Driving operational performance in oil and gas
Table of contents

Executive summary 1
The prize of operational excellence 2
Industry objectives 3
Top business issues 4
Low oil prices are highlighting the effects of operational inefficiencies 5
Why now? 6
The anatomy of operational excellence 7
Key operational excellence components 8
Causes of inefficient operating performance 10
Operational excellence results in better outcomes 11
Current state in industry: usage and benefits 12
Is it time for a shift in focus? 14
How EY can help – achieving operational excellence 16
The oil and gas industry is currently facing a crisis that threatens even the most stable of organizations. Increased supply and decreasing demand growth derailed an extended period of high prices and the industry is now facing what appears to be an extended period of low oil price. To further complicate matters, the new price reality comes on the heels of diminished returns despite high prices. Over the past five years, upstream operators have seen a steady decline in efficiency (the barrel of oil equivalent per day, per capital dollar) and asset reliability while experiencing increases in finding and lifting costs.

As the era of “easy oil” passes, operators are faced with increasingly expensive global exploration and development in harsher, remote and complex basins. These factors have been eroding profits, though price stability (of more than US$100 per barrel) prior to December 2014 masked the full effect of these increases.

The oil and gas industry has experienced numerous boom and bust cycles, rarely reacting in a steadfast way to either highs or lows. In periods of prosperity, organizations spend big money for new assets, hire many employees (often at an inflated rate) and push for growth, often at the expense of current asset performance. During downturns, organizations make drastic cuts to survive, eradicating projects, slashing headcount and deferring important investments in order to minimize costs, again often at the long-term expense of asset performance.

This expand-and-contract model creates great instability in the industry, within individual organizations and at on-site operations. Only when operators decide to build long-term stability and sustainability into their operational strategies will they be equipped to weather the downturns and capitalize on upswings in a measured and profitable way. This stability is best achieved through operational excellence programs focused on continued, measured improvement that systematically addresses recurrent business issues.

Operational excellence is not a new concept, but current conditions create a unique opportunity for the industry to realize its full promise. External economic factors are putting pressure on the industry to be more efficient and cost effective without giving any ground on HSEQ. And, advances in digital technologies offer new tools and techniques to capture and leverage information to streamline operations while increasing production. Finally, and what may be the most important factor in creating sustained change, is the rise of younger workers committed to serving a broader purpose through work beyond simple economics and their impact on organizational culture. It is that purpose that will drive true transformation and bring stability and carry sustained benefits of operational excellence through both boom and bust.

Operational excellence is an element of organizational leadership that stresses how a variety of principles, systems and tools can be applied toward the sustainable improvement of key performance metrics.
The prize of operational excellence

Through operational excellence, the industry can tap into significant savings. For example, the cost of extracting oil and gas continues to increase, and a review of operating costs per barrel of oil over the past seven years shows a steady escalation for majors, national oil companies (NOCs) and independents alike. While exact performance data varies by subsector, and within subsectors, companies are all facing an increase in extraction costs.

The rate of escalation varies by company and year, so average numbers are used to reflect a general trend. The compound annual opex/bbl cost escalation rate (CACER), similar to a compound annual growth rate (CAGR), can be determined for each organization and group of organizations, majors, NOCs and independents.

<table>
<thead>
<tr>
<th>CACER</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Majors</td>
<td>2.85%</td>
</tr>
<tr>
<td>NOCs</td>
<td>5.01%</td>
</tr>
<tr>
<td>Independents</td>
<td>5.54%</td>
</tr>
</tbody>
</table>

Top-performing companies have achieved a CACER of only 2.25%. Running a model for the majors within the industry – assuming 93.5m bbl/day, a starting cost basis of US$6.80/bbl and cost escalation at 2.85% and 2.25% – reveals that US$30b is available to be saved over five years between best-in-class and average performance. Given that the majority of companies have a cost basis higher than US$6.80/bbl, and that NOCs and independents have much higher cost escalation, the US$30b figure can actually be considered quite conservative, displaying the huge opportunity that exists across the industry.
Industry objectives

Oil and gas companies’ objectives form the basis for operations and activities, and they are highly influenced by operational performance.

