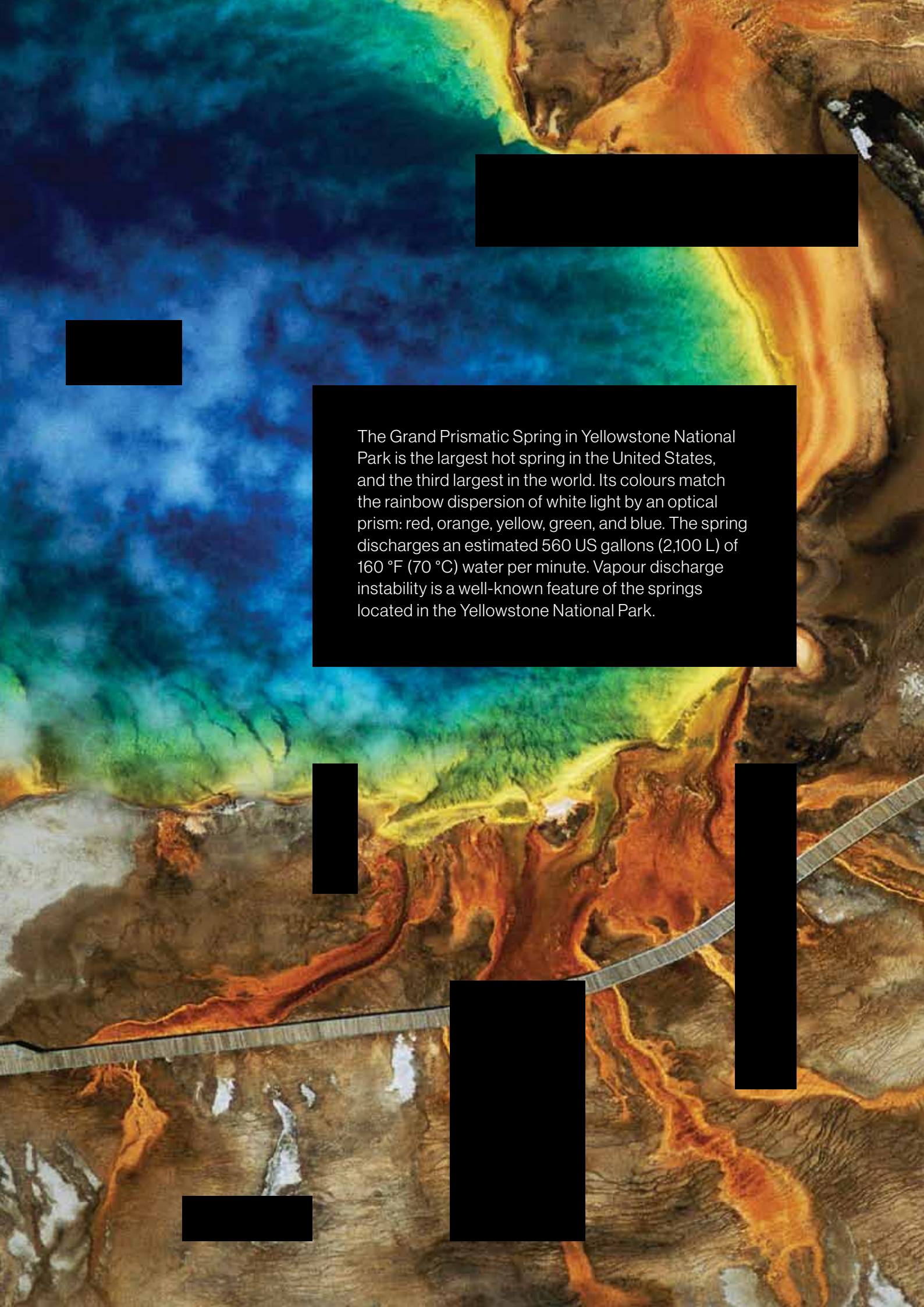




Energy Market Review

The challenge of global instability:
how can the energy industry respond?

April 2016



The Grand Prismatic Spring in Yellowstone National Park is the largest hot spring in the United States, and the third largest in the world. Its colours match the rainbow dispersion of white light by an optical prism: red, orange, yellow, green, and blue. The spring discharges an estimated 560 US gallons (2,100 L) of 160 °F (70 °C) water per minute. Vapour discharge instability is a well-known feature of the springs located in the Yellowstone National Park.



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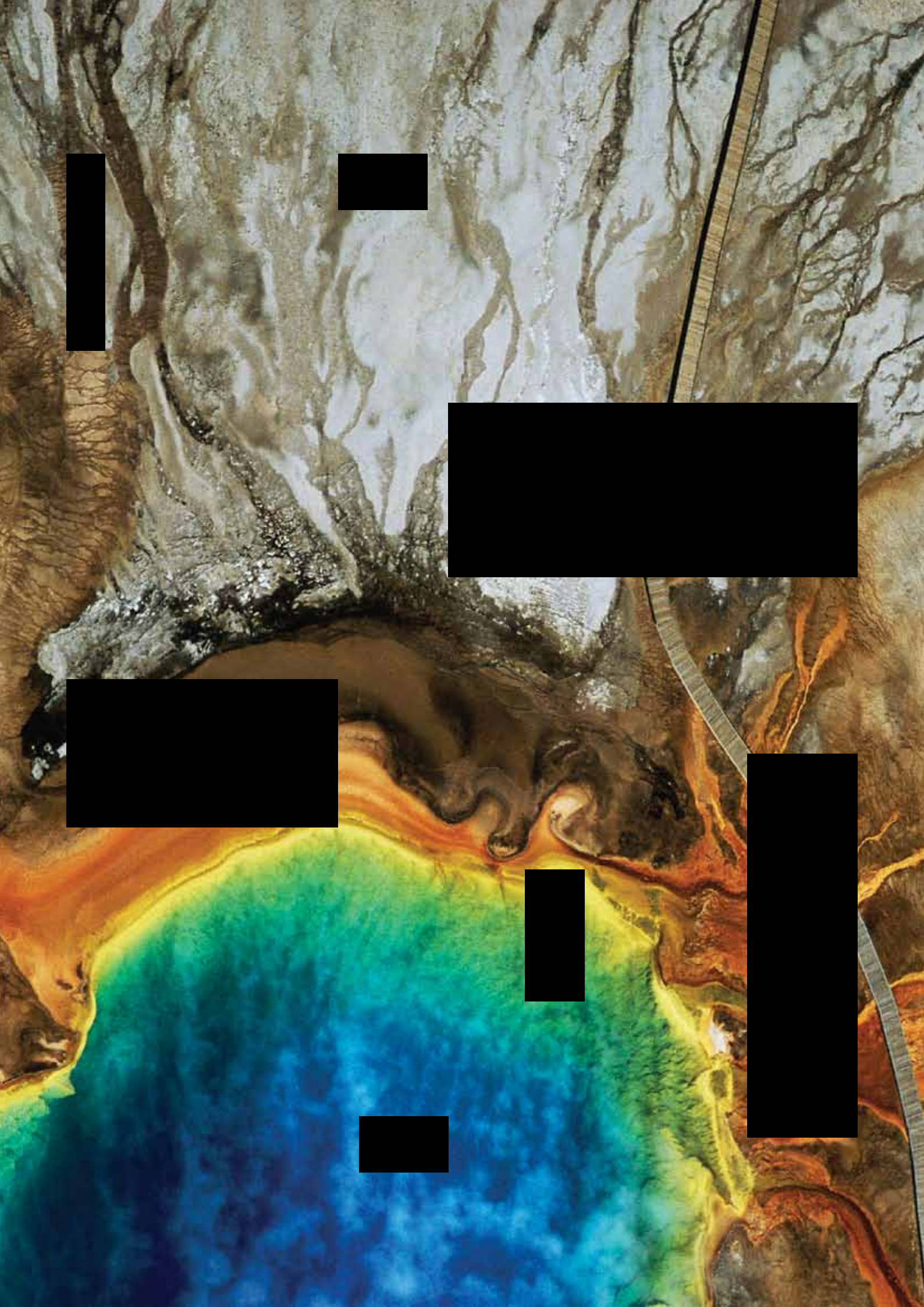
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Notes

