

October 2015

Opportunities in Adversity

Strategies for a Lower Oil Price



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Opportunities in Adversity

*In February 2015 we published our viewpoint, **Opportunities in Adversity**, following on from the 60% collapse in the oil price that had occurred since July 2014.*

At the time, there was no clear consensus about what shape the price recovery would take. In the past, the price has sometimes rebounded quickly, for example after the 2008-09 collapse, but at other times has stayed depressed for a prolonged period, such as after 1986. We believe that this second scenario, of the oil price staying lower for longer, is the most likely at present given the current and

anticipated future supply glut in the market. In this paper we take a critical look at what this means for the sector and focus on two key imperatives to success in a prolonged low oil price environment:

- Developing a business strategy truly driven by a company's capabilities.
- 'Right-sizing' the cost base to sustainably deliver the chosen strategy.



Market developments and oil price outlook

Over the past six months, the oil market has been on a rollercoaster ride. By May 2015, the oil price had recovered by almost 50% from its lowest point in January, but this turned out to be a 'false dawn' for those hoping for a quick recovery. In August it dipped towards the \$40 mark and, at the time of writing, remains below \$50.

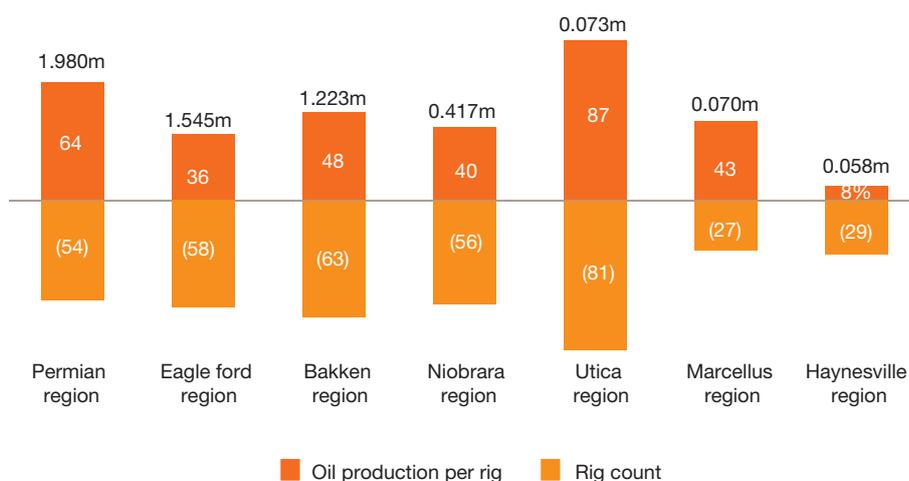
Gas prices have followed the trajectory of the oil price, albeit with a lag in the case of LNG and to some extent European markets. However, the proportionately less severe drop has been partly due to the more fragmented and regionalised nature of the market and longer-term contracts for LNG and natural gas in Europe. Nevertheless, the gas market as a whole, and LNG in particular, continues to be oversupplied and prices are likely to remain weak.

The same is true of the oil market where factors such as the so far relatively resilient shale oil production, the medium term potential for increased cheap supply from Iran and the slowdown in China and other emerging markets suggest that the price is likely to stay 'lower for longer' – even if remaining highly volatile.

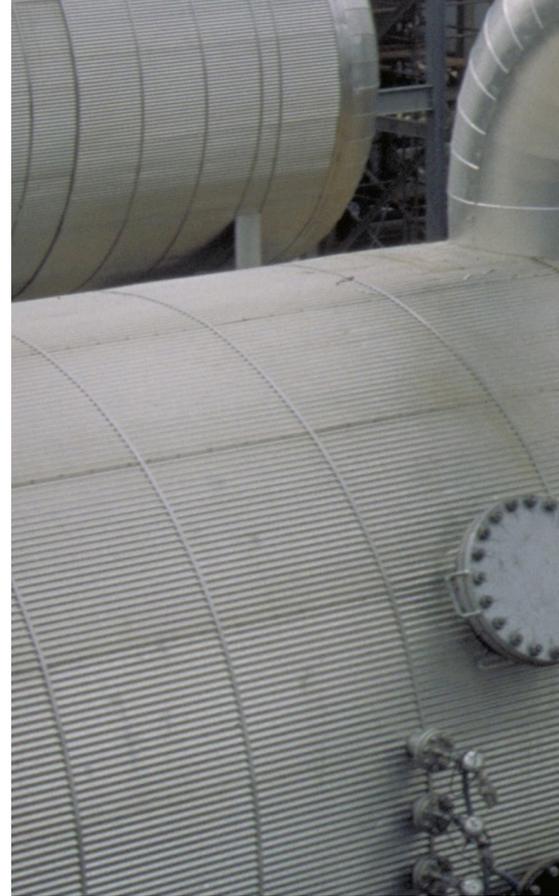
Supply factors

OPEC's decision to maintain production at 30m bbl/day has not curbed production elsewhere, with US shale-oil production proving far more resilient than OPEC had expected. While the US rig count has more than halved in the past 12 months, oil output from seven key US regions was up 10% year-on-year in August 2015. The picture is similar for US natural gas production. Such results have been achieved with deeper, more productive wells that go further horizontally, while fracking equipment and products have also decreased in cost.

Figure 1: August 2015 Oil production (million bbl/day), rig count and productivity change (%) August 2014 – August 2015 by key US region



Source: Strategy& analysis, EIA drilling productivity report September 2015



With renewed pressure on the oil price, the resilience of US production will continue to be challenged – not least because many independent shale oil producers have weakening balance sheets and debt overhang.

Nevertheless, non-completed shale wells have also risen in number and can act as natural storage. This, together with shorter exploration-to-production times, allows far quicker responses to market developments than conventional oil producers can manage.

Other non-OPEC production has been similarly resilient, with Russia producing above Saudi Arabia's output of 10.6m bbl/day in July and August 2015 to make up for the revenue shortfall from the lower price. Furthermore, around 600,000 – 800,000 bbl/day could be released onto the market in short lead-time throughout 2016/17 in response to an uplift of sanctions on Iran. The two big questions regarding Iran are:

- How quickly can Iran increase its production by up to 1.2m bbl/day to realise its production capacity target of 5m bbl/day given the need for foreign investment in infrastructure?
- How will fellow OPEC countries respond as new Iranian supply will exert additional downward price pressure?