1. **Grow and meet economic expectations**
   Whether a NOC is focused on a broader national agenda or an IOC focused on shareholder return, increasing value for stakeholders is paramount for all organizations. Value increases with fiscal prudence, intelligent investing and operating consistently at or above expectations. Managing costs without sacrificing efficiency is crucial for achieving this objective.

2. **Deliver continuous improvement in health, safety, environmental and quality (HSEQ) performance**
   Oil and gas exploration, transportation and production contain inherent risks: smaller consequences, like slips and trips, and those with high severity and high impact, such as fatalities or serious environmental incidents. These risks, and specific recent incidents, have resulted in increased demands and expectations from stakeholders (internal and external) for faster, safer, more reliable, more resilient and environmentally sound production. Effectively managing assets and operations is paramount to sustaining a social license to operate.

3. **Drive growth in daily production and proven reserves**
   Nearly all oil and gas organizations are focused on growing revenue, but their strategies and priorities may differ significantly. Some organizations achieve growth through increasing daily production rates, from either optimizing existing assets and wells or expanding exploration into new fields, while NOCs prioritization lies in curbing expenses for the sake of using funds for more urgent needs than operating costs. Regardless of the organization’s priority, the ability to grow is linked directly to available cash and proven operational performance in delivering results.
In addition to the fundamental shift in exploration, the globalization of the industry is leading to resource constraints, with certain regions facing a major turnover of personnel and experience. Maintaining a social license to operate, while achieving consistent returns on investments, has never been more complicated or difficult. While rapidly changing technology does hold out the promise of transforming the industry, increasing efficiency and improving results, successfully integrating these new technologies into day-to-day operations and realizing that promise remains elusive.

### Aging assets
The existing infrastructure and assets within the oil and gas industry are continuing to age, resulting in increased risk of equipment failures.

### Declining efficiencies
Project planning and execution are becoming more challenging due to the technical nature of the projects as well as financial implications.

### Dropping oil price
The recent and sustained drop in oil price has highlighted the substantial impact of these trends.

Most E&P companies have been forced to reduce their capital spend outlook in favor of reducing costs and increasing operating efficiencies.

Over 50% of global production comes from assets beyond their midpoint of the asset life cycle.

BOE per day produced per US$m in capital has decreased by 11% YOY over 2008-12.

### Declining E&P operating efficiency

<table>
<thead>
<tr>
<th>Year</th>
<th>BOE per day produced per US$m in capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>45</td>
</tr>
<tr>
<td>2009</td>
<td>41</td>
</tr>
<tr>
<td>2010</td>
<td>37</td>
</tr>
<tr>
<td>2011</td>
<td>30</td>
</tr>
<tr>
<td>2012</td>
<td>27</td>
</tr>
</tbody>
</table>

11% yoy decline

---

\(^1\) EY analysis based on data from annual reports from Exxon, BP, Royal Dutch Shell, Chevron, Total and ENI.
Low oil prices highlight the effects of inefficiencies

The sustained reduction in oil and gas prices, coupled with a forecast of modest recovery, requires the industry to apply increased focus and rigor to operations performance. While new exploration and growth will always be a cornerstone of upstream operations, achieving a balance between new asset development and existing asset optimization is becoming increasingly important. Failure to improve operational performance and economics could have lasting effects on a company’s long-term growth and viability.

In the current low-price environment, performance gaps have become even more prominent due to a heightened awareness among investors, stakeholders and employees. The present low oil price is disruptive by nature and calls for more than just rapid reduction of cost through downsizing or budget cuts across the organization. The direct impacts of the current low-price scenario are presented in the table below, indicating the reasons for expediting operational excellence.