- Our Review uses a mixture of American and English spelling, depending on the nationality of the author concerned.
- We have used capital letters to describe various classes of insurance products and markets, but otherwise we have used lower case to describe various parts of the energy industry itself.



Introduction

Welcome to our first Energy Market Review as Willis Towers Watson. This year the industry is facing possibly its greatest challenge for fifty years, as oil prices plunge and inventories reach record levels. For the foreseeable future, Capex discipline and operating cost reductions are going to be primary drivers for C-Suites in an industry beset by a global oil glut that shows no sign of abating.

How can energy companies navigate their way through this harsh business environment? It's essential that they adopt business strategies that not only guarantee their survival but also minimise the risks involved in this new landscape, both to their people and their balance sheets.

As well as providing our usual insurance market analyses, our Review this year focuses on six areas where new approaches to risk management and workforce solutions are being developed that may help the industry develop such strategies. These are:

- **Optimising human capital risk:** the debate today is less about a 'War for Talent' and more about re-structuring, right sizing, sustainable workforce planning, managing performance and reducing workforce costs.
- **Mitigating cyber risk exposure:** proper risk quantification is now essential if energy companies are to approach the decisions about addressing this exposure with the most effective deployment of capital.
- **Managing regulatory risk:** quick access to protection for Directors is now required in the event of a regulatory breach and a consequent investigation or claim against them.
- **Navigating the geo-political landscape:** as new geo-political threats are identified, so must scenario building, modelling and risk mitigation measures, while the energy industry continues to expand into regions which are becoming increasingly volatile.

- **Meeting the environmental threat:** latent environmental liability in the industry is being increased at a time when money to mitigate this risk is in short supply. Specialist insurance products can address this threat in part, but the lessons of both Macondo and the recent mining disaster in Brazil suggest that more advanced risk transfer mechanisms, featuring limits in excess of what is offered by the conventional insurance market, are increasingly needed by the energy industry.
- **Taking a fresh look at Alternative Risk Transfer (ART).** At the end of the Review, we examine some of the modern ART products that are now being developed and how parametric solutions in particular might become more familiar tools in the modern risk manager's armoury.

There is a real need for us to work together with our clients to analyse these changes to company risk profiles and workforce dynamics and produce appropriate solutions based on sound analytics. This can only help the industry to meet its new challenges - regardless of where the oil price might be heading in the future.

We hope you enjoy this edition of our Review, and as ever we would welcome any feedback you may have.



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Energy insurance market summary

The phrase “The Perfect Storm” is possibly the most over-used cliché in describing business landscapes, but in truth no other term really comes close to identifying conditions in the Energy insurance markets as we move further into 2016.

From both a supply and demand perspective, the outlook for insurers continues to look bleak; while the majority will no doubt find a way to trade through the current business environment, we believe there will come a time when, for some, their continued participation in this sector will come under review – it’s just that nobody knows exactly when that will happen this will happen.

What are the factors that make up this “Perfect Storm”? From a supply perspective, there simply remains too much capital available from the global (re)insurance market. For the tenth year in a row capacity has increased in both the Upstream and Downstream markets, fuelled by the availability of competitively-priced Treaty and Facultative Reinsurance.

This capacity needs feeding, and individual underwriters remain under pressure to deliver the premium income targets that providers require to justify their investment in this sector. With no meaningful withdrawals during the last 12 months, competitive pressures have intensified still further; the steady softening in both markets continues unabated, despite recent losses in the Upstream sector and the continuing decline in rates to new record levels in the Downstream sector. The same dynamics are generally also in play in the Liability, Construction and Terrorism markets.

But it is perhaps on the demand side that the insurance markets are facing an ever bigger challenge. The reduced risk management budgets brought about primarily by the collapse in oil prices that we described in some detail in last year’s Review have had an even bigger impact in 2016, as programme limits have reduced and self-insured retentions have increased.

As a result, the available premium income pool continues to be eroded, particularly in the Upstream sector where the lack of new projects and the scaling back of major drilling operations have made their own contribution to a significant overall reduction in premium since this time last year.

So while the need for product innovation in the marketplace remains as urgent as ever, the focus for both buyer and seller this year has been on price – the buyers have been forced to cut costs, while the sellers have had to compete even more fiercely for the reduced pot of premium available.

Faced with this predicament, insurers have had to choose between a strategy of retrenchment, waiting for a market upturn as others eventually withdraw, or maximising market share, in the hope that the premium income earned will be sufficient to enable them to continue to trade.

Although at face value this is all good news for the beleaguered energy industry, as prices continue to fall we should all remember that the market has provided a stable platform to enable the smooth transfer of risk in a predictable and manageable fashion. It goes without saying that any scenario which severely impacts this balance will have negative consequences for all parties involved.

