Oil and gas after COVID-19: The day of reckoning or a new age of opportunity?

Webinar series
May 28\textsuperscript{th}, 2020
Legal Briefing

McKinsey has significant experience in organizing round table conferences amongst competing entities commercially active in the same industry/sector.

McKinsey recognizes the great value such conferences can have for all participants but is at the same time fully aware of the danger presented by facilitating discussions among competitors active in the same market.

McKinsey wants to ensure that today’s conference and the discussions are pro-competitive and do not result in a facilitation of sensitive information exchange between competing entities. To achieve this goal, McKinsey observes and also insists on making all conference participants aware of the "rules of the game" that each of us needs to adhere to in order to avoid discussions straying off limits and potentially violate competition laws:

This is a forum to share early thoughts, experiences and learnings from the current COVID-19 crisis.

We are a group consisting of representatives from competing organizations.

Please refrain from sharing any competitive, confidential, non-public information.

We will follow Chatham House rules: participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed.

Please make use of the private messaging function, and feel free to reach out to us privately.

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1. Including, current or future customer information, pricing or quantities, marketing strategies or business plans, whether or not related to COVID-19 crisis.
Your hosts and presenters for this session

Pablo Ordorica  
Senior Partner, Mexico  
Pablo leads the Energy and Basic Materials Practice in Latin America. Pablo has 30 years of experience serving public and private sector clients on topics related to energy policy, upstream strategy, operations, and organization topics—in Mexico, the US, and across the Americas.

Giorgio Bresciani  
Senior Partner, London  
Giorgio leads McKinsey’s Oil & Gas Practice globally, serving clients around the world to improve their performance. His work spans across a wide range of topics, including strategy and corporate finance, growth, M&A and alliances, gas and liquefied natural gas (LNG), operations and capex performance transformation, organization, and digital transformation.

Luciano Di Fiori  
Partner, Houston  
Luciano leads McKinsey’s Energy Insights in the Americas. He has 10+ years of experience serving clients in the North American unconventionals, global upstream, oilfield services, and midstream sectors; advising them on a variety of strategy and M&A issues.

Raúl Camba  
Partner, Mexico  
Raúl has spent his consulting career advising oil and gas companies in Europe, Latin America, and North America. His experience has encompassed dozens of projects across a wide range of areas, including operations, capital projects, portfolio management, technology and digitalization, and human resources.
Oil and gas after COVID-19: The day of reckoning or a new age of opportunity?
Out of 9 scenarios, executives in the world and North America see a higher likelihood for “Muted Scenario” recovery
Scenarios depend on effectiveness of public health response and economic policies

Survey of 2,079 global executives (481 in North America); % of respondents

<table>
<thead>
<tr>
<th>Virus spread and public health response</th>
<th>World / North America %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid and effective control of virus spread</td>
<td>B1 15/14%</td>
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<tr>
<td>Effective response, but (regional) virus resurgence</td>
<td>B2 11/12%</td>
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<tr>
<td>Broad failure of public health interventions</td>
<td>B3 3/1%</td>
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<tr>
<td></td>
<td>A1 31/39%</td>
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<td></td>
<td>A2 6/8%</td>
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<td></td>
<td>A3 16/12%</td>
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<tr>
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<td>A4 6/5%</td>
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<tr>
<td></td>
<td>B4 9/8%</td>
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<td>B5 2/1%</td>
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Knock-on effects and economic policy response

In Mexico, the sectors with the highest impact are expected to be hospitality, entertainment, manufacturing, and retail.

Scenarios assume partially effective economic policy interventions.

A1, Virus recurrence; slow long-term growth. Muted World Recovery.

GDP impact by sector; %YoY in 2020.

Source: McKinsey
For the O&G, the COVID crisis has created an unprecedented shock that will require a fundamental shift in how the industry operates.

The current context combines a supply shock with an unprecedented demand drop and a global humanitarian crisis.

COVID-19’s impact on the O&G industry’s demand is unlike anything seen in recent history. Even with the recent OPEC+ agreements, the implications for supply is profound with a low likelihood for the industry to return to pre-COVID prices in the near-term. As such, significant capex reductions and shut-ins are likely to continue, and asset economics will play a fundamental role in portfolios and investments.