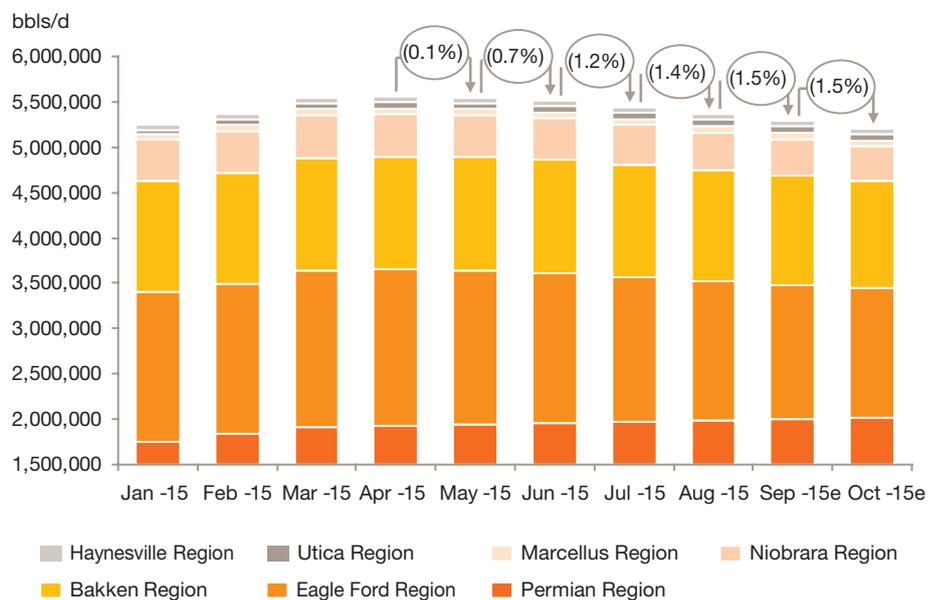
Demand

The scale of the actual and anticipated supply growth has not been mirrored by demand. The US Energy Information Administration (EIA) recently downgraded its forecast for growth in global oil demand in 2016 by 0.2m bbl/day to 1.3m bbl/day¹. This was largely due to continued 'signs of weakness' in China and other Asian economies.

As the world's second largest oil importer after the US, and the main driver of non-OECD oil consumption growth², China is crucial. As early as this year, Chinese annual economic growth is expected to moderate below 7% due to slowing capital investment and a gradual shift from energy heavy industries. The growth could eventually fall below 4% by 2020³, with obvious implications for oil demand. The EIA expects China's oil consumption to grow around 300,000 bbl/day in 2015 and 2016; 100,000 bbl/day lower than in 2014 and far below the 2009 – 2011 average of 800,000 bbl/day.

China's dependence on energy imports and its slowdown also negatively impact commodity-exporting emerging markets such as Russia, Brazil, Indonesia, South Africa and the Gulf countries.

Figure 2: US Oil production by key region January 2015 – est. October 2015

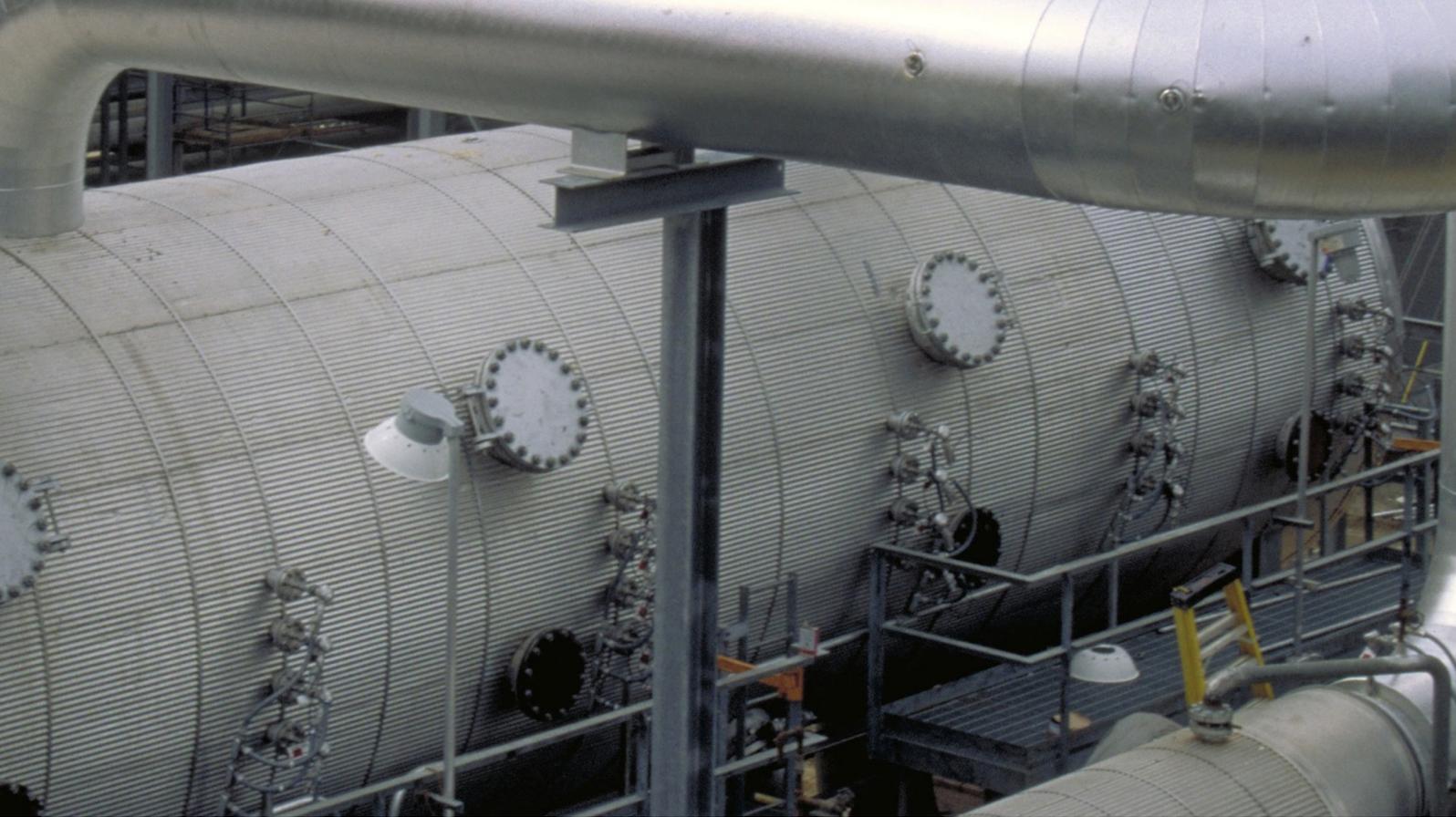


Source: Strategy& analysis, EIA

¹ http://www.eia.gov/forecasts/steo/report/global_oil.cfm

² 2015 BP Statistical Review

³ Based on long-term growth projections in PwC's latest 'World in 2050 report (February 2015) here: <http://www.pwc.com/gx/en/issues/the-economy/the-world-in-2050.jhtml>



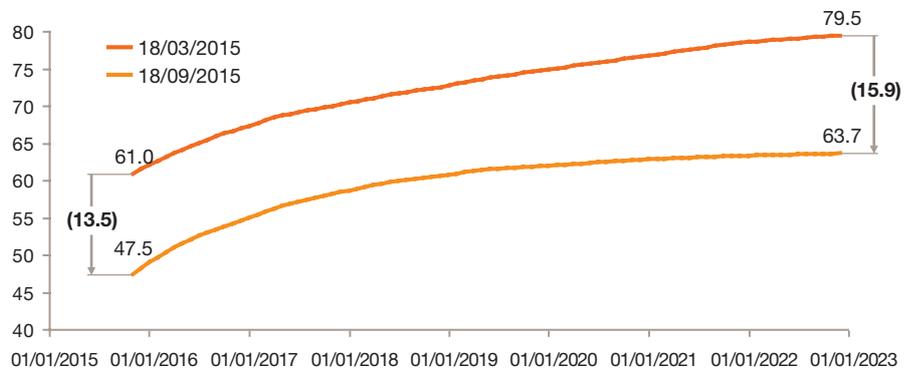
As a result, we can clearly see why the outlook for both supply and demand has led analysts to conclude that a low oil price will recover to \$60, rather than \$80, over the medium term – as evident from the futures market.

