

KILLING THE COMPLEXITY MONSTER IN E&P

EIGHT CRITICAL ACTIONS FOR UPSTREAM OIL AND GAS COMPANIES

By Iván Martén and Philip Whittaker

THESE ARE TRYING TIMES for exploration and production (E&P) companies. Following more than a decade of strong financial returns, the industry has experienced several years of buffeting by a confluence of forces, including steadily rising costs, increasing project risk, and an ongoing transfer of value away from the industry. The recent swoon in oil prices has made an already challenging situation significantly more difficult.

In 2014, most E&P companies responded to this harsher environment by shifting their focus away from growth in favor of value. But the corresponding portfolio adjustments these businesses have made will not, we believe, prove sufficient. To succeed in today's new reality, E&P players (as well as the oil-field services and equipment companies that support them) must instead make bold, fundamental, organization-wide changes.

Where Did the Value Go?

To understand the current plight of E&P companies, it is helpful to review how the

industry arrived at its current position. Historically, these companies have generated healthy returns. From 2000 through 2013, the industry's returns on average capital employed (ROACE) were roughly 24 percent. This number, however, masks the past several years' steady deterioration in fundamentals. From 2000 through 2008, the industry's ROACE was 27 percent; from 2009 through 2013, it was 18 percent, with the decrease reflecting income growth that was flat, at best, and steadily rising capital employed per barrel of production. Indeed, from 2000 through 2013, capital employed per barrel of production more than tripled.

The industry's deteriorating financial backdrop is the result of a number of forces. These include the following.

Lax Cost Control. In response to the "high" oil-price environment that prevailed until recently, E&P players put a premium on growth and accelerated production. Cost control and efficiency received less attention. Many E&P companies also staffed up to meet peak growth

and scale, adding many positions—such as supervisory roles and jobs in assurance—that do not directly create value. And the companies failed to trim head count as the environment was changing and their asset base was shrinking. In one midsize international oil company (IOC), for example, head count has risen by 38 percent since 2009 despite a fall in production of 48 percent, resulting in a 140 percent increase in unit operating costs. E&P companies operating in some locations, such as the North Sea, have also foregone opportunities to reduce their logistics and infrastructure costs by working in cooperation with one another.¹

Depletion of Easy-to-Exploit Resources.

The contributions of established, highly profitable legacy oil fields to E&P companies' top lines have fallen with the fields' ongoing depletion, and there remain fewer relatively easy-to-exploit resources that are, as yet, untapped. As a result, E&P companies have been forced to pursue larger, higher-risk projects, such as deepwater and remote developments, in an effort to enhance revenues. Such projects not only bring greater complexity, they also raise costs significantly: the industry's global finding-and-development costs rose from just over \$12 per barrel of oil equivalent in 2009 to more than \$20 in 2013.

Government Action. E&P companies have also been saddled with higher costs owing to government actions. For instance, many national governments insist that E&P companies use local companies in their development efforts, and meeting this requirement can—unless undertaken with extreme care—mean additional costs and inefficiencies. E&P companies' in-country costs for certain services in one West African country, for example, are four times those in other, internationally competitive alternatives. Government permitting-and-sanctioning processes are also often slow and cumbersome for E&P companies to navigate. And government fiscal demands on companies' revenues continue to rise—in many cases, to a degree that is inconsistent with the attractiveness of the country's resource base.

Shortages of Critical Assets and Talent.

E&P companies' costs have also been driven higher by supply-and-demand imbalances in critical assets and talent. Some aviation contractors' revenues per airframe rose by almost 40 percent between 2009 and 2013, for example, while, despite looming oversupply, weighted-average offshore-rig rates rose by 8 percent in the 12 months that ended in July 2014. Confronting talent shortages, companies have turned to contractors to fill gaps in their organizations. But companies often control this far less tightly than they do staff recruitment. Over the past five years, more than 60 percent of the head count growth at one IOC, for example, has come from contractors, who now represent 30 to 40 percent of total head count at many E&P companies. Companies have also raised spending to boost retention of key in-house skills: a 2014 survey revealed that more than half of E&P companies had increased compensation in the previous year with that aim.