Winning in the new environment will require a change in strategy and business model. Responding to this “New Normal” for O&G organizations will require taking bold action during the crisis to secure resilience; and we propose 4 distinctive elements to act upon today:

- **Reshape portfolio** and **reallocate** capital
- **Redesign operating model for profitability**
- Ensure **supply chain resilience** through partnerships
- Create the **organization of the future** in both talent and structure

1. Based on A1 - Muted Recovery and A3 - Virus Contained scenarios
Pre-COVID the industry was underperforming against other industries; particularly over the last 5 years

**Cumulative total return to shareholders**

- Index: Dec 1990 = 100, USD

**Total return to shareholders**

- CAGR, Percent, USD

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<tr>
<td>Integrated</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>E&amp;P</td>
<td>7</td>
<td>-1</td>
</tr>
<tr>
<td>OFSE</td>
<td>13</td>
<td>-2</td>
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<tr>
<td>R&amp;M</td>
<td>9</td>
<td>6</td>
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<tr>
<td>O&amp;G overall</td>
<td>11</td>
<td>2</td>
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<tr>
<td>S&amp;P500</td>
<td>12</td>
<td>9</td>
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<tr>
<td>Brent</td>
<td>5</td>
<td>1</td>
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Source: S&P CapitalIQ, team analysis
Recent decline in oil demand is unprecedented and recovery to pre-COVID levels is highly unlikely in the next couple of years.

Change in global oil demand, y-o-y change, Mbd – McKinsey Energy Insights projections

Global liquids\(^1\) demand, Mbd

The industry will struggle to recover to 2019 levels.

Long term energy demand growth will be defined by behavioural, political and commercial trends that are still shaping

<table>
<thead>
<tr>
<th>Potential long-term shifts</th>
<th>Potential effect in demand</th>
<th>Two potential extremes are possible</th>
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<tbody>
<tr>
<td>Behavioral shifts (consumers)</td>
<td></td>
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<tr>
<td>Remote working</td>
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<td>Staying closer to home</td>
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<td>Online shopping</td>
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<tr>
<td>Commercial shifts (business and technology)</td>
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<tr>
<td>Scarcity of investment capital for new technologies</td>
<td>▲</td>
<td>Peak oil demand is delayed to 2050 as governments relax environmental standards for companies and new technologies fail to emerge in the new normal</td>
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<tr>
<td>Diversification to new technologies</td>
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<td>De-globalization of supply chain</td>
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<tr>
<td>Political shifts (regulators)</td>
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<td>Peak oil demand might have already happened in 2019 if changes in behavior combined with structural changes and regulation results in an accelerated transition to green energies</td>
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<tr>
<td>Postponement of climate agenda</td>
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<td>Utilizing recovery support for climate agenda</td>
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<td>Self-sufficiency on a country level</td>
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Source: McKinsey Global Oil and Gas Practice, 2020
As we entered 2020 supply levels were already high, prompting the need for market adjustments.

Source: IEA, EIA
Going forward, the outlook for the industry will fundamentally depend on the containment of the virus and OPEC+ compliance. We consider three potential scenarios outcomes:

<table>
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<tr>
<th>How will OPEC+ respond over the next three to five years? (2020 – 2025)</th>
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<tbody>
<tr>
<td><strong>OPEC+ alignment</strong></td>
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<tr>
<td>OPEC+ implements agreed cuts in 2020 and manages output as needed to balance the market 2021 onwards</td>
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<tr>
<td><strong>OPEC+ non-compliance</strong></td>
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<td>Widespread non-compliance in Q2 2020 fails the deal, producers go back to Q1 output levels</td>
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<tr>
<td><strong>Longer oversupply</strong></td>
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<td>• Assuming no extended shut-ins, large inventory build-up takes multiple years to consume</td>
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**A3 - Virus contained**
7.5Mbd demand reduction in 2020 vs 2019

**A1 - Muted Recovery**
16.7Mbd demand reduction in 2020 vs 2019

What is the extent of the impact of COVID-19 on demand?

Source: McKinsey Energy Insights
In all scenarios, it is likely that capex reductions across drilling activity and FIDs will be significant.

Low prices will add significant pressure on investments; almost $160 B USD could be at risk today.

Global oil development capex spending, USD billion

Drilling activity in the US will continue to decline and reach its lowest point in 2021-22.

North American shale oil rig count

Offshore activity – particularly deepwater – will be significantly impacted.

Deepwater development capex spending
Including KSA, UAE, Kuwait and Russia, USD billion

Can industry deflation create opportunities for lower cost developments?