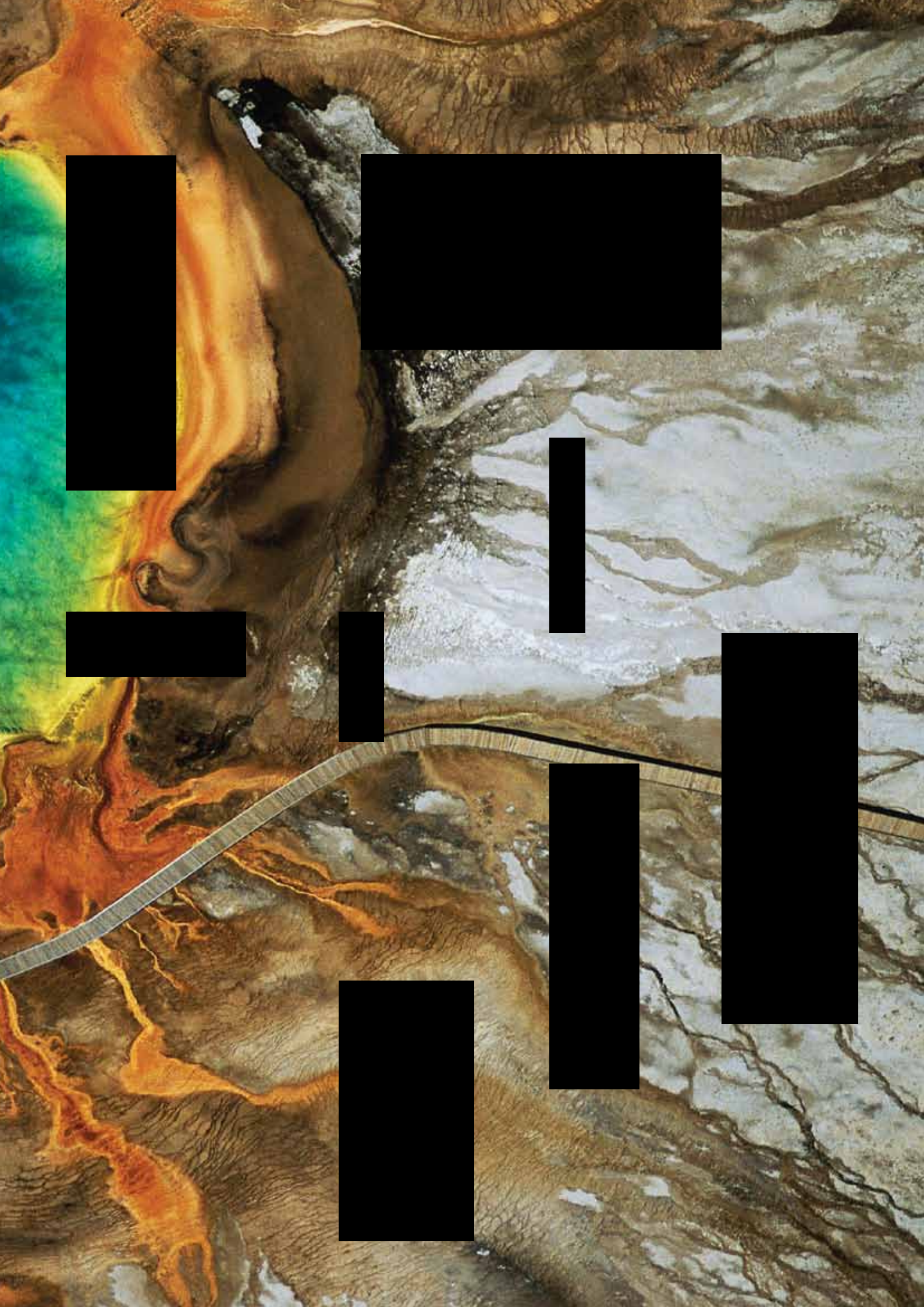


Neil Smith is Willis Towers Watson’s Global Product Leader for Natural Resources Lines.

An aerial photograph of a river delta, showing a complex network of channels and distributaries. The water is a deep blue, transitioning to green and yellow as it approaches the land. The land is a mix of brown, tan, and white, indicating different soil types and possibly some snow or ice. A central black text box contains the title and subtitle. Several other black rectangular boxes are placed around the image, likely for redaction or design purposes.

Part one

The challenge of global instability: how can the energy industry respond?



Optimizing human capital

Introduction – why optimizing human capital matters

Darwin's theory of evolution is based on the principle of change and subsequent natural selection of the fittest competitors for that particular environment. The process Darwin describes happens at a molecular level over eons of time, as organisms evolve and adapt for survival; in contrast a cataclysmic event, such as an asteroid hitting the earth that destroyed the dinosaurs over 65 million years ago, takes considerably less time and therefore the need for survival is immediate.

Today in the global markets, the biggest commercial disruption is to be found in the extractive sectors, and in particular the oil & gas industry; this follows a fall in the oil price from USD115 per barrel in mid-2014 to less than USD30 per barrel in February 2016 - a decline of over 75% (although prices have since recovered to USD40 per barrel as this Review went to press).

Certainly this appears to be a cataclysmic event for the industry, so energy companies should ask themselves:

- How should companies adapt and survive?
- How should they use their most valuable resource – people?
- What effect will the actions today have for the future?

Clearly, companies want to ensure survival and need to do so rapidly while not falling into the trap of short term survival at the cost of long term health. From a human capital perspective, managing and retaining talent is critical, but the realities of survival are paramount.

Not all companies will be affected in the same way, and the economic landscape is fraught with complexity.

Continued focus on oil production ensures evolution, not revolution

Historically, oil prices have been very volatile with OPEC shocks in 1973 and 1979; however, generally until 2005 prices were below USD30 per barrel. On average, the price over the last 40 years or so (if the high peaks are taken out) is around USD26 per barrel.

Currently, the market is oversupplied compared with demand; there are no signs of significant increase in demand or materially slowing production. Companies with low production costs will want to continue to maintain - or even increase - production to protect revenues, which might especially be the case within economies dependent on oil production. Additionally, Iran may want to increase production now that sanctions have been lifted; indeed, its USD1.70 per barrel production costs ensure that production in this country remains profitable even at lower oil prices than seen to date.

Meanwhile continuing production puts pressure on high cost producers and enforces a “Darwinian” position where oil production remains a key focus even when there is consistent global pressure for a move away from hydrocarbons to renewables, given current global warming and climate change concerns. Moreover, the uncertainty around the global economy for 2016 makes it difficult to establish the timeline for oil price recovery and to what level.

Expense management – optimizing production

Not unusually there is significant pressure on publicly quoted companies to deliver value through shareholder returns. Share price and dividends, which given share price connectivity to the commodity price, are the drivers which put the main pressure on expense management to generate profitability and cash returns.



Clearly, companies want to ensure survival and need to do so rapidly while not falling into the trap of short term survival at the cost of long term health. From a human capital perspective, managing and retaining talent is critical, but the realities of survival are paramount.

Company financials have been hugely volatile recently due to the oil price collapse, with capital cost reductions of over 60%, profit reductions (even for the oil majors) of over 50%, significant upstream asset impairments in the billions of dollars and significant cash flow impacts.

However, cutting production is not necessarily the answer. For example, Woodmac has recently intimated that of the 79.7 million barrels of oil produced annually in the US, only around 10% are produced at a loss at a price as low as USD25 per barrel. In addition, ceasing production has significant plugging and abandonment costs, as well as subsequent start-up costs. Consequently, depending on the medium term outlook, companies may indeed choose to continue production, hoping to recover when the oil price rises again.

The portfolio-business strategies within the energy industry are therefore diverse, and their impact will depend on the type of oil and gas entity and its portfolio (be it upstream, midstream, oilfield services, manufacturing or refining) as well as individual business mixes (for example including exposure to other assets, LNG or wider engineering).