However, the future price trajectory remains uncertain due to, on the demand side, financial market adjustments following an eventual tightening of US monetary policy, slowing growth of emerging markets and the Eurozone debt crisis and, on the supply side, the ongoing unrest in the Middle East.

Growing anticipation of an important deal on climate change at the UN meeting in Paris in December this year provides an additional source of uncertainty. Oil majors – Shell/BG, BP, Total, Eni, Repsol and Statoil – called for a cross-border carbon pricing system earlier this year, but a range of other policy responses are possible.

In summary, the ‘false dawn’ for oil prices was short-lived and the industry must recognise the very real prospect of a ‘lower for longer’ scenario and adjust accordingly.

Figure 3: ICE Crude Brent Futures November 2015 – December 2022 (USD)



Source: Thomson Reuters Datastream – data as of 18/09/2015

Industry response to date

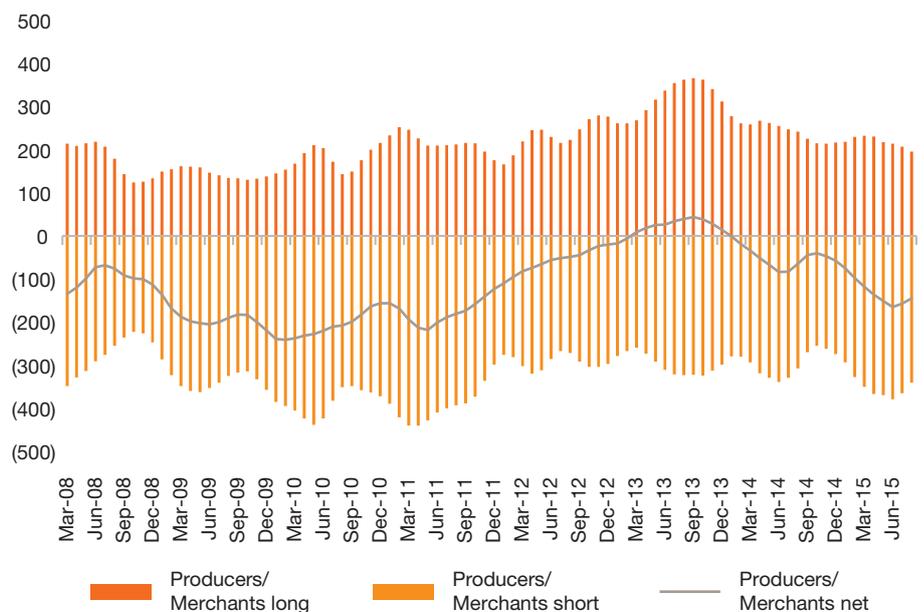
Oil and gas markets are inherently cyclical. Hedging physically or financially, cutting costs and raising new finances are popular ways to 'smooth' cash-flows through periods of volatility. We look at each in turn.

Hedging

Oil majors, which operate across the entire value chain, can hedge against some of the fall in upstream revenues with increased margins in refining and downstream retail business. The performance of US-based refineries is a particularly good example of this. Furthermore, companies with trading arms, such as BP and Shell, can find further advantages in market volatility.

The development of financial instruments, such as energy futures and options, has also enabled smaller players without operations across the value chain to hedge a portion of their production. EIA data illustrates the increased number of sold short options as the oil price started to fall in 2014 (figure 5) and the impact of hedging strategies to smooth revenue of a sample of oil producers (figure 6). The Bloomberg Intelligence North America Exploration and Production Index found that payments from hedges accounted for at least 15% of Q1 2015 revenue for nearly half the 62 US oil players they follow⁴.

Figure 4: US Nymex WTI crude futures and options position by producers, merchants, processors and end users (Three month moving average) March 2008 – August 2015



Source: Strategy& analysis, Thomson Reuters Datastream, Commodity Futures Trading Committee

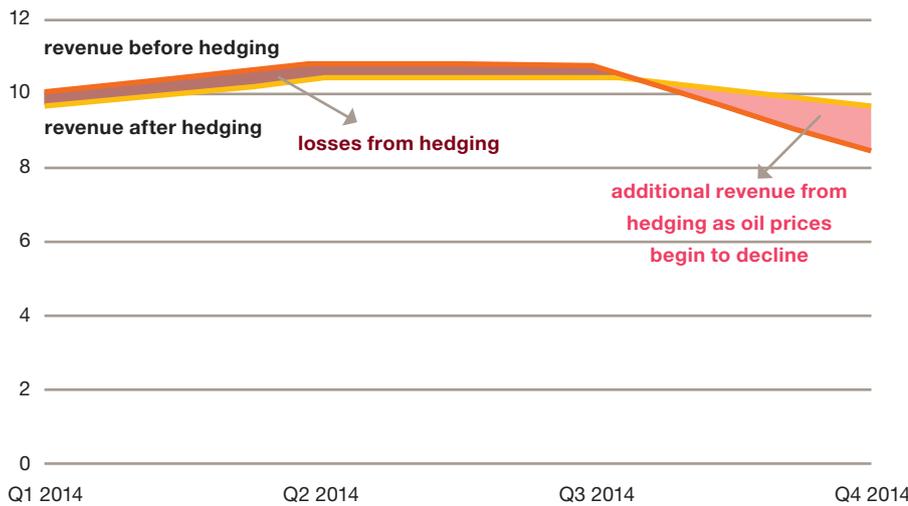
⁴ <http://www.bloomberg.com/news/articles/2015-07-01/shale-driller-losing-their-insurance-against-price-drops>
Selling (short) – protecting against future drop, buying (long) – expecting the price will rise.



Such strategies have bought time, but each hedging position has its maturity. As the oil price has continued to weaken, most oil companies have resisted hedging their 2016 production: only around 20% of high-yield companies – and under 5% of high-grade US companies – have done so⁵.

