free cash flow, which is OCF minus capex) by approximately \$150 billion. The majority of this money was spent by small and medium-sized E&P companies (by market

capitalization), which are relatively new to deploying and managing large amounts of capital (figure 4). For instance, about 150 US E&Ps with less than 10 years of listing experience on public exchanges collectively spent more than \$115 billion in the past five years (about 25 percent of the US E&P total).¹¹

E&P companies operating in shale, however, can conserve cash or optimize their capital by retooling their short-term capital management and financing strategies. Shale's shorter investment cycle has made the fixed costs of drilling and completion highly adjustable to market events, essentially making them variable. With more adjustable fixed costs, capital could become companies' biggest lever for more responsive production and more flexible capital and hedging programs.¹²

Apart from capital flexibility, shale investments offer location flexibility and present several cost reduction options. Shale drillers can quickly move their capital to the highest-quality plays because of their lower sunk costs

Figure 4. E&P companies' free cash flow annually over the last 10 years



Note: Small, medium, and large consists of companies with a market capitalization of below \$5 billion, \$5 billion to \$25 billion, and more than \$25 billion, respectively, as of June 30, 2014. LFY means last reported fiscal year.

Source: FactSet and Deloitte analysis.

Graphic: Deloitte University Press | DUPress.com

and varied production profile. Compared with conventional onshore plays, too, shale drillers have far more cost reduction options, such as optimizing fracturing and lateral stages, scaling back held-by-production acreage and moving toward efficient pad development, implementing new completion designs, understanding restrictions in a well, improving wastewater management, standardizing and modularizing processes, and consolidating service providers. Spears & Associates expects a 15–20 percent fall in shale's drilling and completion costs by late 2015.¹³

Although E&P companies focused on conventional plays have less capital flexibility than their shale-oriented counterparts, they have a more diversified inventory of projects and investments to manage. These E&P companies could seek to free capital through actions such as consolidating minority stakes in capital-intensive projects that are far from completion; focusing on increasing repeatability in select projects and/or regions to drive down costs; identifying cost efficiencies within the current development concept; and reviewing alternative designs with contractors.

IOCs: Position for the future

Integrated oil companies (IOCs) have many more capital levers to pull than independents due to their relative capital discipline, low leverage, portfolio flexibility, and integrated asset base. Given the size and scope of their projects, IOCs have more bargaining power with suppliers to negotiate cost reductions. Their strong balance sheets also allow them to tactically defer or delay projects to improve supply chain efficiency and free up more short-term cash.

Because of their low net debt levels (averaging approximately 12 percent), US IOCs could buy smaller competitors or a portfolio of synergistic assets by marginally adding to their debt.¹⁴ In fact, the greater relative decline in the equity values of independent E&Ps makes stock deals more attractive to US IOCs. European IOCs have a relatively smaller

cushion for covering both investments and dividends because of junior upstream returns, a less economical downstream, and relatively higher leverage levels.¹⁵ But their upgraded portfolio, following \$125 billion in asset sales during the past five years of high oil prices, will help them lower their cash flow break-even rates and support their long-term strategy of favoring shareholder distribution and balance sheet strength over growth.¹⁶

Operating in today's low-priced oil conditions could reinforce the benefits of integration for large IOCs. It could also prompt some IOCs to reconsider their recent oil-heavy focus and encourage others to keep balancing their investments in both crude oil and natural gas. But most importantly, the shorter cycle of shale developments would endorse the recent decisions of some IOCs to have a separate upstream business unit or subsidiary for operating in the competitive North American shale market.