Moreover, the significant current impact of technology is currently making shale sands and deep water wells viable, albeit at a higher cost of production. Further technological enhancements are likely to be introduced which focus more on efficiency and adding value to existing operations.

Notwithstanding the above, E&P companies have cut costs during the course of 2015 by 20–50% and further cost cutting is due in 2016. Rig reduction and reduction of capital expenditure on new projects are the main areas that are being affected; there is also a reduced requirement to find new resources when there is a global glut, given the current over-supply compared to demand. However, from past experience this should lead to supply shortages in the future.

Furthermore, given the current environment there is very likely to be increased Mergers & Acquisition (M&A) activity and business unit/asset divestiture during 2016, enforced either through distress, assistance with cash flow or if the acquirer sees the business as a strategic acquisition of value, through buying at current prices.

Expense management – optimizing human capital

The industry has been in this economic position before through various commodity cycles. It therefore has its playbook for dealing with these aspects, including attention to human capital; here the playbook focuses on people costs within the organisation, reducing or freezing low lying fruits first. These include:

- travel costs
- employee perks
- hiring
- merit increases and bonus awards

The industry has already cancelled contractor contracts, reduced working hours, renegotiated costs and has let go over 250,000 people in the industry globally since mid-2014. Some commentators suggest that the industry grows fat in the good times and becomes lean in the mean, utilizing its people resources more efficiently when it has to.

Today's discussions are less about a 'War for Talent' and more about restructuring, right sizing, sustainable workforce planning and managing both performance and people costs.

The industry has been in this economic position before through various commodity cycles. It therefore has its playbook for dealing with these aspects, including attention to human capital.



Today's discussions are less about a 'War for Talent' and more about restructuring, right sizing, sustainable workforce planning and managing both performance and people costs.

HR departments are under pressure to provide new ways of operating in this new reality, and will have to take the following into consideration:

- workforce planning and agility
- talent management
- a new Employee Value Proposition
- cultural impact
- succession planning
- reward design
- internal development of skills
- recognizing critical talent and "Hipo" individuals
- using analytical tools for big data discussions
- leadership assessment
- executive pay and shareholder communication
- development retention and motivation
- retirement planning and costs
- ensuring health and welfare of staff
- M&A readiness or development

This involves reaching ever deeper in providing value to business at an appropriate cost while attracting, retaining and motivating talent. It's a very challenging proposition from anyone's perspective but critical to providing agility to the organization and adapting a response to survive and grasp the opportunities to grow that may arise.

Human capital issues: energy sector round-ups

Before looking at some of these human capital interventions in more detail we review the differences in the sub sectors of the industry, the impact of the current economic environment and some considerations as companies plan for growth. The value chain is diverse, with upstream, midstream and downstream broken down further into multiple sectors and subsectors. While the macro challenges of price volatility and the balance of supply and demand remain the same across the industry, the impact of these challenges will influence how companies manage their human capital in different ways within each sector. Outlined below is our perspective on the current operating environment in a number of core sectors and how this will impact the workforce and the way companies manage talent going forward.

Upstream – skills surplus poses fundamental challenges

The upstream sector has been through a period of sustained and growing investment and expansion during a period of high oil prices. However, this investment has rapidly tailed off over the past year, with companies focusing on high quality/low cost production assets. From an upstream perspective, projects have been delayed and cancelled alongside a significant tightening of capital expenditure across the sector. Indeed, it is fair to say that the upstream sector no longer explores for oil but exploits it as efficiently as possible.

The impact of this on a once booming upstream sector is dramatic. In some cases whole oil fields are becoming redundant as costs of production are not sustainable. The North Sea is a prime example of where we have seen a growth in the number of barrels produced over the last two years, but with decommissioning set to expand rapidly over the next five years due to rising costs.

A strategic shift of this magnitude has affected the entire workforce within this sector.

This moves the debate away from the old “War for Talent” cliché into a period which now features a relative skills surplus. If we combine this with an ageing technical workforce and a rapidly expanding need for innovation and technology, then it becomes clear that the sector is faced with a number of challenges, including:

- **Cost-cutting with an eye on the future.** The easiest way to cut costs is either through a reduction in the workforce or in spending on employees. However, as we have seen in the past, cutting in haste at the bottom of the cycle hampers a company’s ability to respond quickly when the market stabilises, investment increases and projects come back on stream. Assessing total workforce costs in the sector will therefore be key to understanding where efficiencies can be achieved without damaging future growth prospects. As such, we see companies looking to optimize workforce spend across the full Employee Value Proposition (EVP) rather than simply on compensation.
- **Health, Safety & Environment (HSE).** A key pillar of sustainable growth in the industry – particularly upstream – HSE is usually embedded throughout a company’s culture and values. However, the enhanced focus on costs can put significant pressure on HSE and therefore represents a significant risk. Reward can play a key role in mitigating this risk; we see companies incentivising the very top of organizations to make ‘continuous improvement’ in HSE metrics (which are now moving from lagging to leading indicators of HSE performance) all the way through to embedding HSE as part of a company’s scorecard covering all roles. Our recent 2015 survey of the oil & gas industry found that around two thirds of participants now measure HSE performance as part of their annual bonus arrangements and a growing number measure performance over the longer term as well; indeed, over a third apply safety metrics in their long-term incentives to executive leadership.

- **Efficient resource deployment.** Making the most of a company’s human capital will be key as resources are spread thinner, particularly in larger energy companies where operations span geographies. Deployment of skills across a company’s footprint will play a key role in weathering the current storm and we have seen many companies turning to a more analytics-based approach in order to achieve optimum human capital deployment.
- **Knowledge transfer and new skills.** The industry as a whole has been struggling to adapt to an aging workforce and the risks this brings. Now, more than ever, there is a risk that increased turnover of technical professionals will result in the loss of key/critical knowledge and skills. Companies will need to mitigate this risk with a focus on tighter talent management, development and succession planning across the upstream sectors. Alongside this challenge, new skills will be needed as efficiency is driven by technological advances. This is not a new problem, but one that many companies in the industry have struggled to adequately prepare for in the past. Again, assessing - and on a targeted basis, investing - in human capital strategies now will help drive growth when the market recovers.

Oilfield services – skilled support still required

When prices started receding in late 2014 oilfield services companies were the first to feel the pain, with the double impact of producers putting pressure on the cost of services, impacting margins and slashing capital expenditure, and therefore negatively affecting the underlying services required. Those companies that have active, large scale contracts in place or those providing essential operating and maintenance services will be less exposed than others, though the extent to which this shelter will outlive the “lower for longer” view of oil prices remains to be seen.

Following relentless cost-cutting, it would seem that oilfield services companies have limited scope for growth in the near term. However, companies will look to capitalize on increasingly technical and commercially challenging projects for which skilled support is needed, as well as the decommissioning sub-sector which is due to accelerate expansion over the coming years. Furthermore, those companies with less leverage and more cash may look to distressed competitors to expand their footprint and diversity of services – given the state of the sector, consolidation is almost inevitable.