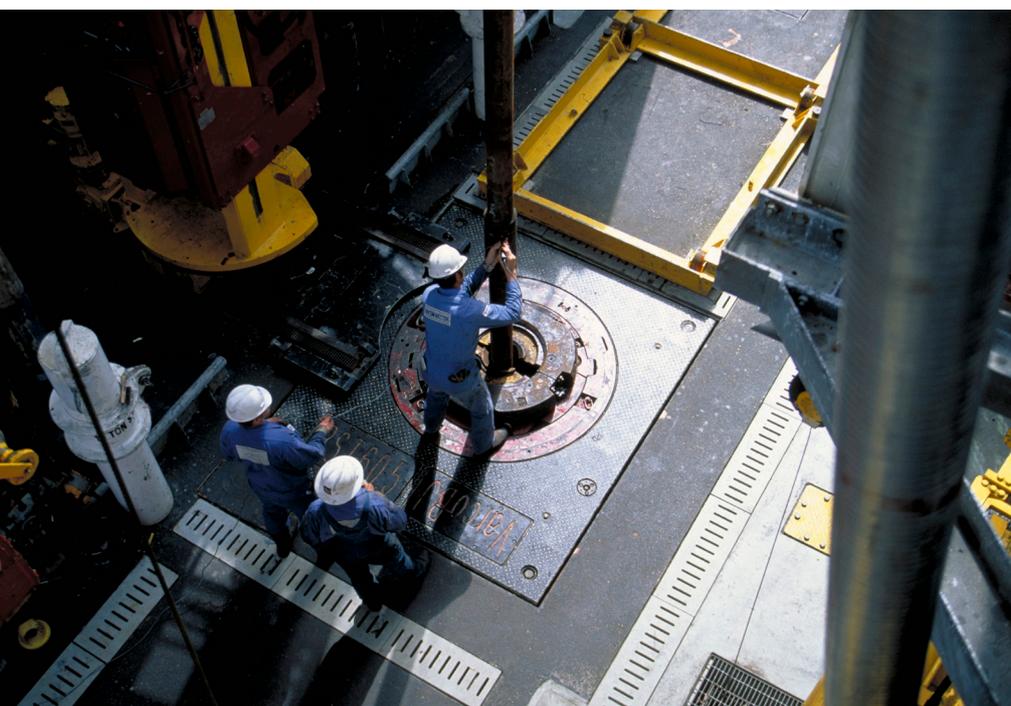
Figure 5: Hedging effects for 32 selected U.S. oil producers

Reported hedging effects for 32 selected U.S. oil producers
billion dollars



Source: EIA

⁵ Bank of America Merrill Lynch research – <http://www.ft.com/cms/s/0/637f8f92-28d2-11e5-8613-e7aedbb7bdb7.html#axzz3jpUG4C32>



Gas companies have not been immune to lay-offs. Royal Dutch Shell announced 6,500 job-cuts in July 2015, a figure including temporary contractors as well as full-time employees.

Financing

Debt issuance for O&G companies in Q1 2015 was the highest recorded since at least 2009. We looked at debt issuance since the oil price started to decline in July 2014 by 66 integrated and E&P focused O&G companies with a combined market capitalisation of over \$1.6 trillion. Our sample alone has raised \$150bn of debt between August 2014 and July 2015 – almost two thirds of it since February 2015, and more debt has been placed on the market at the time of writing this piece.

In some cases, oil majors with good credit ratings used new debt to maintain their capital expenditure, dividend payments and gather ‘dry powder’ for potential acquisitions – such as Royal Dutch Shell raising over \$10bn between February and July 2015 and bidding for BG Group. According to Dealogic \$321.2bn worth of deals in the sector have been spent so far this year surpassing the second-highest year 2010 by almost £100bn⁶ The US has dominated the deal flow, accounting for almost half of the total value with midstream restructurings such as Endbridge, Williams Partners and Regency Energy deals worth over \$60bn alone.

Loose monetary policy across advanced economies also means that debt offers very competitive rates of financing compared with previous low oil price periods. This has incentivised companies to refinance their maturing debt with Exxon (AAA) and Shell (AA-) issuing bonds of 30-year maturity and Petrobras (BBB-) going for 100-year bonds.

Cost-cutting

Faced with declining revenues and uncertainty about the future market direction, IOCs have so far concentrated on predictable, tactical efforts to reduce costs, rather than strategic changes. Most E&P companies, with a few notable exceptions, have focused on ‘low hanging fruit’ across three main baskets – planned CAPEX, contractors and workforce size and remuneration. These interventions reduce a business’s scale and scope, but do not fundamentally alter ways of working or the underlying cost structure.

The capital intensity of exploration means future CAPEX projects are almost always one of the first costs to be reviewed. Compared to 2014, IOC cut their global E&P CAPEX by over 25% in 2015⁶. Estimates suggest that up to \$200bn worth of long-term capital projects have been deferred or cancelled⁷. These projects have largely relied on a higher oil break-even point, and lie towards the right of the supply cost curve. Oil sands in Canada and deep-water projects have been the biggest targets for this reduction.

The expected price deflation of rented assets, such as rigs and equipment from Oil Fields Services (OFS) companies, has strengthened the case for deferring. Oil majors have negotiated 10% – 30% reductions in OFS fees, with OFS players generally compelled to accept in order to retain relationships. This continues the well-established ‘win-lose’ relationship between most E&P companies and OFS suppliers. When the oil price is strong and demand for services and equipment is correspondingly high, fees rise very steeply. But when the price drops, OFS customers quickly demand substantial cost reductions. Each of these shifts is pure power play based on supply and demand, with no change to scope or quality involved.

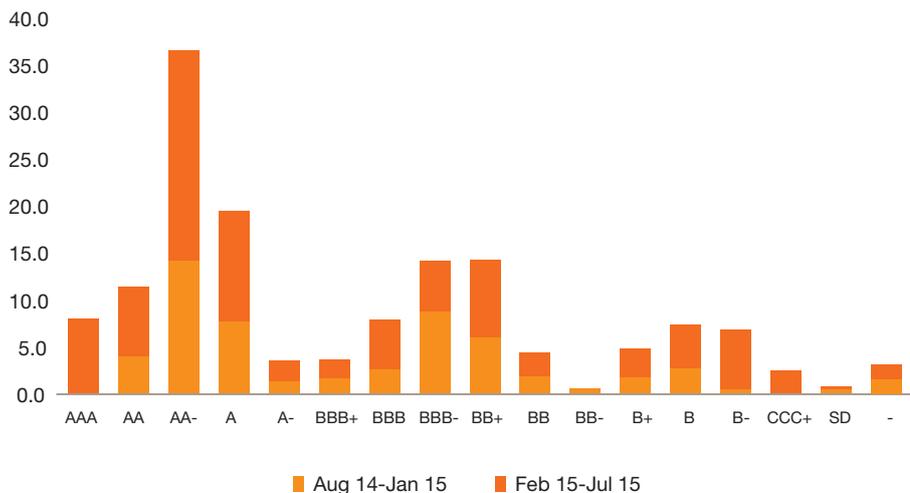
The size of the CAPEX scale-back and OFS rate deflation has led to OFS companies making significant lay-offs, in addition to their O&G counterparts. Schlumberger, for example, has laid off 15% of its workforce, amounting to 20,000 people, and estimates suggest more than 120,000 OFS workers have lost their jobs in total. Whilst OFS have been hit the hardest, Integrated Oil and