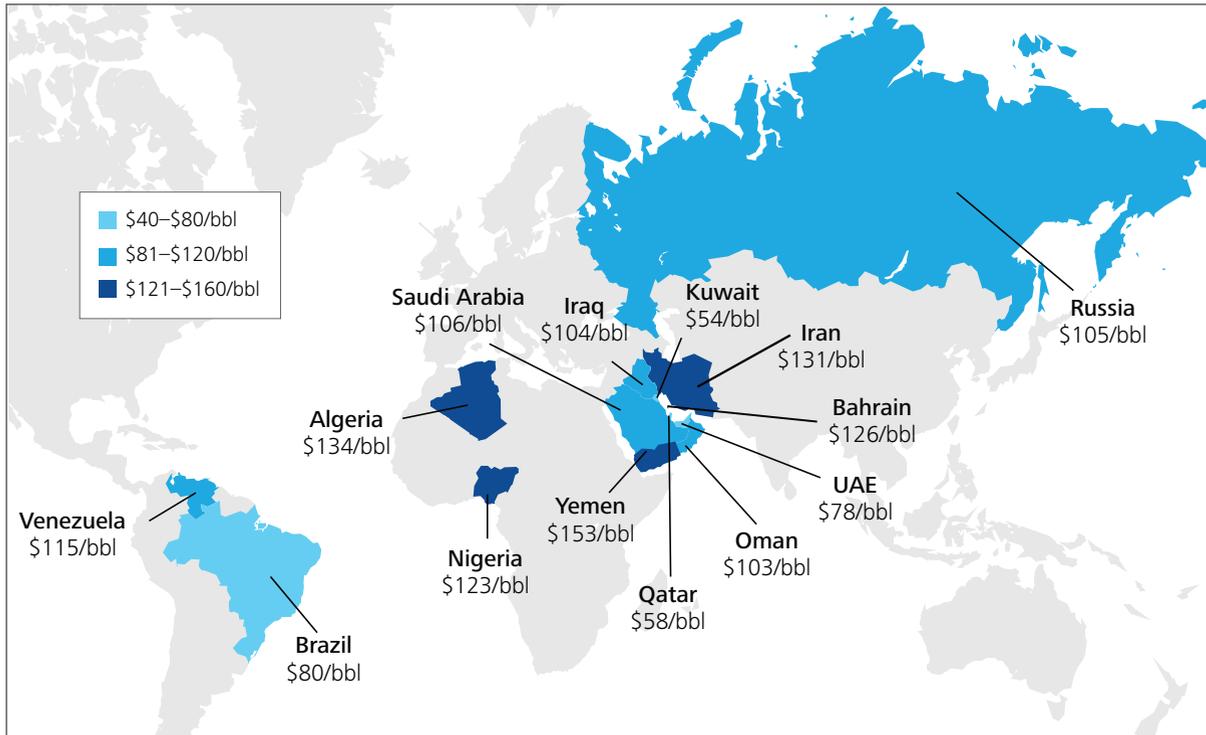
It would also highlight the need for IOCs to review their megaprojects (offshore and LNG) by having standard and leaner designs (design one, build many); deeper supplier collaborations (vendor consistency); and better leadership and governance for large projects (consistent practices and standards for both up-front planning and daily task execution).¹⁷ A leaner and a more dynamic approach to megaprojects could put IOCs in a strong position when future supply growth starts again.

Exporting nations/resource-rich NOCs: Diversify to maintain a balance

The new environment of low oil prices will put severe pressure on the finances of oil-exporting countries. Nations such as Yemen, Algeria, Iran, Venezuela, and Nigeria require oil prices of above \$115 per barrel to finance their planned expenditures (figure 5).¹⁸

Apart from impacting global prices and thus the finances of oil-exporting nations, increasing production of shale has led to a rush (or competition) among these nations to

Figure 5. Break-even fiscal oil prices (2014)



Source: Barclays Commodities Research; IMF; APIC; and Wells Fargo Securities LLC.

Graphic: Deloitte University Press | DUPress.com

undercut each other in an attempt to retain market share. Iraq's Oil Marketing Company, for example, sold its Basrah Light stream to Asia in January 2015 for \$4 a barrel below the benchmark grades.¹⁹ In trying to stay ahead of falling benchmarks, exporting nations risk shifting from being some of the biggest distributors of capital to being the biggest markets for refinancing. Rosneft, for example, has to repay almost \$30 billion in loans by the end of 2015, while Petrobras has \$130 billion in long-term debt to service and refinance.²⁰

With shale playing the role of swing producer and exporters undercutting each other on prices, it becomes important for exporting NOCs to increase operational efficiency and diversify their investments both within and outside the country by partnering with private companies, either for technology or capital or both.