Now, more than ever, there is a risk that increased turnover of technical professionals will result in the loss of key/critical knowledge and skills.

We see the sector going through three distinct phases, ultimately aiming to position for growth of market share in the longer term:

1. **Cost reduction (internal).** From a human capital perspective, the sector has been one of the first to reduce employee costs and headcount as they responded to producers' demands to cut costs; indeed, it is now one of the most efficient sectors in the industry. Further price/cost pressure will need to be balanced with the need to maintain quality and safety within the sector. Health & Safety is an industry-wide issue (see above comments for the upstream sector); however, in the oilfield services sector it is perhaps even more important to ensure senior leaders are tasked with tight HSE control, as cost-pressures can undermine excellent HSE standards.
2. **Cost reduction (customers).** Reducing costs for customers place oilfield services companies in a better market position to win business. Innovation, technology and the rate at which companies move into the digital oilfield world will be key to securing market share, both now and once prices stabilize and recover.
3. **Building for the future.** Whether through consolidation, acquisition or optimization, it is likely that there will be further change in the sector. Companies will need to be prepared for the repercussions that this will have on the workforce, including the impact of further right-sizing, retaining key/critical talent and strategic investment in new and critical skills. While there have been large workforce cuts in the oilfield services sector, developing the appropriate skill base and retaining those key/critical employees that can drive more efficient processes will be important to future growth.

Manufacturing

Much like the oilfield services sector, oil & gas manufacturing will take the brunt of the pain that comes with ever increasing cost pressure. However, the nature of the industry means that many of the larger players are diversified industrial companies with a broader focus than just the oil & gas industry. Combined with potentially longer-term maintenance contracts and the softening of some of the cost pressure seen in the oilfield services sector, this provides some protection for larger companies.

Smaller companies which are highly geared to the oil & gas industry (or indeed other commodity markets) will struggle to weather the storm and may end up as acquisition targets from their larger peers looking to expand their footprint and skill base.

As with the broader upstream sector, technology will play a key role in the industry in order to transfer efficiencies to customers. With this comes the need for a highly skilled workforce, strong talent management programs and a developed Employee Value Proposition (EVP) beyond simply the issue of compensation.

Midstream

Unconventional methods to extract oil and gas over the past five years drove transportation volumes and fees, contributing to revenue growth in the sector. Natural Gas Liquid (NGL) production has increased because of the shale gas boom in the United States. Strong NGL production and rising refinery output boosted petroleum exports and pipelines were needed to bring products to refineries and shipping terminals. It is important to note that typically midstream companies do not own the natural gas they transport, which provides some shelter from commodity price volatility and there are often strong cash flows associated with midstream companies. Nevertheless, rising capital cost for construction of pipelines, associated with expansion, will prevent profit from keeping up with revenue growth. Continued expansion is expected on the horizon:

- New pipelines, needed to support oil/gas transport
- Transport growing, related to crude oil imports from terminals to refineries
- Consistently lower prices for natural gas, which will continue to drive high demand

Companies will continue to focus on regions with strong supply and demand impacting the use of pipeline per region. This shift will need to occur to offset declines in production for specific regions and assets.

This industry is expected to be profitable due to low operating costs after pipelines are constructed. Moreover, fuel and labor expenses are moderate compared with the scale of pipeline operations. So the midstream industry is projected to expand and exhibit solid performance over the next several years. However, industry operations will need to focus on HSE initiatives as the cost associated with environmental damages and accidents associated with pipeline operations can be very high.

Downstream – no problem as US refiners seek competitive advantage

Turning our attention finally to downstream, it is important to point out that the price of crude oil is not only a primary revenue driver, but only a cost driver for this sector, so the effect here is different from other sectors in the industry, particularly for petroleum refining.

Figure 1 - Upstream Human Capital Priorities



The graph shows how energy companies can still manage their talent base effectively in an era of lay-offs.

Source: Willis Towers Watson

During the higher oil price era profit margins were often compromised, leading to significant changes within the sector. For example, there were many companies and shareholders that felt the downstream sector was not allowing shareholders to recognize the full value of an independent E&P business, which led to a number of spinoffs and increased the number of independent refining companies in the market place. The break-up of integrated companies is not the first time we have seen this cycle play out and if history holds true there will be a consolidation down the road, since these business models complement one another.

The downstream industry is in the mature stage of its life cycle. Although companies have experienced a drop in revenue during the last two years of the current industry downturn, companies have experienced relatively stable profit margins due to solid demand for finished petroleum products and favorable crude oil prices.

With that in mind, this sector is not in a “crisis” like some of the other oil and gas industry sectors; in fact, the downstream sector is anticipated to grow over the next five years due to increased consumption.

In addition, improvements in global economic conditions will support demand for petroleum products, while, lower domestic crude oil prices, when compared to the prevailing international prices, are expected to bestow a moderate competitive advantage upon US-based refining companies in particular.

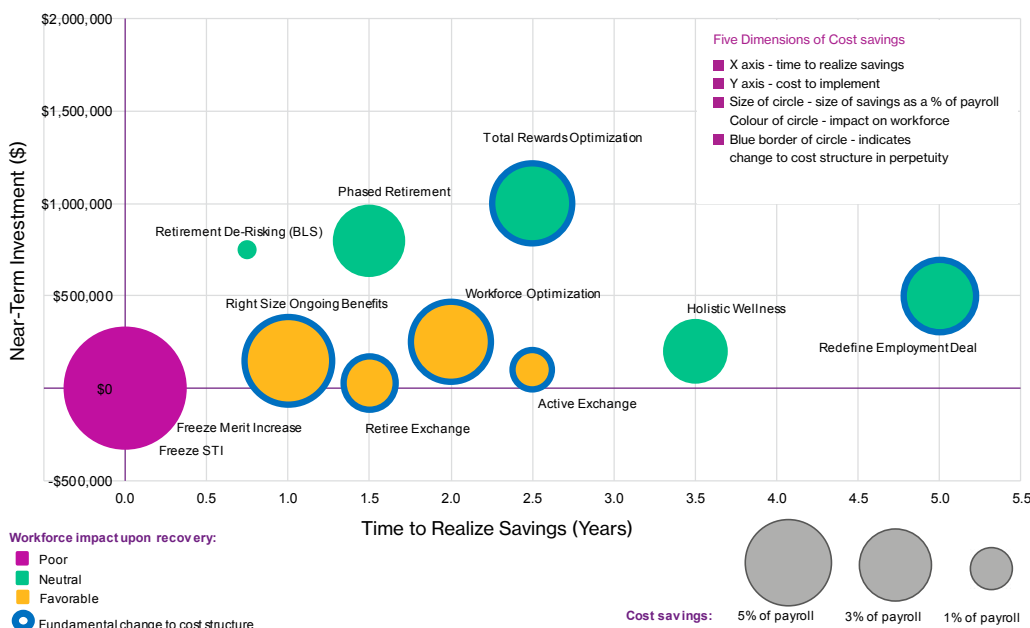
Midstream and downstream companies should assess total workforce and cost structure

While we identified under the other sectors that HSE, efficient resource deployment and knowledge transfer were human capital areas of focus, that is not to say that these issues are not important or do not apply to the downstream and midstream sectors; in fact, these areas are important across the entire industry value chain.