⁶ JP Morgan Global E&P Capex Spend Survey September 2015

⁷ WoodMac report (Pre-FID) – <http://www.woodmac.com/analysis/prefid-deferrals>

⁸ <http://www.ft.com/fastft/389371/post-389371>

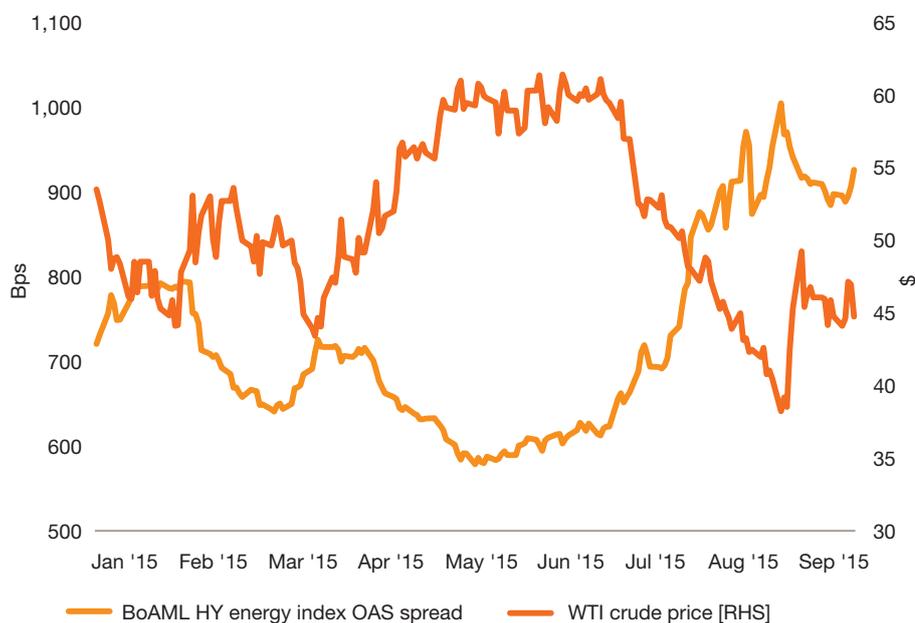
Figure 6: O&G debt issuance (USD bn) per credit rating of parent issuer



Source: Strategy& analysis, S&P Capital IQ

In other cases, especially deeper into ‘junk’ territory, issuance has been limited. Rising yields indicate growing concern that more companies will struggle to service their debt – especially in the US, where shale-oil exploration has mainly been financed by high-yield debt. EIA suggests that for some US onshore oil producers servicing their debt has reached as high as 80% of their operating income⁹.

Figure 7: Option adjusted spread for US high-yield energy fixed income index– data as of 18/09/2015



Source: Strategy& analysis, Bank of America Merrill Lynch, Thomson Reuters Datastream

So, unless it is used for structural reform and/or portfolio change, financing – much like hedging – is a temporary solution in the current market that few can afford.

⁹ <http://www.eia.gov/todayinenergy/detail.cfm?id=22992>

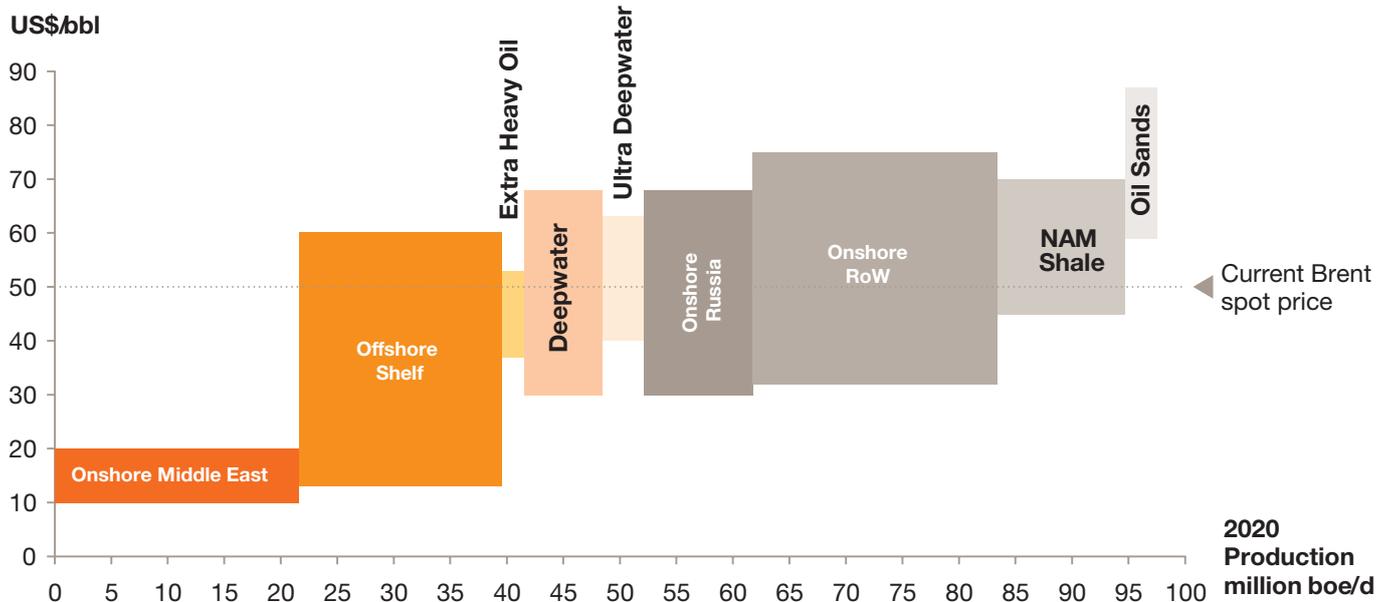
What next?

Adjusting to the current climate

Executives such as Bob Dudley of BP¹⁰ have articulated the belief that oil prices are likely to be lower for longer and the futures market has the price averaging below \$60 over the medium term to 2020.

Given the structure of the supply cost curve, the prospect of the current environment continuing calls for a major rethink of how companies in the sector do business. In our prior viewpoint, Opportunities in Adversity, we encouraged companies to look at a range of topics to help them weather the storm and even take advantage of emerging opportunities.

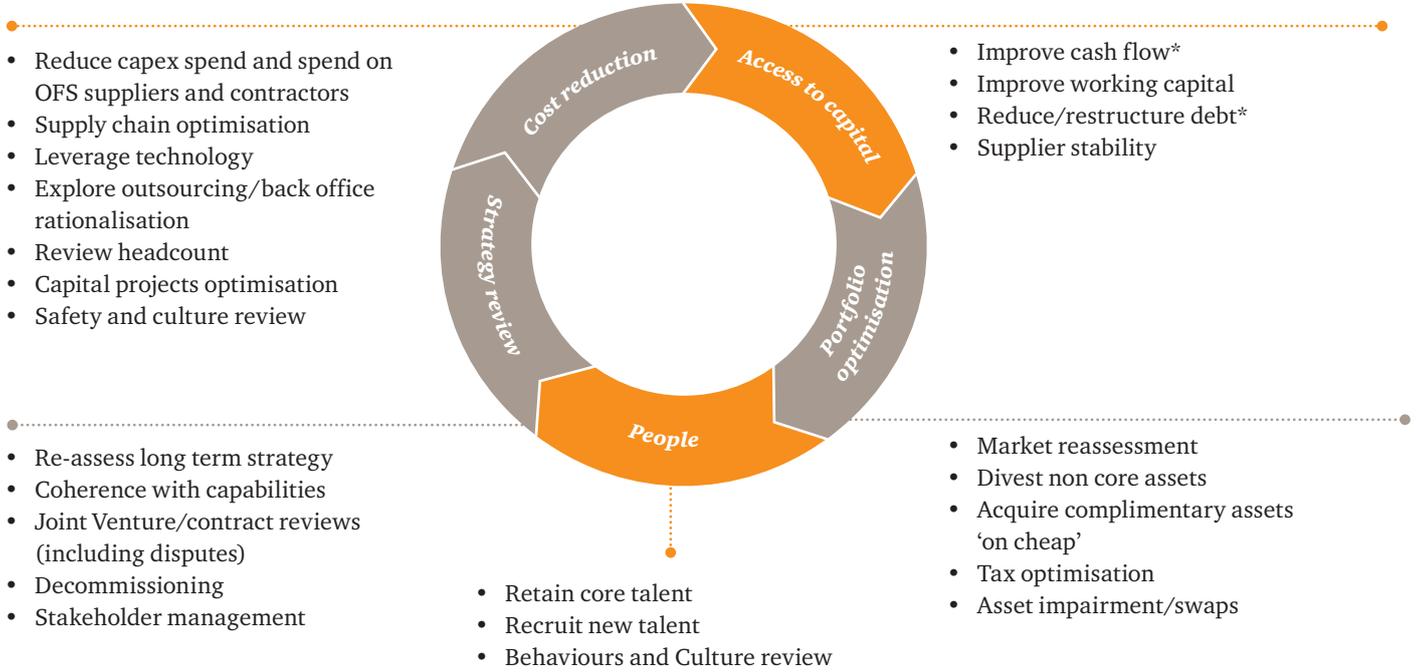
Figure 8: Global liquids supply cost curve 2020