Source: McKinsey Energy Insights; Rystad, Wood Mackenzie
Under these scenarios, asset economics will play a fundamental role in investment allocations
Relative profitability of asset classes will be critical to shape portfolio

Global Cost curve of liquids and 2030 breakeven prices (2P)

Full cycle production cost\(^1\), USD/bbl

For MX: \(~30\% \text{ of reserves profitable at } \$40^+\)

~70\% of reserves profitable at $40-50

World: ~70\% of reserves profitable at $40+

The majority of Mexico’s reserves may not be profitable at 40 USD/Bl; however, ~ 70\% of the world’s reserves are

Players in Mexico will need to push for lower breakeven cost and de-risking of the basin

\(^1\) Based on OPEX (excluding SG&A) and Royalties, adjusted for cash flows from non-crude / condensates; excludes Government Profit, Income Ta

\(^2\) Includes biofuels, GTLs (Gas-to-liquids), Ctls (coal-to-liquids), MTBE, refinery profits and NGLs – Equilibrium costs shown are conceptual

\(^3\) Production cost is capped in $130USD/Bl For the purpose of the presentation

Source: McKinsey Energy Insights; Rystad, Wood Mackenzie
The challenge of cost reduction is not trivial as the industry has already pushed strong improvements over the last decade

Goldman Sachs Top Projects cost curve of pre-plateau projects through the years

1. Identified projects (pre-sanction, under development and production) are evaluated each year and assigned a breakeven price and peak oil production. The oil cost curve depicts the cumulative peak oil production of identified projects. Kboe/d is thousand barrels of oil equivalent per day.
For the O&G, the COVID crisis has created an unprecedented shock that will require a fundamental shift in how the industry operates

The current context combines a supply shock with an unprecedented demand drop and a global humanitarian crisis

COVID-19’s impact on the O&G industry’s demand is unlike anything seen in recent history

Even with the recent OPEC+ agreements, the implications for supply is profound with a low likelihood for the industry to return to pre-covid prices in the near-term

As such, significant capex reductions and shut-ins are likely to continue, and asset economics will play a fundamental role in portfolios and investments

Winning in the new environment will require a change in strategy and business model

Responding to this “New Normal” for O&G organizations will require taking bold action during the crisis to secure resilience; and we propose 4 distinctive elements to act upon today:

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- Create the organization of the future in both talent and structure

1. Based on A1 - Muted Recovery and A3 - Virus Contained scenarios
We see 4 key imperatives for O&G organizations in Mexico (1/2)

Reshape portfolio and radically reallocate capital to the highest-return opportunities

Redefine your asset portfolio strategy (i.e., keep, transform, partner, decommission) across basins – critical to understand relative position of Mexico vs global portfolios and de-risk investments proactively

Systematically manage for uncertainty and cash (i.e., dynamic field shut-ins, capex prioritization); double-down on discipline for strategic scenario planning

Proactively scan the M&A market and be ready to take bold opportunistic moves to develop an advantaged long-term portfolio

Unlock a step-change in performance and cost competitiveness through re-imagining the operating model

Identify the full-potential for critical assets and redesign the operating model for profitable resilience

Redouble your efforts to sustain or even scale-up your digital and advanced analytics transformations to achieve the next s-curve productivity and cost efficiency (e.g., remote operations)

Explore partnerships with OFSE´s to increase efficiency, acknowledging they may be already at the edge of profitability
We see 4 key imperatives for O&G organizations in Mexico (2/2)

Create the Organization of the Future, in both talent and structure

Radically flatten hierarchies, reduce bureaucracy, and push decision making to the edge—in short, embed more agile ways of working

Develop an aggressive approach to re-design your talent base; business-model transformation will require the best engineers, but also new talent in digital, technology and commercial

Ensure supply-chain resilience through partnerships

Promote new commercial and collaborative models with your ecosystem to increase industry standardization, shared infrastructure/services and new innovation models

Explore multi-project strategic collaboration and Integrated Project Delivery models
Basin level competitiveness will be critical, AMEXHI could play a role fostering collaboration to strengthen supply chains

OGUK¹ case example

Sample guidelines from OGUK for supply chain collaboration

- Risk and costs should be borne appropriately, be proportional to the work scope and not be forced on anyone; opportunity or good performance should benefit everyone, and performance-based contractual rewards should be investigated
- Contractual terms and conditions will seek to use industry standard contracts when appropriate and all parties will commit to mutuality of payment terms […]
- All parties should ensure they have the competence and skill to deliver the work being tendered and will not accept re-bidding as a means of driving price down
- Purchasers shall endeavor to optimize their tendering and audit requirements to ensure that the suppliers resources, time and costs are not unnecessarily impacted or wasted
- Operators and contractors should discourage the practice of "low ball" bidding - which invariably leads to multiple contract variations and affects re-negotiation in the early phase of the contract
- To support respective labour agreements in place across the workforce, operators should agree clear rate escalation mechanisms and move away from the practice of fixing labour rates for multiple years

In 2019, OGUK members have developed a new set of Supply Chain Principles which aim to further improve the commercial relationships between operators and contractors and drive an overall more sustainable supply chain across the basin

¹ The UK O&G Industry Association

Source: OGUK Economic Report 2019