However, from a human capital perspective, when it comes to these two sectors, assessing the total work force and cost structure should be on the minds of all Chief Human Resources Officers (CHROs). Downstream and midstream companies find themselves in a unique situation as they can look to take advantage of the talent lost in other sectors.

Based on the potential increases in profit margins and cash flow expectations, this will give them the ability to attract the right talent and support the desired cost structure by right sizing total reward programs and ultimately enhancing the employee value proposition. We will see companies assessing their workforce and identifying the right skill base needed to drive the business and implementing human capital programs changes.

Figure 2 - Prioritization of Oil & Gas Cost Savings Opportunities



The graph positions cost savings opportunities in the context of ability to preserve the future priorities of performance, attraction & retention, engagement, leadership training and brand.

Source: Willis Towers Watson

By addressing and having a sustainable work force model along with having the right programs in place, we believe that these two sectors will position themselves for future growth and be prepared to retain key talent for when the “War for Talent” returns.

Overarching EVPs - how to prosper in a time of protracted commodity weakness

As mentioned previously, at USD100 per barrel human capital priorities were focused on maximizing the financial benefits gained by a highly functioning employment deal. Our talent management and reward research shows that companies that have adopted an overarching EVP are:

- Three times more likely to report that their employees are highly engaged
- One and a half times more likely to report that they have achieved a financial performance significantly above their peers
- Less likely to report having difficulty attracting and retaining employees – particularly in key employee segments

However, barrel prices of less than USD50 require a priority shift in business strategy to cost savings.

As shown in Figure 1 at the top of the preceding page, commodity prices swing up and down; so do budgets for pay, bonuses, incentives, benefits, training and other employee programs. Moreover, the supply of and demand for talented workers fluctuates in sync with price shifts.

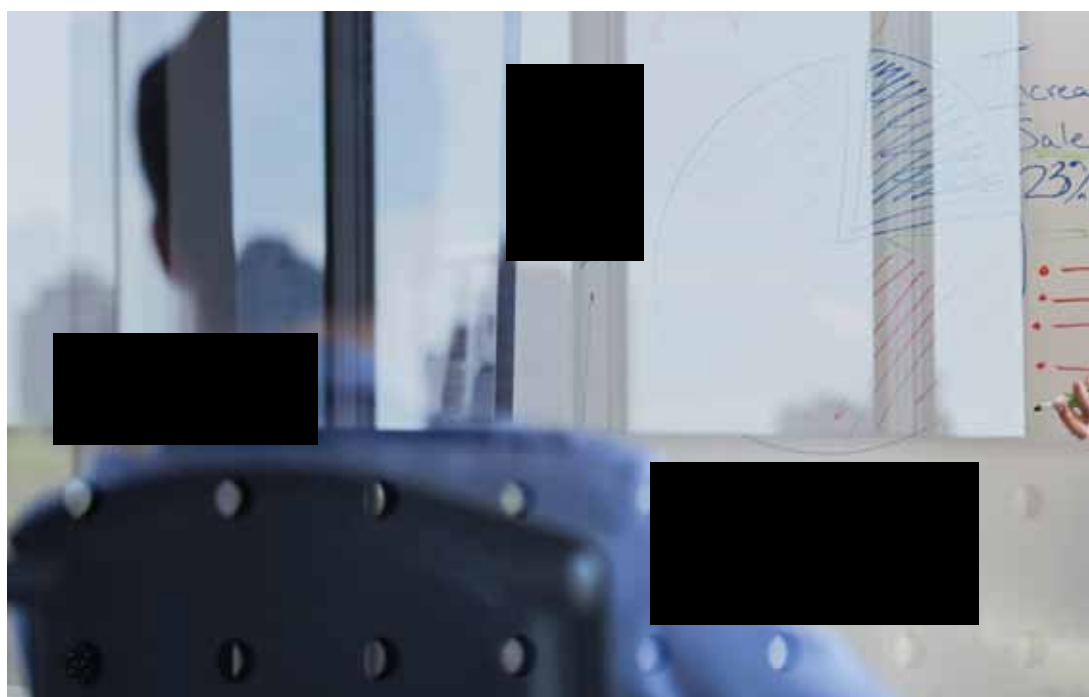
However, wholesale cost-cutting priorities can be in direct contradiction to workforce priorities at USD60 per barrel and negatively impact companies’ ability to optimize performance of an already impaired employee population. When commodity prices drop, employers need to find the right balance between managing costs and having the necessary people to drive the business forward; any inability to strike this balance of cost reduction and protection of the employment brand may put a company at a serious competitive disadvantage.

Decisions like these are difficult to implement in times of favorable commodity prices and are made more ambitious in times of industry, geo-political, and price uncertainty.

The current market forecasts are that painful, unprofitable oil prices won’t last forever and Human Capital priorities will shift back from cost containment to the enhancement of the EVP. In the wildly cyclical energy industry environment, how can employers maintain the workforces they need to both weather the downturns and be competitive when the market heats up?

Figure 2 above shows a cost savings prioritization matrix that plots opportunities in five dimensions. The graph positions cost savings opportunities in the context of ability to preserve the future priorities of performance, attraction & retention, engagement, leadership training and brand.

Rather than replicate the actions of past downturns and relive the same consequences of a disengaged, skills-depleted and bi-modal workforce, companies have the ability to act in ways that can yield a competitive advantage.



Performance

How can a company incentivise and reward top performance when merit budgets are slashed? Some companies indicate bonuses won't accurately reflect overall company performance, simply because variable pay plans aren't that variable. On the other hand, some employers are asking how they should adjust their plans for commodity fluctuations. Many companies make such adjustments, but not without pressure to defend the decision. Data on rewards show that when funds become scarce and the bonus budget is lean, employers become much more disciplined at rewarding high performers. At the very top of house the relationship between pay and performance as well as the programmes that support this strategy may need to be reviewed and explained to shareholders.

Attraction & retention

Our research tells us job security is one of the most important factors affecting employee attraction and retention in the energy industry. But for most workers, job security doesn't mean having a job they won't lose, but rather having one that will lead to a long-term career in the industry and provide financial security. And as the employment market becomes more uncertain during a downturn, that security becomes more important to employees – at a time when most employers can't offer the traditional type of job security.