In sum, E&P companies face a headwind that continues to threaten both their revenues and their profits. And it is likely that this environment represents a new reality rather than a cyclical downturn. To prosper sustainably in this setting, these companies will need to transform themselves by making bold, integrated, organization-wide moves; redefine the way they interact with service providers; and do a better job of managing the overall value chain. Isolated or incremental measures will not suffice.

Eight Critical Actions for E&P Companies

Through our extensive work with both E&P companies and suppliers to the industry, The Boston Consulting Group has identified eight critical actions for E&P businesses in the current environment. (See the exhibit, "Eight Critical Actions for Oil and Gas Companies.") These actions cut across the organization and, for many players, are significantly underexploited. Indeed, by implementing the measures together, BCG has helped companies achieve sustainable improvements of \$1 to \$3 per barrel in unit operating costs within 12 to 24 months.

Eight Critical Actions for Oil and Gas Companies

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| 1 | Technical standardization and de-averaging |  | Choosing appropriate standards and limiting choices | 5 | Maintenance optimization |  | Rethinking schedules and policies |
| 2 | Organizational right-sizing |  | Optimizing head count and upgrading talent | 6 | Optimization of aviation, trucking, and marine logistics |  | Adjusting contracts and optimizing asset utilization |
| 3 | Improved workforce efficiency |  | Reducing administrative costs and bureaucracy | 7 | Greater cooperation with other industry players |  | Cooperating with peers to reduce infrastructure and asset costs |
| 4 | Supply-chain partnering and renegotiation |  | Leveraging partnership opportunities and overhauling agreements | 8 | Streamlining overhead, real estate, and support service costs |  | Exercising greater discipline in—and thinking more strategically about—cost management |

Source: BCG analysis.

1. Technical Standardization and De-averaging. The ongoing evolution and proliferation of E&P technologies has netted the industry measurable advantages. In some cases, however, it has also driven up costs without commensurate benefit. E&P players should analyze the range of technologies they employ and, where practical, look for opportunities to move from best-in-class to good-enough solutions. In particular, companies should seek opportunities to de-average technology standards among higher-risk and low-risk projects in which short-term costs can be more important than long-term, maintenance-free integrity. Within asset classes, however, companies should seek to standardize technology where possible: unnecessarily customized solutions only add cost. Statoil and Petrobras, for example, have aggressively pursued subsea-equipment standardization, which offers the dual benefits of simpler life-cycle management and, typically, improved leverage over suppliers.

2. Organizational Right-Sizing. As we've noted, given their current operations, many E&P companies now carry excessively large staffs. They should adjust staff to an appropriate size (or reallocate personnel throughout the organization to areas with

greater need) and, simultaneously, use the opportunity to raise the level of talent. The size reduction will lower personnel costs and simplify internal overhead, including overhead for office space and IT. BCG has found that, in mature E&P basins today, staff reductions of 20 to 25 percent can often be achieved—without making radical changes to the company's operating model or outsourcing strategy—simply by sizing teams more appropriately for the company's current portfolio and challenging the often sizable contractor pools that the company has grown to rely on.

3. Improved Workforce Efficiency. Although operational efficiency has long been a focus for E&P companies, the efficient utilization of individual workers has not. E&P companies have many opportunities to improve the efficiency of their workforce, both offshore and onshore. They can, for example, simplify the process for obtaining work permits and thus improve their crews' time-on-tools numbers—that is, the percentage of the time actually spent working on the assigned task. Companies can also review work schedules of rotational staff for optimization opportunities (for example, opportunities to switch from a two-week-on, three-week-off sched-

ule to a three-week-on, three-week-off one) to reduce head count and to generate related savings in aviation and logistics costs of up to 25 percent. Companies can also reduce manpower at certain facilities or leave individual facilities unmanned—assuming their design permits it—for further savings.