Additionally, exporting NOCs may consider locking in future growth in demand by building relationships with the new governments of

Asian oil-importing nations, given the United States' lower oil import needs because of shale and the lack of projected future demand growth in Europe. India, Indonesia, and Japan held their general elections in 2014, and Thailand, South Korea, and Taiwan will hold theirs in 2015 and 2016. Based on the results of the 2014 elections, Asian voters are supporting reforms and development, which augurs well for O&G exporters to these nations.

Operating in this new environment would also require oil exporters to become more flexible in setting their terms around contracting, grade, delivery, and payment in the consumer market. For example, Saudi Aramco's purchase of a majority stake in South Korea's biggest refiner, S-oil, not only reflects a renewed interest in downstream participation but also suggests a change in oil contracting strategies. The NOC has a 20-year agreement to supply almost all of the 600,000 barrels a day (bbl/d) of crude that S-oil processes—an unusual agreement in

an oil marketplace where one-year terms are more common.²¹

Importing nations/resource-poor NOCs: Seize the opportunity

Resource-hungry nations such as India, China, Thailand, and Indonesia are the biggest beneficiaries of this new environment. Lower oil prices mean that they pay less for oil imports and oil subsidies, which in turn reduces their fiscal deficit and supports investment. For example, a \$50 per barrel drop in prices has reduced China's and India's collective annual oil import bill by about \$175 billion, based on current oil import levels of 9.75 MMbbl/d.²² In addition, falling oil prices create downward pressure on inflation, allowing oil-importing countries to reduce interest rates and boost growth.

In late 2008 and early 2009, oil-importing countries attempted to take advantage of the plunge in oil prices to \$30 per barrel to shore up their NOCs' finances through energy sector reforms. A quick rebound in prices eliminated that opportunity. This time, however, the price decline may be more prolonged, presenting another chance for reforms. Governments can seize this opportunity by easing the subsidy burden on upstream companies, rationalizing cross-subsidies between fuels, revisiting the pegging of natural gas pricing to a cocktail of crude prices, and encouraging competition and private sector participation in the hydrocarbon sector.

In addition, a favorable equity market offers governments a chance to rightsize the debt-heavy capital structure of their NOCs. The combination of more capital at their disposal, the subdued values of O&G assets available for sale, and a potential capital crunch situation for resource-rich nations provide an advantage to resource-poor NOCs in negotiating deals or entering joint ventures on favorable terms. The equity market and institutions will most likely respond favorably to these changes, helping these NOCs to increase shareholder returns even in a weak oil price scenario.

Overhanging debt and the degraded value of past acquisitions may, of course, erode some of these potential gains. Many Asian NOCs hold high-cost foreign assets for which they paid a premium, such as oil sands in Canada, heavy oil in Kazakhstan, and pre-salt in Brazil. Higher spending commitments for acquired assets will most likely increase these Asian NOCs' debt and refinancing requirements. For example, PetroChina, which generates about 85 percent of its core E&P revenues from crude oil, refinanced about \$90 billion of long-term debt in 2013; it has generated negative free cash flows for the past two years.²³

But despite the high cost of past acquisitions, the current buyer's market bodes well for resource-hungry nations and companies meeting their growing energy needs. Rather than buying companies in the early stages of exploration and development, which have high capital needs and uncertain cash flow, these nations and companies could consider acquiring producing assets or buying into resources with greater capital flexibility, such as shale. In addition, engaging in joint ventures, not just at the wellhead but across the oil supply chain, can help reduce their capital risk, increase their technical expertise, and secure supplies.

Oilfield services: Weigh new options

Just as E&P companies ceded value to the service sector as oil prices and activity rose, they will look to reclaim some of that value as oil prices fall. Spending cuts by E&P customers will lower demand and shrink margins for service firms and drillers. On the other hand, shale's variable production and E&P companies' greater focus on costs will make their resource planning more complex and their asset utilization highly variable.