Impact of low oil price and how EY operational excellence can help

<table>
<thead>
<tr>
<th>Situation</th>
<th>Impact</th>
<th>How we can help</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash constraint – existing O&amp;M budgets were created during previous oil price forecasts, and in response, companies are slashing them.</td>
<td>Organizations are forced into random cuts and slowed growth that impacts long-term corporate objectives.</td>
<td>Free up operating cash through intelligent supplier and contractor management and by building cost efficiencies.</td>
</tr>
<tr>
<td>Declining asset uptime – blanket budget cuts are creating risks of equipment failure and production output.</td>
<td>Instability in achieving production targets becomes an issue, risking production revenue.</td>
<td>Improve reliability and performance through asset reliability and integrity management.</td>
</tr>
<tr>
<td>Insufficient performance measurement and governance – when company performance begins to lag industry leaders, organizations tend to operate in silos with little governance.</td>
<td>Without continuous improvement, organizations can’t capitalize on ideas and leverage leading practices.</td>
<td>Gain consistency across operating groups and a governance framework all by having a defined operating model and applying the integrated business planning approach.</td>
</tr>
<tr>
<td>Expectation to “achieve more with less” – organizations are required to maintain margin by reducing costs and meet stakeholder expectations,</td>
<td>Organizations are required to identify savings from existing contracts</td>
<td>Improve project performance by implementing best practices and creating standardization across projects</td>
</tr>
<tr>
<td>Cost efficiency – the rise in the cost of fuel has increased the focus on fuel loss. The loss of fuel occurs throughout the supply chain.</td>
<td>Fuel loss is prominent across the industry, has devastating effects on businesses and needs a thorough investigation to thwart further losses.</td>
<td>Generate savings through identification of duplicate payments, overpayments and erroneous payments</td>
</tr>
<tr>
<td>Operational excellence viewed from employees’ perspective – when organizations focus on cost efficiency, employees may not share the same priority.</td>
<td>When organizations focus on cost efficiency, employees may view this as a decrease in capital investment and may become less engaged.</td>
<td>Capturing data and leveraging continuous improvement to compress repetitive processes and maximize efficiency</td>
</tr>
<tr>
<td></td>
<td>Misappropriation of company intellectual property may occur for personal gain, and accidental loss can occur through negligence. Data breach incidents can be high profile and expensive and may result in reduced value of the organization’s IP.</td>
<td>Determine whether the key driver of fuel loss is due to inadequately skilled staff, damaged equipment or collusion.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quantify potential loss and provide recommendations for improvements through forensic analysis of technical, operation and financial data pertaining to the production and allocation of fuel.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Identify indicators of potentially suspicious activity, including unauthorized system and data access or data harvesting.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Embed and assist with the implementation of information governance program that aligns with the organization’s risk management strategy.</td>
</tr>
</tbody>
</table>
Why now?

Operating costs have consistently escalated over the past 10 years and are projected to continue doing so for the next 10 years, independent of oil price fluctuations. The recent price drop is not the driving force behind the need for operational excellence, but it does create a demand for swift action. However, the industry is in need of a measured approach in contrast to the approaches of the past, which have resulted in the boom and bust cycles.

This expand-and-contract model causes considerable instability in the industry and is mitigated only once operators incorporate perpetual stability and sustainability into their operations strategies. Doing so allows them to capitalize on upswings in a measured and profitable way. This type of operational endurance is best achieved through operational excellence programs focused on continued, measured improvement that consistently addresses recurrent business issues.

With ever-growing pressure being leveraged upon the oil and gas industry as a result of significant asset and environmental incidents, declining performance, escalating costs and the more recent drop in prices, companies must take actions that are not only swift, but appropriate and sustainable to improve HSEQ, operations and business performance. The current economic climate has provided the necessary focus on operational excellence and new technologies have been provided to make it happen.
The anatomy of operational excellence

The notion of operational excellence (OE) is not new. Leading industries like manufacturing and pharmaceuticals have embraced it, and it is even more prevalent in downstream petrochemicals and refining. Many oil and gas organizations have also implemented, to some degree, operational excellence programs targeted at improving HSEQ performance and driving cost and efficiency improvements, or as part of a larger transformational program for strategic adjustments. Subsequently, many companies have seen improvements in HSEQ performance, cost position, reliability and overall production. However, the benefits have been inconsistent across the industry, somewhat overshadowed by a lack of structure, direction, process or execution.

Where operational excellence has been highly successful, inside and outside the oil and gas industry, companies reaping the benefits share many key characteristics and attributes. Below is an outline of the cultural attributes of OE and the components that have been put in place to drive continued and sustainable results.

Key cultural attributes

- **Strong leadership:** From the board of directors through the operations integrity management system (OIMS) all the way to tool pushers, each leader is aligned on the company vision and guides their organization on it, driving performance expectations and developing the capability of their employees and contractors.