Source: Rystad Energy

¹⁰ <http://www.bp.com/en/global/corporate/press/bp-magazine/conversations/interview-with-bob-dudley.html>

Figure 9: Against a backdrop of falling oil prices, O&G companies will have a number of issues to address



Note: * Includes tax elements
Source: Strategy& research

In the current climate we believe O&G companies must urgently address two topics:

Renewing business strategy that is truly driven by a company's capabilities.

1

Right-sizing the cost base to sustainably deliver the chosen strategy in a 'lower for longer' environment.

2

Capability-driven strategy

A company's 'right to win' in any market depends not just on external market positioning or internal capabilities but on a coherent strategy that aligns them at every level.

Three interlocking elements make up a capabilities-driven strategy.

- **Way to Play:** how you choose to face the market and create value for your customers.
- **Capabilities System:** why you choose your way to play and what allows you to deliver it. This system consists of three to six distinctive capabilities that set your company apart from its rivals. Each capability is ensured through the right combination of processes, tools, knowledge, skills, and organisation.
- **Product and Service Fit:** based on your way to play and capabilities, which elements in your portfolio will grow... and which should go?

Only a coherent company – one that pursues a clear strategic direction, builds a system of differentiating capabilities consistent with that direction and deploys those capabilities on behalf of the resource holder – can reliably and sustainably outpace competitors.

As shown by our previous research ('Sail, not rail' from January 2015)¹¹, O&G companies can specialise in various different capabilities. However, not every company gets it right.

Capability area	Description	Example
E&P value chain	Capabilities with respect to a particular part of the E&P value chain	Occidental Enhanced oil recovery
Core region	Capabilities with respect to operating in a particular geographic area	Lundin Norwegian North Sea
Play types	Capabilities regarding exploration in particular geological play types	Tullow oil Rift basins, stratigraphic traps
Technology	Capabilities in application of a particular specific technology	Statoil Harsh environments
Operational	Capabilities to combine various technologies and operating practices	EOG U.S. shale plays
Product	Capabilities relating primarily to one particular product	BG Gas value chain
Partnerships	Capabilities in establishing and leveraging partnerships	Wintershall Gazprom partnership
Political situation	Capabilities to operate under particular political circumstances	BP Russia
Commercial situation	Capabilities to secure assets in particular commercial situations	Apache Bilateral negotiations

¹¹ Strategy& 'Sail not Rail' <http://www.strategyand.pwc.com/global/home/what-we-think/reports-white-papers/article-display/sail-not-rail>

It is often difficult to distinguish between smaller E&P players; many deploy the same capability set and team with similar contractors but in different locations. Few have organised the company around their chosen way to deliver value and built the capabilities to do that; too often companies move from exploration, into development, then projects and operations on an opportunistic basis before retrenching sharply when problems arise and expose them as overextended.

Smaller O&G companies need to establish their own defining 'way to play'. Why should businesses partner with them? Are they exploration specialists in a certain geology or region, development specialists that make finds commercially viable or are they expert at extracting more oil and extending the life of assets and reservoirs? Their final identity may differ from what they expect and more than one option may be feasible. There are, however, several examples in the market that illustrate how some smaller players have differentiated themselves based on a core of coherent and distinct capabilities. Shell's joint venture with Tullow, established in 2012, was a good

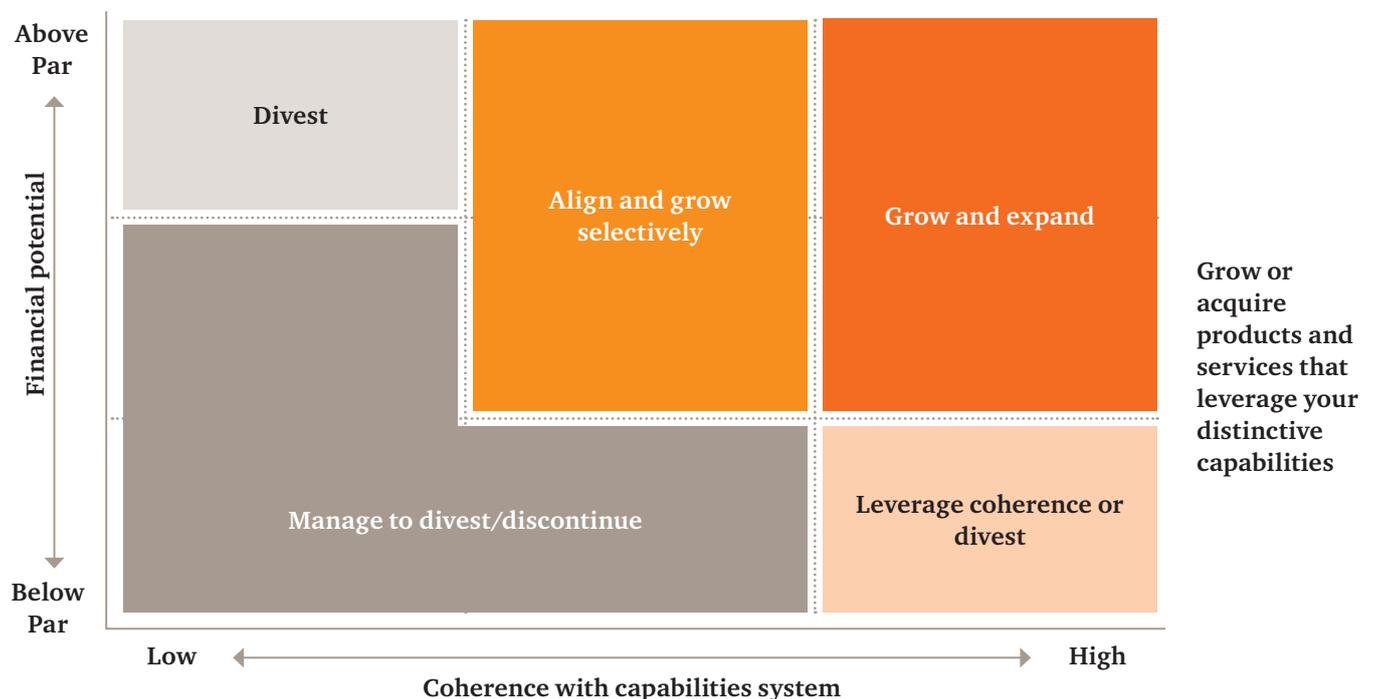
example of a major seeking to improve exploration success by learning best practice from its smaller and independent counterpart. Another example might be Occidental, which has eschewed risky exploration and focused on leveraging technology to bolster production from existing fields. It's therefore vital to critically examine: (a) the capabilities needed to make the options work, such that a differentiated and credible position emerges; (b) the value that can be extracted from each option.

