Macro Environment
Slower demand growth, abundant supply and uncertainty are driving a focus on productivity and returns
Industry Capital Returns

S&P Energy returns on capital employed (ROCE) for the industry have declined significantly for the last decade.
Forecasts of Liquids Demand

In contrast to the predictable growth over the past 50 years, there is increasing uncertainty in liquids demand forecasts.

Liquids Demand Projections (MMbbls/d)

- **IEA forecasts are for illustration only** (not representative of scenarios to be developed)

- **135 MMbbls/d** – Historical Growth Trajectory
  - Growth reduced from historic 1.5% to 1.1% CAGR; Represents a 33% reduction in growth

- **124 MMbbls/d** – Current Policies
  - Results in a dramatic negative growth
  - | Total | NA | Europe | Asia | ROW + biofuels |
  - |---|---|---|---|---|
  - | 1.1% | -1.1% | -1.3% | 1.4% | 2.5% |

- **111 MMbbls/d** – New Policies
  - Represents a 73% reduction in growth
  - | Total | NA | Europe | Asia | ROW + biofuels |
  - |---|---|---|---|---|
  - | 0.6% | -0.9% | -2.2% | 0.8% | 2.1% |

- **77 MMbbls/d** – Sustainable Development
  - Results in a dramatic negative growth
  - | Total | NA | Europe | Asia | ROW + biofuels |
  - |---|---|---|---|---|
  - | (-1.1%) | (-3.0%) | (-4.6%) | (-1.0%) | 0.9% |

### Driving Forces and Critical Uncertainties

- **Economic**
  - Economic growth, Energy intensity, CO2 costs

- **Technology**
  - Renewable energy growth, Mass storage, Future of mobility

- **Geopolitics**
  - Oil supply controls, Political dislocation, Unrest, Protectionism

- **Sustainability**
  - Impact of climate change, Pollution management, Water availability, Regulation

- **Society**
  - Consumer awareness, Adoption of renewables, Sustainable choices

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**Source:** IEA World Energy Outlook 2018, IEA Oil Information 2019

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Changing Global Energy Mix Through 2050

Renewables are expected to gain share, but the reduction in liquids demand may not be as severe as sentiment implies

<table>
<thead>
<tr>
<th>2050 Total Cons. (Btoe)</th>
<th>2050 Oil + Gas Cons. (Btoe)</th>
<th>2050 Renew. Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.9</td>
<td>8.0</td>
<td>4%</td>
</tr>
</tbody>
</table>

Source: Projections are from respective sources published reports

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Micro Environment

2020 expenditure forecasts are pointing to continued international growth and NAM challenges.

- International expenditures expected to grow by 4 to 5%
  - Offshore / Deepwater
  - Middle East

- NAM expenditures expected to continue to decline resulting in continued pricing pressure

- Offshore winning the productivity battle
Profitability Pressure

Oil prices and OFS sector revenues have rebounded to 2011 levels but earnings have not improved.

Pre-2014 Downturn:
- $75 + oil price
- Reserves growth focus
- Market willing to pay for complexity
- >25% EBITDA margins

Post-2014 Downturn:
- $50 to 60 oil price
- Returns focus
- Market focused on lowest TCO solutions
- <16% EBITDA margins

Source: Deloitte analysis of financial reporting for 70 public companies
OFS Industry Implications

There are five levers we believe the sector needs to focus on to drive significant improvements in returns

1. Portfolio Strategy
2. Operating Models
3. Commercial Approach and Pricing
4. Integrated Business Planning
5. Internal Digital Solutions
Supply Chain Implications
Digital supply chain capability will be a key driver of productivity and efficiency improvement across the value chain.
## Evolution of Supply Network Maturity

Each part of the oilfield services fulfillment network will be impacted and enabled to drive end to end value faster.

<table>
<thead>
<tr>
<th>Integrated Planning</th>
<th>Intelligent Sourcing</th>
<th>Dynamic Scheduling</th>
<th>Optimized Inbound Logistics</th>
<th>Efficient Drilling and Completions</th>
<th>Proactive Production Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Key Change</strong> – Increased visibility and transparency between operator, supplier and plans at the well site</td>
<td><strong>Key Change</strong> – Visibility and analytics of spend and supplier performance, automated expediting, &amp; cognitive insight alerts supported by recommended actions</td>
<td><strong>Key Change</strong> – Increased ability to balance supply/demand changes in a dynamic way to shift and allocate work/crews as needed</td>
<td><strong>Key Change</strong> – Real time visibility on movement of assets, potential impacts and risks to anticipate and action network optimization</td>
<td><strong>Key Change</strong> – Integrated digital supply network through control tower solutions to drive rig and crew optimization</td>
<td><strong>Key Change</strong> – Optimized asset utilization and availability through preventative maintenance leveraging sensor data, analytic models, and real time operations center</td>
</tr>
</tbody>
</table>

### Data and Analytics

### Technology

### Operating Model & Workforce of the Future
The Evolution of Supply Chain Maturity

The O&G industry is the early stages of supply chain digital maturity relative to other industries.

Solutions that are already Supply Chain mainstays
- eSourcing
- Electronic Catalogs
- Contract Management
- Supplier Information Mgmt
- eProcurement
- eInvoicing

Illustrative Capabilities
- Collaboration Portal
- Scenario Modelling and Dynamic Scheduling
- Logistics Control Tower
- Internet of Things
- Blockchain
- Robotic Process Automation

Supply Chain 1.0
- Majority of O&G Operators are still modernizing their Core

Supply Chain 2.0
- Pockets of capabilities in O&G, with many consumer and manufacturing companies have embraced adjacent technologies to streamline operations

Supply Chain 3.0
- Emerging concepts and capabilities, collaboration and data at the center, Agile thinking and Workforce of the Future impacts

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