- **Engaged personnel:** All employees understand their role and how their job and personal choices impact the performance of the organization. They don’t just support the OE program but own it and strive relentlessly for continued improvement.

- **Clear focus:** Operational excellence and performance improvement are a clear focus for the organization, and each employee is empowered and supported to make difficult choices that support the OE program above all else. Organizational changes to the operating model are imperative for success.

- **Leveraged technology:** The organization uses only the necessary technology that is implemented to allow real-time effective knowledge transfer, communication and performance review, as well as the ability to transform continuous streams of data into information and ultimately decisions that positively impact results.
Key operational excellence components
Key operational excellence components

Health, safety, environment and quality: The foundation of operational excellence, in which the operational risks are understood and ranked and everyone engages in a relentless pursuit to eliminate injuries and incidents for employees, contractors and the environment, including a zero-defect approach to product quality.

Integrated planning: Long-term business strategies are effectively translated into short-term and medium-term operating plans and supported by appropriate frameworks and sponsorship.

Operating model: This outlines how processes, people and systems interact to support the business and how they are arranged and prioritized to achieve optimum efficiency.

Asset reliability and integrity: A total reliability organization is established that identifies potential asset failures for elimination, tracks and investigates failures for improvement, and focuses on the life cycle of assets from design to decommissioning.

Cost efficiency: Cost improvements are strategically addressed, regardless of oil prices or profit margin, looking far beyond surface costs, such as personnel, and into the hidden costs of inefficiency and rework. Tools and technologies are in place that focus on increased oil production output.

Supplier and contractors: Contractors and suppliers are integrated into the overall operations program and contribute positively to business performance. Agreements are structured so that objectives and oversight mechanisms are clear and appropriate.

Vital components for success

- **Operations/business management system (OMS):** Guidelines and necessary processes to establish how an organization operates are arranged in a centralized framework and adherence is strictly enforced, ensuring all core activities are done consistently and in the most effective way to sustain the transformation and achieve measurable results.

- **Technological Advancements:** With new technological advancements, we have the potential to improve business functions across the industry. Big data and analytics, digital oilfield, industrial Internet of things and secure cloud computing — there are a variety of drivers emerging today. But, oil and gas companies must make the leap from the digital oilfield of the past and adopt practices to position themselves for the future. This includes addressing the entire value chain, focusing on innovation and automation. Technology has caught up with the industry’s needs — but the industry still lags behind in leveraging these advancements.

- **Organizational development:** An established pool of skill sets is in place, with succession and development plans in place for each position, and a contracting strategy is in place to establish the organization as a preferred place to work and creates a competitive advantage in the marketplace.

- **Performance management:** The operating organization establishes and owns metrics and dashboards, and visual performance management is utilized to drive day-to-day performance optimization.

- **Continuous improvement:** A constant effort is made to improve process efficiencies, reduce “waste” and improve the way work is completed.

For complete and sustainable performance excellence, organizations must establish the appropriate OE culture, implement the key OE components, and strive for robust execution and continuous program enhancement.
Causes of inefficient operating performance

While many organizations are succeeding in some critical operational areas of focus, few, if any, are effectively managing them all. Industry analysis suggests operational performance gaps begin at the strategic level and carry through to a specific process breakdown within assets. In addition, operations functions often lack continuous improvement efforts targeting these inefficiencies and failure modes.

Below, we outline the most common key factors behind operational inefficiencies.

Strategic factors

1. Non-integrated business and activity planning
   - Lack of leadership sponsorship and maturity
   - Ineffective strategy and framework
   - Difficulties translating strategy into operations

2. Lacking an effective operating model
   - Siloed design architecture
   - Unclear decision governance
   - Insufficient performance management
   - Lack of standardization, policy and enforcement

Tactical factors

1. Mismanaged supplier and contractor relationships
   - Prequalification and contract execution not robust
   - Limited visibility to contractor and supplier risks
   - Poor field management and performance analysis
   - Assumption of project uniqueness

2. Poor asset reliability and integrity
   - Discounting predictive maintenance for scheduled maintenance
   - Poor shutdown and turnaround management
   - Ineffective operational readiness planning
   - Over-abundant maintenance activities
   - Insufficient data analytics