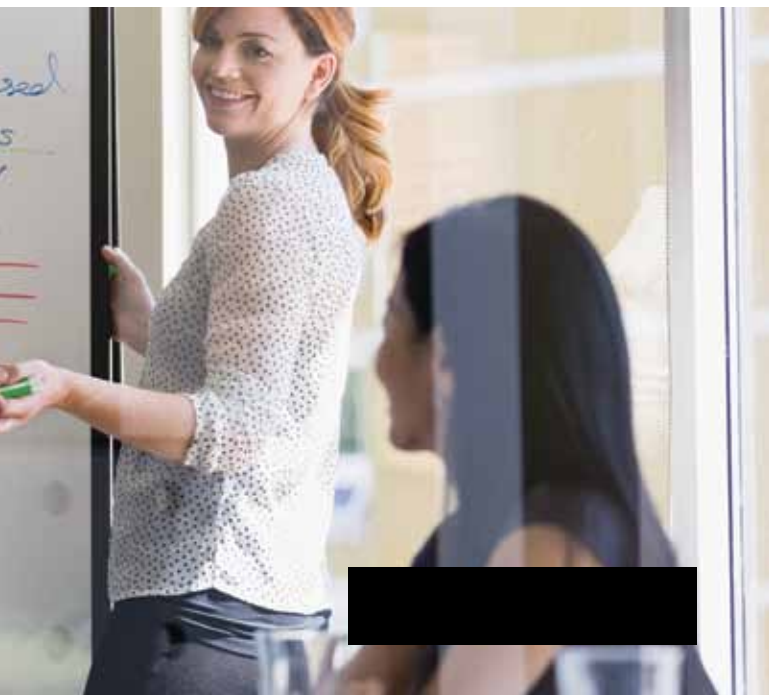
Employers in the energy industry should also consider segmenting the workforce; some are already starting to do so according to types of roles, such as critical skill and hard-to-fill roles, and diverting more funds to pay and reward people in those roles.

Engagement

It's very difficult to build or even maintain employee engagement when you're in a cost-reduction or employee-reduction phase. But during down times, companies that continually work on fostering engagement have an advantage; they can have "high engagement levels in the bank". Being in that position of strength gives the employer time to develop a strategy calmly without the immediate threat of plunging engagement. However, if the company has low engagement going into a down period, it has no credit built up with employees – just when it needs people to be really productive to bring the business up to the required level.

Training & Leadership Development

One thing companies in the energy industry need to do through a downturn is keep investing in career and leadership development. During the financial crisis, high-performing companies continued to do just that. It helped their people know that their employer took a long-term view and recognized the need to keep developing people and providing them with opportunities.



Of course, energy companies will need to make some critical decisions about scaling back in some areas, but it's important to resist cutting into the muscle of career and leadership development programs. Those types of cuts could help in the short term from a cost perspective, but cause pain for the organization in the long term.

Conclusion - opportunity lies in adversity!

While companies in the different energy industry sub-sectors react to low commodity prices differently – anywhere from dramatic cost cutting to cash optimization – an oil price of USD50 or under is now the new normal for all.

As in most other instances, opportunity lies in adversity. Rather than replicate the actions of past downturns and relive the same consequences of a disengaged, skills-depleted and bi-modal workforce, companies have the ability to act in ways that can yield a competitive advantage.

While the decisions are difficult, and made even more so by cash constraints, dexterous companies can live to fight another day - and with a workforce that propels production in a recovery while others are still reeling.

Brand

A company's reputation is very important to employees in this industry. When the market swings up, prompting a mad scramble for talent, company reputations matter a great deal. If an employer has damaged its reputation by handling downsizing clumsily, it will have a hard time attracting the right people, and its compensation costs will be high as a result.



John Pymm heads the Natural Resources sector group for Talent and Reward at Willis Towers Watson. He is a Director based in the Executive Compensation practice in London and has over 25 years consulting experience. John also has M&A and IPO experience designing executive remuneration plans and long term incentive in change situations as well as experience in all employee share arrangements.



John Rhew is the practice leader for Towers Watson's Executive Compensation consulting practice located in Houston, Texas. He has over 18 years of experience in compensation and specializes in the assessment and design of executive and director pay programs. During his career, John has worked with companies in a wide variety of industries including chemical, healthcare, manufacturing, and utilities in managing all aspects of their compensation programs.



Mark Rowe is a Senior Consultant and has been in Towers Watson's Executive Compensation Practice in London since September 2008. He has consulted with clients and managed projects on a variety of different topics, including annual and long-term incentive design, main board pay benchmarking, performance linked pay, corporate governance and ad hoc remuneration committee support.



Chris Wentland is Willis Towers Watson's Oil & Gas Client Relationship Director specialist for North America. Based in Houston, Texas, he serves key F1000 clients across all sectors of the oil & gas industry.

Mitigating cyber risk exposure

Introduction - along came a cyber ...

As energy company executives look out of their corner windows above the mayhem of depressed commodity prices, surplus production and cost cutting, they may consider that the current instability and pressure couldn't get any worse. Then they hear of a new attack on a power distribution grid in Eastern Europe and it's a case of: here we go again, more uncertainty – just in time for Christmas!

Could it happen to you? It's an important question and, sad but true, yes it could.

In fact, according to Verizon's 2014 Breach Report, it probably already is: you may be part of the almost 60% who just don't know it yet.

Organisations are wrestling with a misunderstanding and misinterpretation of cyber risk. The attack in Eastern Europe utilised a state sponsored attack tool known as BlackEnergy2 that disconnected several substations from the distribution grid, wiped the data and destroyed the IT infrastructure at the machine code level, preventing its ability to re-boot. These Original Equipment Manufacture (OEM) vendors are also supplying your own industrial control systems, so yes absolutely, it could happen to you.

Several industrial control systems vendor-issued programs used by private companies to manage internal systems – had been infected by a variant of a Trojan horse malware program called BlackEnergy.

Infected programs such as GE Cimplicity, Siemens WinCC and Advantech/Broadwin WebAccess have been used by companies responsible for portions of the country's critical infrastructure including "water, energy, property management and industrial control systems vendors" according to DHS.

DHS (Dept of Homeland Security)
Oct 29 2014

Cyber not a discrete risk!

Too often, organisations reflect upon cyber risk as a discrete risk. However, in the energy sector, cyber risk is much more about being an enabling and amplifying factor for existing categories of risk.

Attempting to treat cyber as a discrete risk can lead to a domino of decisions that are a function of specious logic. One example of this is when the Board poses the challenge: "are we covered for this cyber exposure?" Too often it stimulates a response that says: "most of the products are not fit for our purpose, they are expensive and the capacity is insufficient to trouble our retentions - we should self-insure."

However, the issue here is not the risk transfer market, but the quality of the question. It assumes that cyber is discrete when in fact it is anything but discrete; it enables, accelerates and amplifies existing risks already well understood in the portfolio. In short, it makes risks that you are accustomed to even worse.

The misunderstanding is that we want to treat cyber as a discrete category and we want to get the products to address the exposure in the portfolio - when in fact, the products were designed to provide first party cost offset to an organisation to help to recover from a successful breach, not to provide portfolio provision for the incremental exposure in the portfolio.

When viewed through this lens, most of the products make more sense. They provide for technical resources to contain and remediate a breach, as well as legal and PR resources to engage with customers and regulators and technical skills to conduct post-incident forensic investigation. They can also provide for credit monitoring of third parties who may be caught up in the attack. Also in this context, the capacity is relevant.