Global diversified service companies can respond early due to their lower capital intensity and high service orientation, and they also have the capital strength to withstand reduced demand. Their low leverage and high cash levels, though, may force them to choose

between deploying capital through acquisitions and distributing capital through dividends or buybacks. While large acquisitions may make business sense in light of weak organic growth prospects, antitrust regulations and related divestitures are likely to significantly influence the nature of many deals. This would limit large global diversified service companies' options to pursuing organic growth, focusing on small or specialized acquisitions in well completion and production businesses, and using excess cash for share buybacks. Schlumberger, for example, increased share buybacks by 40 percent, to \$2.2 billion, in the second half of 2014.²⁴

With fewer restrictions on mergers among midsized firms, service majors face the challenge of defending or increasing market share of their highest-margin businesses. But within this challenge lies an opportunity to rightsize these businesses' costs and assets. While service majors are prone to addressing the downturn in energy prices through standard measures, such as reducing headcount, they may also consider positioning themselves for future growth by developing new information-centric service lines that help their customers to reduce costs; consolidating vendors; reorganizing cost units; and leveraging fixed costs through improved efficiency, greater repurposing, and reduced asset intensity.

Capital-intensive contract drillers, on the other hand, face the bigger challenge of withstanding the downward business trend and adjusting to the shorter capital cycle of shale producers. Drilling efficiency gains in shale, which were already cutting into

onshore contract drillers' business—reflected by their near-record-low revenue growth in 2013 and 2014—are now compounded by a highly variable rig count and drilling intensity of producers.²⁵

Drillers and equipment providers can adjust to this new environment by offering dynamic rig designs and development options to operators. By replacing low-specification with high-specification rigs, they can not only retain their contracts and relationships but also help E&P companies to reduce the capex associated with platforms and vertical well sections. Additionally, by automating and integrating processes, they could also develop a new set of offerings that plug customers' applications

into their software. "If you're a drilling contractor, you've got your own applications; let's go, here's how you plug in. You're a directional company and you want to plug in? We've got all the hardware you need," says Joe Rovig, president of National Oilwell Varco. "We want to be the iPad; if we

want your apps, you get in there, and you run that."²⁶

Acquisitions in a related service can diversify a driller's service offerings, while new investment vehicles such as master limited partnerships (MLPs) can reduce the cost of capital and provide drillers with much-needed financial flexibility in this dynamic capital environment. By dropping contracted rigs to an MLP, a driller immediately obtains funds for meeting dividend obligations or for funding assets that are under construction. Both Seadrill and Transocean, for instance, have improved their financial flexibility with MLPs.²⁷

Service majors may also consider positioning themselves for future growth by developing new information-centric service lines that help their customers to reduce costs.

Midstream: Break the boundaries

The midstream segment's revenue sources are fee-based, and thus capital flows are largely contracted. However, the rout in the oil market raises questions about its growth and pricing. For example, shale plays with high break-even prices are on the margin now.²⁸ The prices of oil-linked LNG contracts have fallen by 40–50 percent, diminishing arbitrage for US natural gas producers eyeing exports.²⁹ The price differentials between inland and waterborne crudes across key supply and trading regions have either narrowed or become highly variable. This, in turn, has led to a steep fall in monthly lease rates for oil rail cars from a high of \$2,450 a year ago to about \$1,300 by early 2015.³⁰

Variable capital program and production growth of E&P companies will likely limit the organic growth that US midstream companies have experienced in the past, especially in the businesses of gathering and processing, and liquids pipelines. Seeing this, midstream players may look at inorganic growth to maintain or grow their distributions—paving the way for consolidation in this fragmented segment. In early 2015, for instance, Energy Transfer Partners acquired Regency Energy for \$18 billion, and Kinder Morgan acquired Hiland Partners for \$3 billion.³¹

The contango in the oil market, coupled with expected growth in liquids exports (refined products, natural gas liquids, condensates, and likely crude oil), may require a shift of capital toward the liquids storage and terminals segment. This segment could also enable some midstream majors to extend their integration and diversify their operations.

Growth and consolidation opportunities are not limited to North America. Colombia, Chile, Mexico, Peru, and Trinidad and Tobago have already seen merger and acquisition inflows of about \$10 billion from Canada, the United States, the Netherlands, and Spain in the past three years. The growth in cross-border investments highlights the

“internationalization” of the midstream segment, at least in the Americas.

On the other hand, only a handful of pure-play, publicly traded midstream companies exist outside the Americas, and their share of global oil revenue is just 25 percent of that of their Western counterparts. As trade in natural gas expands globally and demand due to transportation and electricity generation increases, developing economies will need to make significant investments in their midstream sector, elevating midstream's status from an ancillary business to one of a country's core industries.