3. Inefficient cost management
   - Unaware of cost drivers across value chain and interdependency
   - Lack of production management optimization
   - Inadequate business component modeling
### Operational excellence results in better outcomes

#### Strategic decision-making

<table>
<thead>
<tr>
<th>Better question</th>
<th>Better answer</th>
<th>Better outcome</th>
</tr>
</thead>
</table>
| A NOC sought to improve the way its top management was making key strategic decisions. An organization with multiple subsidiaries, the NOC faced a challenge to assess the impact of major strategic decisions, M&A activity and other large investment projects it was making on key financial metrics of its entities and at the consolidated level. The NOC had to answer the question: “Can re-evaluating our decision-making strategy help us develop the most optimal combination of investment decisions?” | • Our team identified revenue and cost drivers relevant to each part of the business.  
• We created a flexible, transparent and robust decision-making model that enables better business performance, calculates KPIs, and identifies and quantifies the key risks for better risk management and mitigation.  
• We designed a documented process, held trainings for all stakeholders and ensured our model would be subject to continuous development to make it sustainable in a change-driven environment. | Our strategic decision-making model empowered the NOC to make better informed strategic decisions. The top decision-makers now work with more transparent information, enabling them to more clearly analyze the impact of their strategic decisions on both the consolidated group’s and its individual subsidiaries’ financial performance. Our model has boosted the NOC’s analytical capability and consistency in performance management across subsidiaries. |

#### Tactical decision-making

<table>
<thead>
<tr>
<th>Better question</th>
<th>Better answer</th>
<th>Better outcome</th>
</tr>
</thead>
</table>
| An organization was struggling to keep its assets intact while continuing to be a leading service provider and juggling significant internal spend. The organization had to answer the question: “Will performance improvement help identify significant cost savings?” | • We analyzed and evaluated the maintenance team’s work procedures and the critical performance elements they struggled with daily.  
• We redesigned the maintenance team’s processes, streamlining their work routines to more effectively link to one another and scale up the impact of single maintenance efforts.  
• We introduced a leading-practice staff performance assessment to make successes measurable, ensure continuous improvement and spread top performance in the long run. | Our client’s annual costs for internal maintenance services decreased by roughly 15% of total internal maintenance costs. In addition to the financial impact opportunities, our client benefited from higher performance of its maintenance teams, which are now better organized and more motivated. |
Current state of industry: usage and benefits

EY researched 30 oil and gas companies, including oil majors, NOCs and independent players, to identify if the sample companies had an operational excellence program. For companies that did have an operational excellence program, we looked at the reasons for introducing the program, the main areas of focus and the structure of the program.

Our findings are as follows:

The oil majors have long-established OE programs that are embedded across the organization. OE programs have long remained an asset to the organizations by providing a quantitative decrease in drilling and completion costs, volume of petroleum spills and, increasing refinery energy efficiency, uptime and earnings. However, even the most successful OE programs have room for improvement. Now is the time to harness the momentum by leveraging new tools and technologies and capitalize on the multitude of opportunities for success OE has to offer.
We identified three main reasons why companies first introduced an operational excellence program:

1. To improve HSE performance, typically following an HSE incident. Companies that had not experienced an HSE incident introduced an operational excellence program in response to high-profile HSE incidents in the industry.

2. To improve financial and operating performance, with a focus on reducing costs and closing the performance gap relative to peers.

3. As part of a wider corporate transformation program or a shift in strategic direction.

### Six most common operational excellence focus areas

- **Expansive asset reliability**: 80%
- **Expansive production efficiency**: 80%
- **Management of HSE risk**: 73%
- **Operating cost reduction**: 60%
- **Focus on culture**: 20%
- **Employee retention**: 13%

### Four main outcomes of companies using OE programs

- **Improved HSE metrics**: 43%
  - Companies reported declines in both the total recordable injury/incident rate and days-away-from-work incidents for employees and contractors. Two companies achieved their best-ever results on spill and personal safety measures.

- **Cost savings**: 43%
  - Cost savings included achieving reductions in total operating costs as well as in areas such as well drilling costs. The majority reported that they delivered on cost reduction targets ahead of schedule.