4. Supply-Chain Partnering and Renegotiation. Service company margins have fallen by 10 percent or more since the end of the first decade of this century; for E&P companies, the scope for trimming service company margins further through traditional renegotiation has shrunk proportionately. Our experience shows, however, that in the current market, E&P companies can still achieve reductions of 5 to 10 percent in such areas as contract labor and well services by applying an intelligent combination of rate renegotiation, changes to service levels, better allocation of risk between operator and contractor, and, where possible, tighter partnerships with suppliers and a shared focus on removing costs from the full value chain. More integrated and coordinated planning, for example, can improve efficiency and reduce costs for both clients and suppliers. Deployed in concert, the range of available supply-chain initiatives can deliver up to 40 percent of the overall value of an operational improvement program in today's environment.

5. Maintenance Optimization. E&P companies can also lower costs by optimizing maintenance schedules for mature assets. The norms established for new facilities—with regard to maintenance philosophy, shutdown frequency, and redundancy—are unlikely to be appropriate as these assets enter their later years. Changing these policies can be technically and culturally challenging, but doing so can mean the difference between an economic asset and a loss-making one. In recent efficiency-focused projects, we have found that more than 20 percent of the overall savings is the result of improved maintenance practices.

6. Optimization of Aviation, Trucking, and Marine Logistics. This is fertile ground for potential cost savings. Too many contracts guarantee providers a huge

proportion of revenues before any work has been done. Many contracts also lock in high standing charges that provide contractors little incentive to make efficient use of their assets. Numerous operators we have worked with, however, have been able to mitigate or eliminate such costs by, for example, eliminating helicopters and supply vessels. The companies have also reduced costs by increasing the utilization of the helicopters and supply vessels that remain in their fleets through improved network management and—like it or not—by reducing (in a manner that does not compromise safety or responsiveness in critical situations) the flexibility of service available to operational locations.

7. Greater Cooperation with Other Industry Players. Cooperation among E&P companies is typically limited, but it is more important today than ever before. E&P companies can work together to reduce logistics and infrastructure costs by, for example, sharing office facilities, marine assets, and backup equipment. Companies' willingness to engage in such cooperation is dependent as much upon culture as contracts, of course. But today's industry conditions should spur increasing numbers of businesses to reach out to try to seize such opportunities where they exist.

8. Streamlining Overhead, Real Estate, and Support Service Costs. Rethinking organizational support services can generate savings that, although they are lower than those associated with other levers, are still significant. One company, by optimizing its training and certification procedures, dramatically reduced the fees it incurred for training-course cancellations, translating into a six-figure savings for the company. The rationalization of software licenses for desktop technical and information packages can yield material savings (both direct and indirect) and send a powerful message to the organization regarding the level of cost scrutiny that is emerging. The renegotiation of insurance fees for aging assets can also deliver meaningful savings: one company recently achieved a 12 percent reduction in its insurance costs through what began as a simple revaluation analysis.

A “MONSTER” OF COMPLEXITY and inefficiency has devoured much of the value created by the E&P industry in the past decade. Protracted inattention to costs, the depletion of easy-to-exploit resources, increasing government regulation and fiscal demands, and shortages of critical skills and talent have dealt a fundamental blow to industry profits—a blow magnified by the recent sharp fall in oil prices. But companies can fight back through the suite of levers described above. Skillfully deployed, they can deliver sizable improvements to

companies’ efficiency, resilience, and, ultimately, financial performance—and potentially spell the difference between survival and disappearance in this environment.

NOTE

1. This critical missed opportunity was identified by Sir Ian Wood in his February 2014 report to the UK’s Department of Energy & Climate Change. The report details how the country can maximize the recovery of its remaining oil and gas resources. (See <http://www.woodreview.co.uk>.)

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This article is the first in a planned series on the challenges currently facing oil and gas companies and the engineering and oilfield services companies that support them.

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