Regardless of how forces shape the O&G market, having a diversified network of aggregated supply (supplies sourced from more producers, shale plays, fields, or nations) and segregated distribution (higher segregations in a pipeline and targeting a variety of customers) will become all the more important for midstream companies in this new environment.

R&M: Explore new avenues

Refiners have fast emerged from the shadows of low growth and significant refinancing needs. In the past five years, refiners, primarily in the United States, have seen a marked increase in their spending and distribution because of advantaged price spreads. Now lower crude oil prices benefit refiners by reducing their feedstock and energy costs, boosting demand, and reducing working capital requirements (although at the cost of one-time inventory losses). That may explain why R&M is one of the only energy industries with positive 2015 earning revisions.³²

The recent past has brought US refiners their best years ever as well as multiple growth and valuation options. Few other types of companies have improved operating cash flows, increased dividends, and reduced debt to the same extent as have US refiners. In other regions, meanwhile, refiners have taken on debt to fund capital spending and pay dividends. As a result, during the past five years, the top 250 financial institutions worldwide have cut their equity ownership of Asian

refiners by about two-thirds, to 15 percent, while doubling their investment in US refiners to approximately 75 percent (figure 6).³³

While the current feedstock advantage of \$5 per barrel to \$10 per barrel continues to play out, shale is creating a new theme of unlocking logistics flexibility and value for US refiners. By leveraging the tax-friendly MLP structure for logistic and retail assets (which account for 15–25 percent of their business mix) and accelerating the drop-down of assets into those MLPs, US refiners can improve cash flows, boost valuation, and thus generate higher shareholder returns than their international counterparts.³⁴

Considering the uncertainty of crude price differentials and a ban on crude oil exports, US refiners can mitigate their risks by retaining the option to import advantaged barrels from different sources as well as by extending commercial agility in both inbound logistics—having flexible crude sourcing contracts with domestic producers and limiting dependence on a shale play or a specific grade of crude oil—and outbound logistics targeting new export markets. While limited refinery capacity

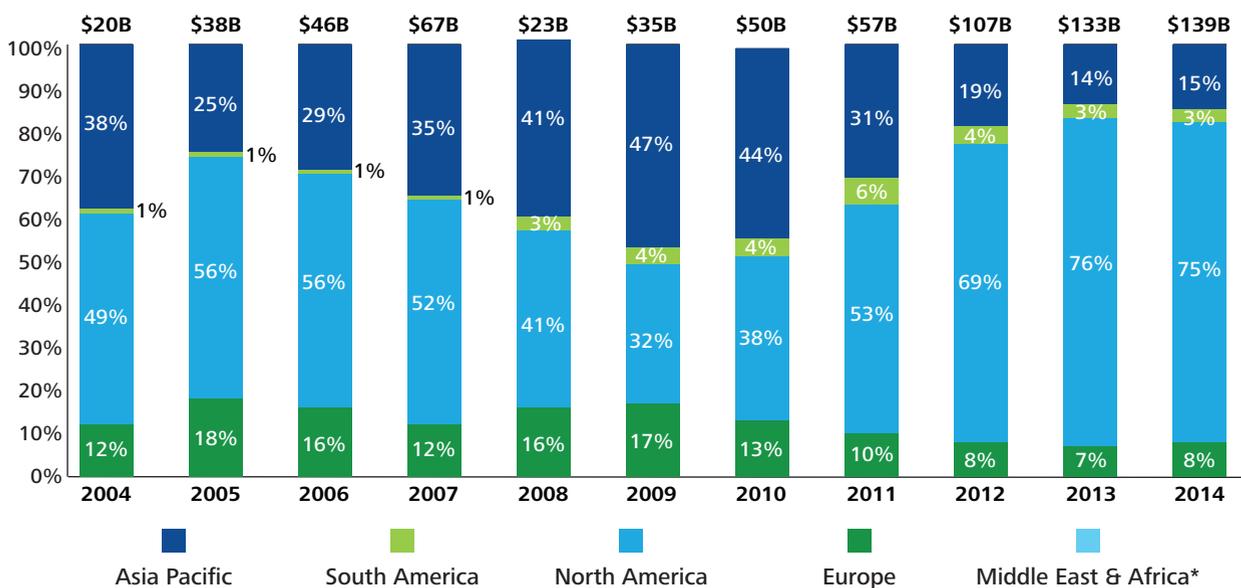
is driving imports in Latin America, the less efficient European refining segment is making way for imports from the United States.