Large companies typically have excess capabilities and lack clarity about which to develop and – crucially – which not to develop. Instead, they set strategy in very broad terms (e.g. 'more upstream') and pursue a large list of possible investments in all departments. Decisions tend to be based on risk appetite, expected returns and capital availability, rather than a capability-led strategy with a chosen way to play. Differentiation between some major companies comes down to their current asset portfolio and subtleties in culture and the CEO's public image.

Balance sheet strength and strong existing capabilities mean large companies are best placed to consider a capability-led strategy. Yet, ironically, they are the slowest and most difficult to shift from existing ways of working. It often takes a new CEO or a commodity price shock to spur significant changes. But once the right capability-led strategy is established, companies can take a fresh perspective on their portfolio to determine which assets to keep and grow. Timing the disposal of other assets is vital to the emergence of a coherent company.

However, it should be recognised that some players have reconfigured themselves to better focus on core capabilities. The demerger of ConocoPhillips into an independent upstream player (ConocoPhillips) and a separate downstream entity (Phillips 66) and a similar decision by Murphy Oil Corporation show IOCs exploring radical ways to focus on core competencies and release value.

Figure 10: Define the boundaries of your portfolio



Right-sizing the cost base

In Opportunities in Adversity we stressed the need to scrutinise costs in a targeted and sustainable way, addressing un-differentiated and non-core spend while avoiding the excessive lay-offs that followed the 1999/2000 downturn and sowed the seeds of the 'big crew change'.

While some companies have attacked costs in spectacular fashion, few executives have used the downturn to step back from day-to-day business and address their structural cost base.

More often than not, companies settle for intermittent top-down interventions, such as across-the-board percentage spending cuts, deferral of investments, snap reorganisations or layoffs. These approaches typically yield short-term results, but the benefits are difficult to sustain and the actions stress the organisation. Furthermore, significant increases in expenditure are often required soon afterwards — replacing aging equipment, building up depleted inventories, launching new products and services to differentiate, recruiting workers to staff expansions and rehiring ex-employees as expensive contractors. The company is then back where it started—needing to slash costs.

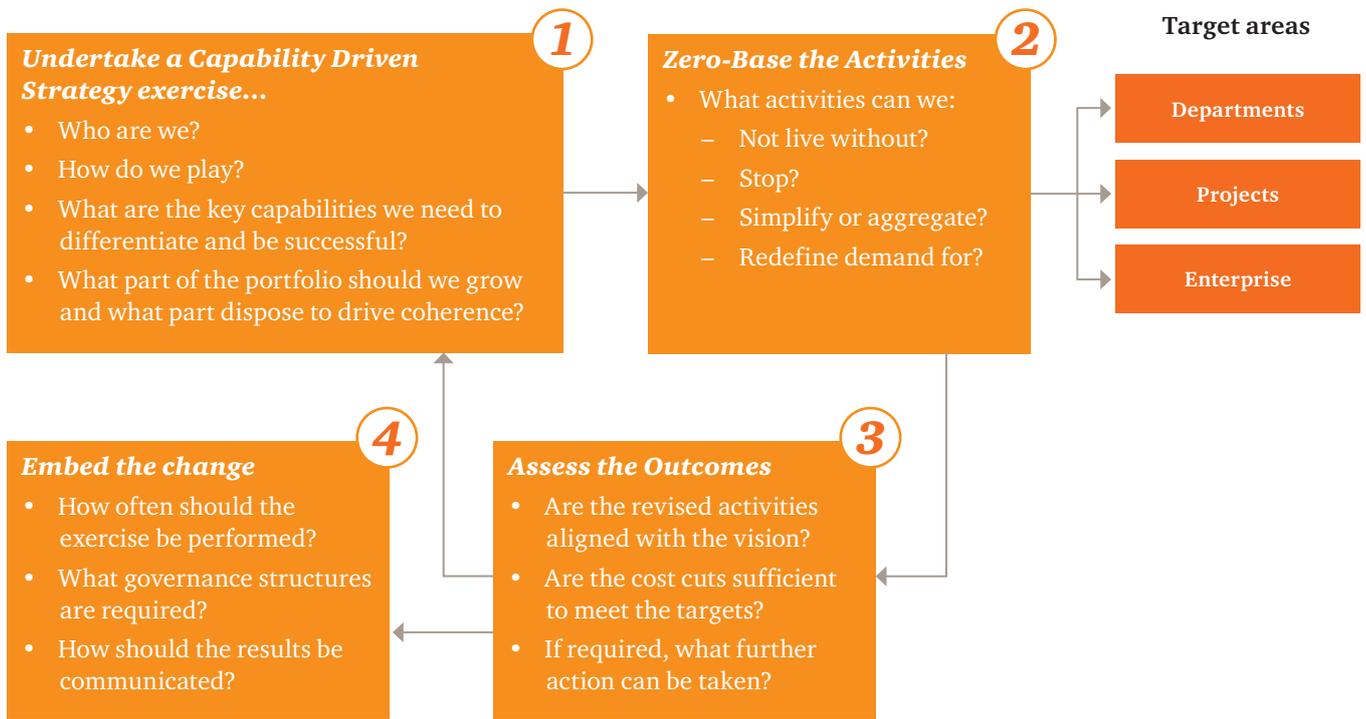
That said, there are some O&G companies tackling cost reduction in a more strategic and sustainable manner. While the industry is notorious for its lack of standardisation, Statoil, for example, is making efforts in the North Sea to set common specifications with other companies for subsea steel

forgings. Some smaller independents are also consolidating contracts with multiple helicopter providers into one contract with one provider. Interestingly, the EPC segment is striving for more transformational cost reductions. Aker Solutions, McDermott and Technip are all seeking efficiency gains by assessing factors such as internal organisation and processes.

Nevertheless, these are more the exceptions than the rule in the sector. One proven framework for structural change is zero-based cost management. Adopting zero-based cost management could help other companies replace the cycle of up and down cost spikes with a long-term strategic approach to minimising costs, as illustrated below.

Most managers are reasonably familiar with the concept in theory, but few understand how it can be successfully and comprehensively implemented. Zero-based cost management involves a fundamental re-examination of the activities and associated costs necessary to achieve specific business outcomes. A zero-based assessment can target costs in a department, a group of projects or across organisational units. There are four steps to a successful zero-based approach.