- **Improved asset uptime/availability**: 29%
  - Oil and gas companies with OE programs reported improved asset uptime or availability. Two companies had targeted top-quartile performance in asset availability.

- **Increased oil/gas production**: 29%
  - The increased asset uptime may be linked to the increased oil and gas production achieved in 29% of OE programs.
Is it time for a shift in focus?

The oil and gas industry, particularly the upstream sector, has been slow to adapt to changing expectations and therefore has failed to reap the benefits available through a systematic focus on operations.

In the past 10 years, exploration has shifted into more complex and remote basins, newly developed technologies have been introduced and regulations have been rapidly evolving in an expanding global environment. Maintaining a social license to operate, while achieving consistent returns on investments, has never been more complicated or difficult. The next 10 years show even more tightening in these areas and an impending loss of experience and talent through retirement. These fundamental shifts in the industry indicate that the time is indeed now to make fundamental, sustainable improvements to operations through integrated operational excellence programs.

The programs identified in our industry examination show that there is willingness and desire to improve operating performance, specifically reliability, efficiency, cost and HSE. However, the same examination highlighted that few existing operational excellence programs adequately address all four of those factors and, despite these efforts, operating performance in the industry has been steadily declining, even before the sharp drop in oil price. In addition, stakeholders are demanding more consistent returns and improved HSE performance across assets.

Communities, non-governmental organizations and municipalities are applying pressure for exploration companies to ensure risk mitigation and minimization practices are in place.

Shareholders are investing in exploration companies that can consistently deliver results and minimize profit fluctuations in the heavily cyclical oil and gas industry.

A new generation of employees expects organizational stability and gravitates toward organizations that can offer stable employment with opportunities for advancement.
EY’s Oil & Gas professionals can work with clients to develop, design and implement operational excellence programs. Our Operational Excellence team is composed of advisors with experience in engineering, plant operations, maintenance reliability, HSE, supply chain, strategy and organizational change within oil and gas.

Through our closely linked Transactions Advisory, Tax, Fraud Investigation and Dispute Services, and Advisory service teams, coupled with our global team of more than 10,000 industry professionals, EY is equipped to provide independent support and advice to our clients to enable their growth in a changing landscape.

### How EY can help – achieving operational excellence

1. **Integrated business and activity planning**
   - **At the forefront of operational performance is the need to translate long-term business strategies into short-term and medium-term operating plans.**

<table>
<thead>
<tr>
<th>Key challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>▶ Sponsorship and maturity: Success in any endeavor starts with executive sponsorship and a culture that supports and understands the objectives.</td>
</tr>
<tr>
<td>▶ Strategy and framework: To prevent value leakage from siloed thinking that often occurs from increasing operational complexity, oil and gas companies must establish clearly defined and well-understood connection and integration points among the strategic planning levels.</td>
</tr>
<tr>
<td>▶ Translating strategy to operations: The enterprise strategy needs to be effectively translated into quantitative and actionable business unit and functional goals and targets to facilitate planning, budgeting and stewardship processes.</td>
</tr>
</tbody>
</table>

2. **Target operating model**
   - **A target operating model describes not only how processes, people and systems interact to support the business but also how they could be arranged and prioritized to achieve optimum efficiency.**

<table>
<thead>
<tr>
<th>Key challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>▶ Siloed design architecture: Functions and geographies need to be fully integrated to promote consistency in culture, processes, controls and technologies.</td>
</tr>
<tr>
<td>▶ Unclear decision governance: Decision-making and delegation of authority underpin the operating model and should include policies, practices, committees and rules.</td>
</tr>
<tr>
<td>▶ Insufficient performance management: Many organizations are lacking a balanced set of quantitative and qualitative performance metrics necessary to support the strategy and vision. If metrics are present, they often tend to be inconsistently measured, managed and evaluated.</td>
</tr>
</tbody>
</table>
### 3. Supplier and contractor management

Leading operators understand they must leverage their suppliers and contractors to achieve the desired level of operational performance.