Asian refiners, on the other hand, could benefit from a reduction in subsidies and deregulated pricing for petroleum products, which would help them to refinance debt at a lower cost of capital. The situation is more advantageous for refiners with integrated chemical operations that are focused on domestic markets rather than on exports.

An Asian integrated company also benefits from higher naphtha realizations because of the improved competitiveness of naphtha crackers. Governments can extend their reforms and capitalize on this opportunity by reducing their stake in domestic refining, which would not only provide the government with a cash infusion but also drive efficiencies by attracting investment from financial institutions and foreign O&G companies.

Although the composite margins of European refiners have recovered from the decade lows of about \$1.75 per barrel in 2013 and the first half of 2014, the region’s long-term outlook is darkened by declining local

Figure 6. Ownership of the top 250 financial institutions in R&M



* Middle East & Africa represent 0% across all years.

Source: FactSet and Deloitte analysis.

demand, relatively low asset complexity, and a lack of supply advantages. Speaking at the Oil & Money 2014 conference in London, Total's CEO said, "We cannot sustain plants when we are losing more than €100 million a year of cash. It is not sustainable, and it's not responsible."³⁵

In this buyer's market, European refiners, however, can create lucrative opportunities by pooling assets with the midstream, building

niche markets, and providing greater supply chain control to offset the margin volatility of energy commodity traders. European energy commodity traders such as Vitol and Mercuria could monetize new trading or margin safety opportunities by repurposing refining, storage, and terminal assets, as they did in 2008 and 2009 when the oil market reversed to contango.

A new path forward

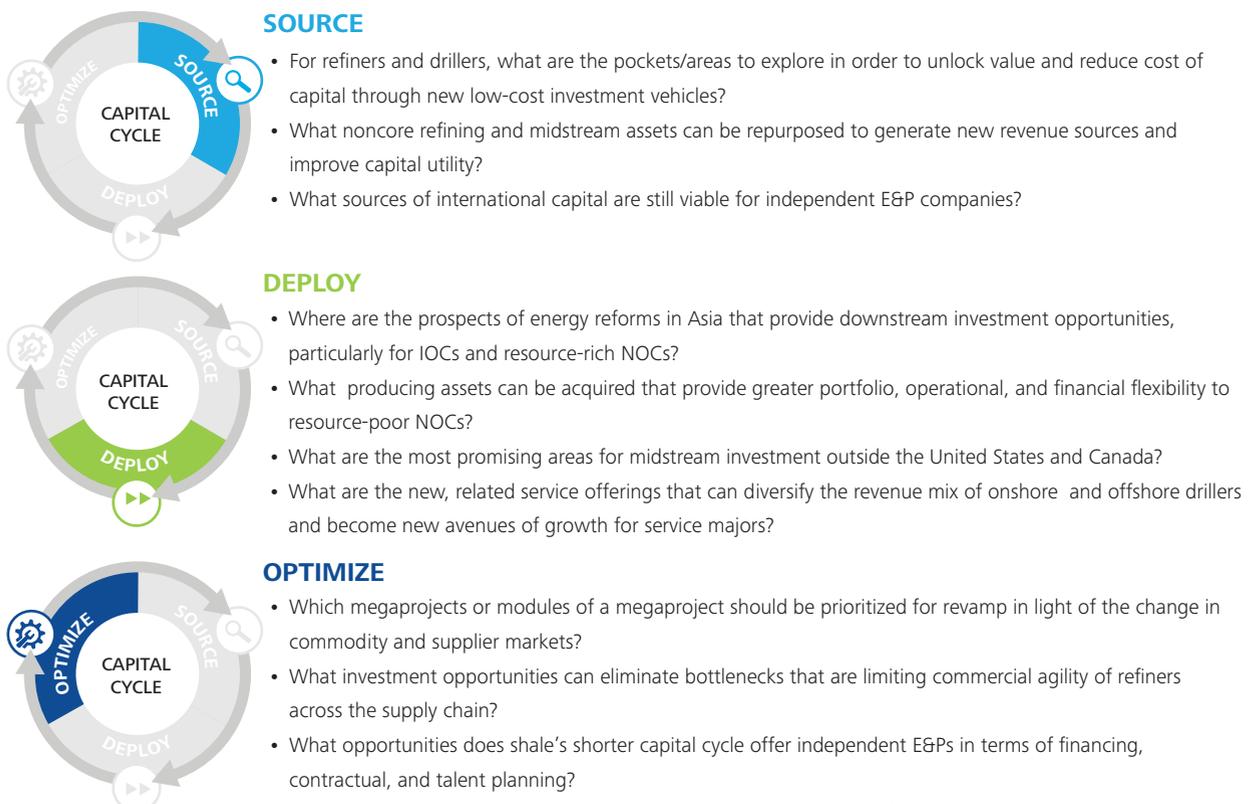
THE reversal of oil prices in 2014 has been among the swiftest in history. The fall of \$50 per barrel and a bearish outlook have diminished the allure that O&G has held for investors over the past five years. They have all of a sudden changed the discussion in the sector from raising capital, to driving growth in the long term, to seeing capital as the biggest lever of adjustment in today’s low-priced, cost-focused, and highly competitive market environment.

