SUMMARY
Upstream Exploration and Production companies must optimize productivity and maintain profit margins, in an environment of increasingly low prices. This report illustrates some of the latest insights that these companies can leverage to generate demand and thrive during a period of oversupply.
The steep oil price decline over the last quarter is having repercussions—both good and bad—across the globe. Consumers may be smiling about the price at the pump, but the vast oil and gas industry supply chain is bracing itself for tough times.

“Oil & gas explorers will be relooking at their budgets and deciding where to allocate their limited capital spend given the substantial decline in the oil price,” said Chris Bredenhann, an analyst at PriceWaterhouseCoopers (PwC).

Given the low price environment, producers who are intellectually nimble will flourish. This report takes stock at the end of a tumultuous first quarter to illustrate some emerging market trends producers ought to be on the lookout for, to ensure long term success.

OFFSHORE CUTBACKS ON THE HORIZON

Take the case of the Sakhalin Liquefied Natural Gas (LNG) project off the coast of eastern Siberia, where BP has been investing heavily in technology to reduce the cost of offshore operations. In order to lower the number of drilling rigs, BP has developed a means of drilling horizontally from an onshore base as far as 13,000 meters under the seafloor at great depth. Despite such innovation, BP is struggling to justify the cost of such operations.

“The cost of many projects in more extreme environments has become prohibitive,” said Neil Duffin, President of ExxonMobil Development Company.
At this point, Duffin doesn’t believe that even extreme cost cutting measures can save some projects. Part of the problem, he said, is that the industry has grown accustomed to high oil prices and has let its costs escalate. A 2003 offshore platform, he said, is more than three times lighter than a modern one with a similar design due to the addition of such things as more safety features, more space for more personnel, better alarm systems.

He is an advocate of putting in the time on upfront engineering in order to get the design right. That, coupled with modularization and rebuilding the same units over and over, could go a long way towards keeping exploration viable. It’s all about dramatically reducing the cost basis of an entire industry, eliminating complexity and doing far more with far less.

According to Duffin, over $800 billion was spent in 2014 throughout the North American oil and gas industry. Far too much of this, he said, was wasted in such things as contractor backlogs which have soared over the last few years as producers went after larger and more complex projects which have been driving increased spend.

“Contractor backlogs have hit historic levels as we worked in more challenging locations such as the Arctic and deepwater,” said Duffin.

While Arctic drilling continues to be pursued in parts of Russia, Chevron has pulled out of drilling in the North American tundra and Shell could be about to follow suit. But it isn’t just extreme environment that will feel the pain. According to oilfield service company Baker Hughes, the rig count for U.S. crude oil has been steadily falling over the last few months and has now reached its lowest level in four years. Meanwhile, offshore, Transocean recently scrapped two rigs and has 16 more lined up for a similar fate, with spending on offshore exploration expected to fall by 15 percent in 2015.
AFRICA: STILL TOUGH TO DRILL

The African subcontinent, which has seen massive oil and gas expansion over the past decade, however, is likely to see fallout from the surfeit of oil. According to PwC, six of the top 10 global discoveries by size were made in Africa in 2013. However, Bredenhann noted that the region has one of the highest average finding costs in the world at $35.01. This is due to the fact that many of its hydrocarbon prospects are technically challenging such as deepwater sub-salt fields in West Africa, waxy oil in Uganda and offshore exploration in South Africa.

Therefore, PwC expects many of these frontier areas to suffer from delayed development. The simple fact is that oil companies in the Congo, Angola and Tanzania that are spending heavily on exploration won’t be able to compete. Similarly, LNG mega-projects could be in danger.

“While we don’t envision that the major LNG projects in Mozambique and Tanzania will be cancelled outright, costs are a major concern for investors,” said Bredenhann.

MEXICO: AN EXPLORATION BOOM

There is certainly more than enough bad news and there is no doubt that some areas will fare poorly in the coming years, but the global picture is not entirely bleak. Mexico’s national gas company Pemex, for instance, is in the midst of an exploration boom.

“Energy reform has opened up the sector for the first time in 75 years with a goal of sustainability and generating cheaper energy for the Mexican economy,” said Emilio Lozoya, CEO of Pemex.

This governmental initiative makes it far easier for exploration and drilling firms to operate. But the reform also reaches deeply into the fabric of Mexican industry. Pemex, for example, has been consuming 6% of the nation’s energy output, making it by far the largest single consumer. But major changes are afoot internally. While the company has been burning fuel oil in most of its facilities, it is moving to natural gas-based cogeneration in order to become the nation’s largest supplier, contributing 10% of total power production. In addition, the company is breaking itself up into separate business units for drilling, cogeneration, logistics, ethylene and fertilizers.

Further, Pemex is involved in the build-out of the country’s natural gas pipeline infrastructure. Over the next few years, thousands of miles will be added as part of a plan to expand its pipeline network by 75%. But this doesn't mean an immediate rush into shale gas. The government has postponed shale exploration activities for at least another year.
SAUDI ARABIA: STILL HOPING THAT PRICE COLLAPSE WILL STIMULATE DEMAND

The Middle East is one area that could profit significantly from cutbacks in other parts of the world. Saudi Arabia contributed to the oil price crash by breaking ranks from OPEC and increasing output at a time of weak demand and oversupply. It is happy to collect lower prices but gain in the long run by making competition from the likes of U.S. shale plays and other unconventional resources less profitable.

“Low prices are due to an overabundance of oil,” said Nizar Al-Adsani, CEO of Kuwait Petroleum Corp. “The price of oil will probably start going up later in 2015, but we won’t see $100 a barrel in the foreseeable future.”

He broke it down to a simple mathematical exercise. Currently, 95 million barrels of oil a day are used worldwide. However, up to 2 million more barrels per day are being produced and that surplus is likely to continue.
BETTER DATA TO THE RESCUE

Get ready, then, for a massive tightening of the budget belts for the next few years. This makes it even more critical for oil and gas companies to have sound seismic and geological data available so drilling effectiveness is increased.

Baker Hughes, for example, reports an almost tenfold jump in inquiries about ways to increase efficiency from existing wells. The company has received, in particular, plenty of interest in being able to crunch the numbers from thousands of wells to make them more productive, as well as how to heighten exploration results.

Geoscientists, after all, have to tackle a mountain of information from governmental, scientific, academic and commercial sources in an attempt to make correct decisions that minimize the amount of fieldwork required. With oil prices so low, one wrong decision could be the difference between profitability and unprofitability. More than ever, oil well profitability depends upon finding the right area, isolating the right spot and selecting the right drilling technology to exploit the play. Fortunately, an abundance of geological, seismic and satellite data has accumulated over the two centuries concerning potential oil and gas reservoirs.

REFERENCES

3. Quotes presented in paper were made at the GE Oil & Gas Annual Meeting 2015 in February.
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ASIA AND AUSTRALIA
Tel: + 65 6349 0222
Email: sginfo@elsevier.com

JAPAN
Tel: + 81 3 5561 5034
Email: jpinfo@elsevier.com

KOREA AND TAIWAN
Tel: +82 2 6714 3000
Email: krinfo.corp@elsevier.com

EUROPE, MIDDLE EAST AND AFRICA
Tel: +31 20 485 3767
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NORTH AMERICA, CENTRAL AMERICA AND CANADA
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SOUTH AMERICA
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