<table>
<thead>
<tr>
<th>Key challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>▶ Prequalification and contracting: While supply chains and supplier networks have become increasingly complex, prequalification requirements and contracts have failed to capture these complexities.</td>
</tr>
<tr>
<td>▶ Supplier and contractor risk: With increasing impact on business and operating performance, risks associated with these portfolios must be adequately understood, quantified and mitigated.</td>
</tr>
<tr>
<td>▶ Field management and analysis: When organizations work with suppliers and contractors whose performance is not reliable and whose service availability is unpredictable, value can erode by as high as 10%-15% due to ongoing inadequate management and failure to monitor performance.</td>
</tr>
</tbody>
</table>

### 4. Asset reliability and integrity management

The pinnacle of great operators is their ability to reliably meet production targets and expectations. This requires them to transition capital projects into producing assets, improve day-to-day asset uptime and minimize the impact of planned outages.

<table>
<thead>
<tr>
<th>Key challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>▶ Maintenance, reliability and integrity processes: When an organization fails to define asset strategies, identify critical risks, institute appropriate barriers of protection, and optimize asset and personnel performance, their asset performance suffers.</td>
</tr>
<tr>
<td>▶ Shutdown and turnaround management: Too often, organizations fail to effectively plan, schedule and execute these major facility inspections/repairs in a way that ensures on-time completion, cost control and safe completion of activities.</td>
</tr>
<tr>
<td>▶ Operational readiness planning: When integration and planning are inadequate, operators face increased difficulty in reaching the new assets to anticipate production numbers on time and on budget, without experiencing recurrent issues that upset production.</td>
</tr>
</tbody>
</table>

### 5. Cost efficiencies

The most successful organizations institute systematic approaches to identify and then eliminate sources of value loss, targeting the highest-return areas first.

<table>
<thead>
<tr>
<th>Key challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>▶ Cost drivers: Often we see organizations focused on first- and second-level drivers without adequately understanding the third- and fourth-level drivers, leading to the true causes of inefficiency and cost escalation to be misdiagnosed, ultimately limiting the impact of proposed solutions.</td>
</tr>
<tr>
<td>▶ Production management optimization: Through production planning, a robust management system, loss reporting and root cause analysis, production optimization can occur. Failure to properly manage any of these areas routinely leads to suboptimal production, directly impacting business results.</td>
</tr>
</tbody>
</table>
Contacts

To discuss how we can help you with operational excellence, please contact any of the following members of our team:

Adi Karev
Global Oil & Gas Leader
+852 2629 1738
adi.karev@hk.ey.com

Ioana-Andreea Ene
EMEIA Oil & Gas Advisory Leader
+47 51 70 66 92
andreea.ene@no.ey.com

Bradley Farrell
Advisory Partner
+61 414 552 626
bradley.farrell@au.ey.com

Lance Mortlock
Advisory Partner
+1 403 206 5277
lance.mortlock@ca.ey.com

Jim L. Perrine
Advisory Partner
+1 704 338 0537
jim.perrine@ey.com

Axel Preiss
Global Oil & Gas Advisory Leader
49 619 699 96 17589
axel.preiss@de.ey.com

Greg R. Wagner
Asset Integrity and Reliability Management
+1 847 450 9310
greg.wagner@ey.com

How EY’s Global Oil & Gas Sector can help your business

The oil and gas sector is constantly changing. Increasingly uncertain energy policies, geopolitical complexities, cost management and climate change all present significant challenges. EY’s Global Oil & Gas Sector supports a global network of more than 10,000 oil and gas professionals with extensive experience in providing assurance, tax, transaction and advisory services across the upstream, midstream, downstream and oil field subsectors. The Sector team works to anticipate market trends, execute the mobility of our global resources and articulate points of view on relevant sector issues. With our deep sector focus, we can help your organization drive down costs and compete more effectively.

© 2015 EYGM Limited.
All Rights Reserved.

EY refers to the global organization, and may refer to one or more, of the member organizations of Ernst & Young Global Limited, each of which is a separate legal entity. Ernst & Young Global Limited, a UK company limited by guarantee, does not provide services to clients. For more information about our organization, please visit ey.com.

For more information, please visit: ey.com/oilandgas/opex

Connect with us

Visit us on LinkedIn
Follow us on Twitter @EY_OilGas
See us on YouTube