Navigating this new environment might be painful for many O&G companies, but they understand from past experience that adapting will only make them more efficient, dynamic, and innovative. The environment may question their traditional capital strategies and present several new capital choices, which will likely force many to explore and consider new

forms of sourcing, deploying, and optimizing capital. Such strategies include sourcing capital through new low-cost investment vehicles; deploying capital in assets and markets that offer greater portfolio and operational flexibility; and optimizing capital by adopting leaner designs and displaying higher commercial agility in supply chain and contracts.

Because this is just the beginning of the new environment, it is important to carefully study the dynamic nature of the shale business and its repercussions on the global O&G industry. Although each company will be developing a personalized action plan and addressing a unique set of questions across their decision-making cycle, the list of questions in figure 7 can get the ball rolling in the changing O&G world.

Figure 7. The capital decision-making cycle



Graphic: Deloitte University Press | DUPress.com

Appendix: Research methodology

THIS research studied annual net equity (equity raised minus share buybacks) and net debt (long-term debt issued minus long-term debt retired) among 39,273 publicly listed companies across the globe in nonfinancial industries. The data set includes 3,246 companies that were acquired during the period. It excludes publicly listed subsidiaries where the publicly listed parent holds more than 50 percent ownership.

The data were downloaded on November 4, 2014, from FactSet and aggregated using company fiscal years. All nonfinancial companies were classified as belonging to one of the following industries:

- **Consumer business:** consumer goods and home products, retail, wholesale and distribution, apparel and footwear, food and beverages, and leisure
- **Life sciences and health care:** pharmaceuticals, biotechnology, hospitals, and services
- **Manufacturing:** aerospace and defense, automotive and transportation, chemicals,

metals and minerals, paper and packaging, and process and industrial products

- **Energy:** oil and gas (E&P, integrated oil, midstream, R&M, and oil field services) and power and utilities (alternative power, water and electric utilities, and gas distributors)
- **Real estate:** homebuilding and real estate development
- **Technology, media, and telecommunications:** telecommunications services and equipment, wireless and wireline telecommunications, media, advertising services, movies and entertainment, print media, broadcasting, satellite and cable television, information technology services, software and hardware, and electronics and computers

Figure 8 gives the count of companies by regions and industries. Of the 2,864 companies in the energy industry, 1,982 were in the O&G sector.

Figure 8. Number of companies studied in each industry and region

Regions	Consumer business	LSHC	Manufacturing	Energy	Real estate	TMT
North America	1,357	1,223	4,092	1,375	147	2,123
Asia	3,505	991	9,458	704	903	3,811
Europe	1,302	492	2,906	599	425	1,366
Middle East	234	92	452	63	208	170
Africa	142	20	291	33	29	75
Latin America	134	17	343	90	54	47
Total	6,674	2,835	17,542	2,864	1,766	7,592

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