Figure 11: The zero-based holistic approach



Step 1

Calls for rapid evaluation of the industry, market and company position, followed by a detailed capability-driven strategy exercise. This should set the parameters for the examination of costs – what level of unit cost reduction is required for the business to survive and thrive? Which key capabilities differentiate the company and demand investment and which can be cut or disposed of?

Step 2

Requires a thorough examination of the cost base in terms of activities the company must maintain. To determine which activities need most attention, business managers should answer four basic questions:

1: ‘What activities can we not live without?’

Even the leanest organisation must perform certain activities to ‘keep the lights on’ and minimum standards are mandated for safety and legal compliance. Other activities involve implicit choices about what to do above and beyond the basics – so this distinction must now be made explicit. Remember that additional ‘new’ activities may arise from the vision articulated in step 1.

2: ‘What activities can we stop?’

Certain discretionary activities often remain well-funded year after year because that’s how it’s always been done. Activities that once made sense might fail to stand up if companies ask: ‘Why do we still do that?’

3: ‘What activities can we simplify, improve or aggregate?’

Just because an activity is necessary doesn’t mean it is performed efficiently. Processes can become excessively complicated over time as more stakeholders are drawn into decision-making, while, similar activities can be duplicated across functions.

The digital revolution can play a powerful part in rectifying this with its transformational impact on the supply chain and the notion of the Digital Oilfield as it applies to upstream operations.

4: ‘Where can we redefine demand for activities?’

Even if an activity is delivered efficiently, costs can spiral without careful management. Companies frequently struggle to understand why their overall cost competitiveness is poor when benchmarking individual processes tells them unit process costs are low.

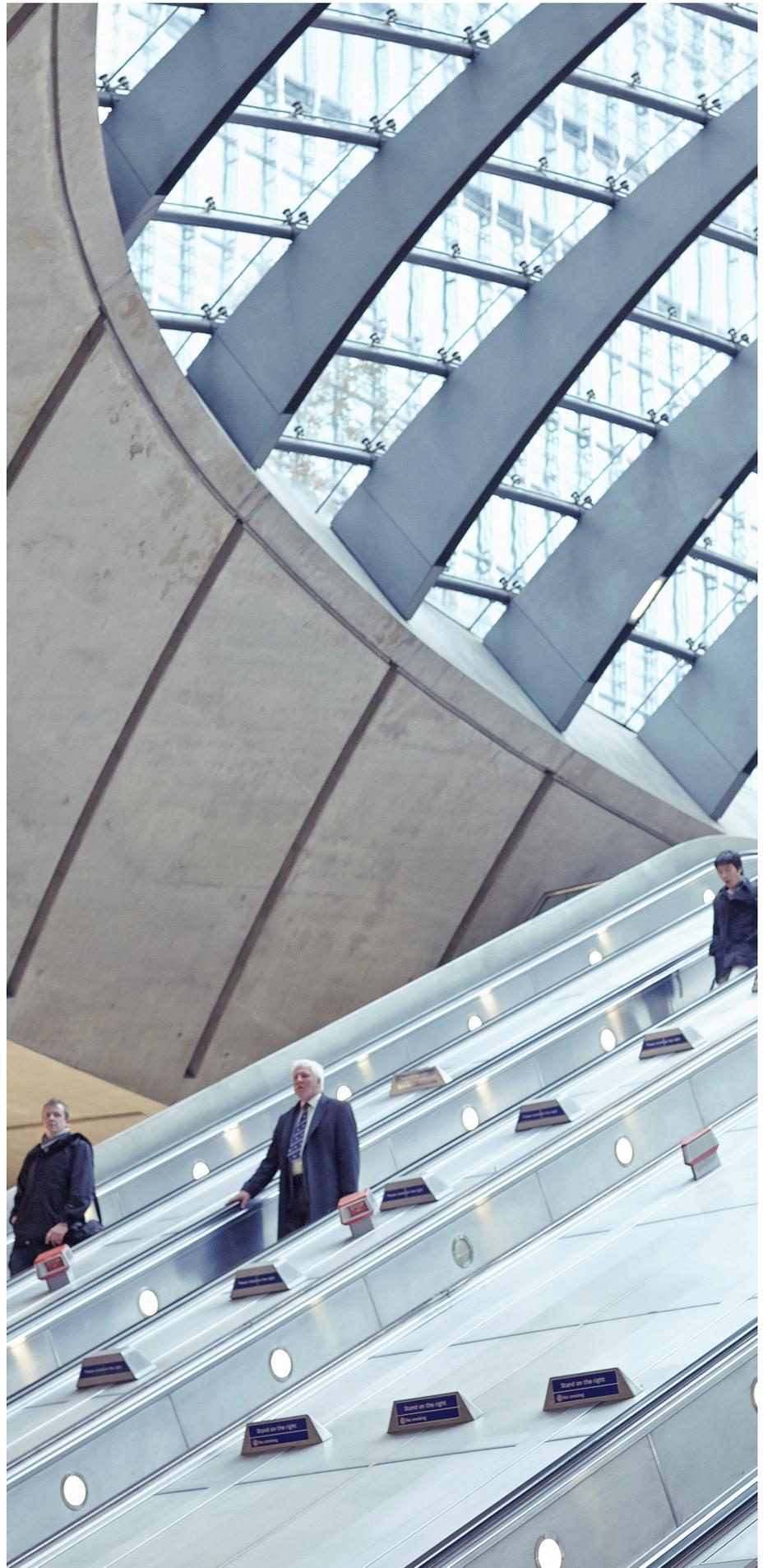
Step 3

Gives managers the opportunity to step back and consider whether the emerging picture fits with the company vision articulated in step 1 and is likely to achieve the necessary cost reductions. Any gap between aspiration and proposal can be resolved by looking again at the zero-based activity set to identify potential further action.

Step 4

Embed the Change – the prior steps all rely on good implementation and sustainability is key for zero-basing. Lack of future planning is a common pitfall, so it is crucial to address these questions:

- Should the exercise be performed every budget cycle?
- What governance structures need to be put in place?
- How should the results of zero-basing be discussed within the organisation?
- How much change can the organisation handle?



Conclusion

In our view many O&G companies have so far avoided the structural reforms required to survive and thrive in a '\$50 oil' future, relying instead on financial risk management and cuts to capex, headcount and their supply base. Few, if any, O&G majors have worked pro-actively with the supply base to weather the storm, seek ways to reduce both their costs or enter long-term commercial relationships.

But the weight of economic analysis suggests a 'lower for longer' scenario is the new reality – and the effects of product hedges and refinancing are coming to an end. O&G companies must urgently address business fundamentals to ensure strategy is well-defined, key capabilities are clearly identified and underlying cost structure is right-sized for the new environment.

A 'lower for longer' scenario clearly poses very many challenges. But we suggest it also highlights an important opportunity to make improvements in strategy and efficiency. Many O&G companies are at a crossroads with a chance to make lasting changes for the better. Players that adapt, survive and prosper while the oil price is low will emerge with a sustainable business model that could reap rich rewards in more favourable times.

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