Could it happen to you? It's an important question and, sad but true, yes it could.

German blast furnace – lessons learned

If we reflect on the German blast furnace incident in 2015, this was a cyber-attack on a minor support system for environmental control; however, it led to one of the blast furnaces being destroyed. The catastrophic impact of a blast furnace blowing up was already well understood and embedded in the Enterprise Risk Register (ERR). However the quantification of the exposure assumed that, although it was a large impact, it was a relatively low probability occurrence leading to a quantification of X as the provision in the ERR.

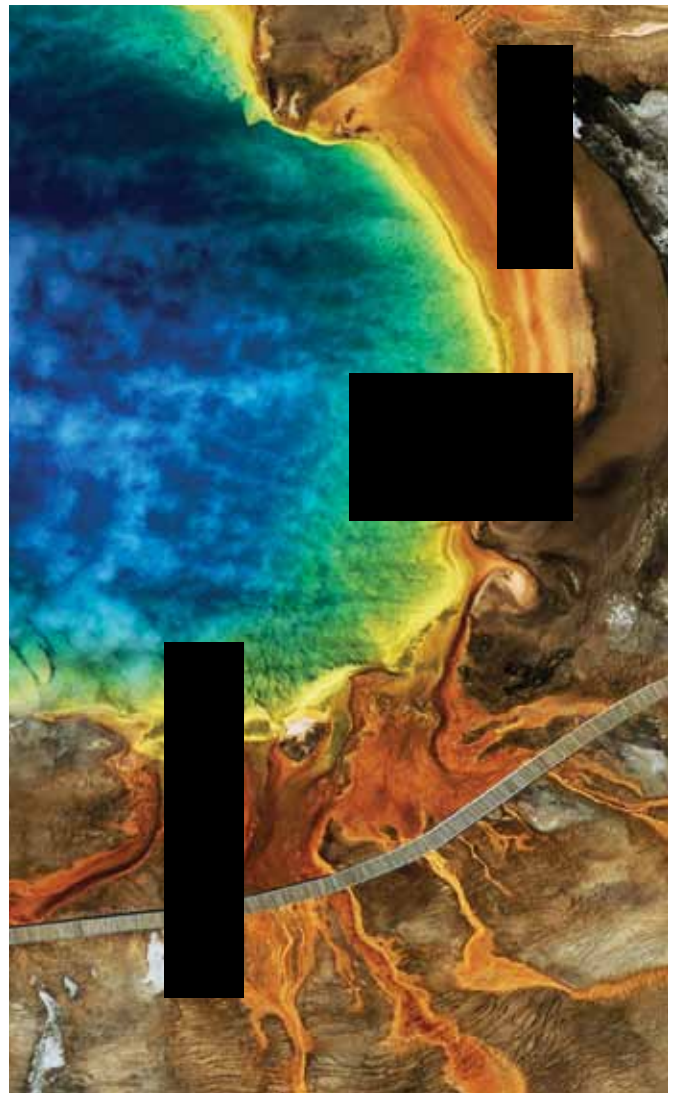
Cyber vulnerabilities make these things worse - usually by increasing the probability of an occurrence such that we can see in this instance that the exposure was probably two or three times the provision made.

Had the organisation known that their exposure was two or three times what they thought, they would almost certainly have made different decisions about the level of retained risk and the approach to funding that risk. They would almost certainly have bought larger limits on their Property cover, would have challenged the CL380 exclusion and would have reflected on their Casualty and Business Interruption exposure at the same time.

Energetic Bear and BlackEnergy: the potential implications for the energy industry

When the Energetic Bear virus was discovered in 2014, there were several hundred thousand instances found. This virus attacks industrial control systems in the energy industry and particularly focuses upon oil and gas pipelines. It is reputed to have originated within the Russian sphere of influence and specifically the Sandworm group. Examples of the virus, distributed unwittingly by ICS OEMs (See US ICS CERT Update BlackEnergy) have been found in strategic gas pipeline pressurisation and transfer stations and LNG port facilities. The combination of incidents of the virus suggesting nation state pre-positioned attack tools to disrupt national scale gas supplies.

So imagine a scenario where an oil or gas company with land-based and near-shore pipelines are exposed to both this and Black Energy in its more recent, updated version. The organisation will have made provision for



catastrophic events in the pipeline; however the probability of occurrence will have a stochastic probability attached driving the scale of provision. However, with the prevalence of Energetic Bear and BlackEnergy, the probability of occurrence of a catastrophic event is substantially higher than a pure stochastic model would suggest - just like the German blast furnace. Companies need to recognise this threat, which demands a meaningful quantification of the incremental exposures that such cyber vulnerabilities generate.

Addressing today's insurance exclusions

Of course, addressing the exclusions that prevail in the energy sector is easily said and difficult to make real. However, although the majority of products available for discrete cyber liability cover are focused on the well-understood risk of data breach, there are 4 or 5 that recognise the significant differences between the enterprise technology environment's data confidentiality focus and the industrial control system availability, together with integrity priorities of the operational technology environment.

Within this small product group are those that can write a substantial primary layer to act effectively as a buy back wrapper around an exclusion allowing the cover where the peril resides (such as Property) to be triggered. Other approaches seek to dissolve the exclusion and re-write the cover as part of the Cyber Liability policy; however, these can only be executed if the increased cyber contribution to the peril is rigorously quantified.

Our own inaction exacerbates the problem!

This misunderstanding of the nature of cyber risk is exacerbated by our own inaction. The point here is that for every other category of risk an organisation uses exhaustive and rigorous means to quantify the exposure before making informed choices about the deployment of capital to address the exposure on the balance sheet with the objective of seeking to strike the best balance of risk mitigation, retained (and funded) risk and risk transfer.

And yet for cyber we don't do that. Instead, we spend a considerable amount of money on consultants and technology and then, when all that money has been spent, the CFO still can't quantify the cyber exposure in the portfolio. That hardly seems to be a good outcome.

The suppression of information - at a time when quantification is critical

In the meantime, the Network Information Security Directive emerging from the European Union (due to be ratified in April 2016 for a phased introduction) will introduce a compliance requirement for mandatory reporting of breaches of networks not necessarily focused on personally identifiable or financially regulated data. For organisations in the top two levels of a nation's critical national infrastructure, their industrial control networks will be subject to this. Penalties for non-compliance will be draconian – EUR75 million, or 2% of global turnover whichever is the greater for the most aggravated cases. Energy companies should therefore start quantifying before E&O and D&O exposure starts to get out of hand.



How Corporate America keeps huge hacks secret

The backbone of America – banks, oil and gas suppliers, the energy grid – is under constant attack by hackers.

But the biggest cyber attacks, the ones that can blow up chemical tanks and burst dams, are kept secret by a law that shields U.S. corporations. They're kept in the dark forever.

You could live near – or work at – a major facility that has been hacked repeatedly and investigated by the federal government. But you'd never know.

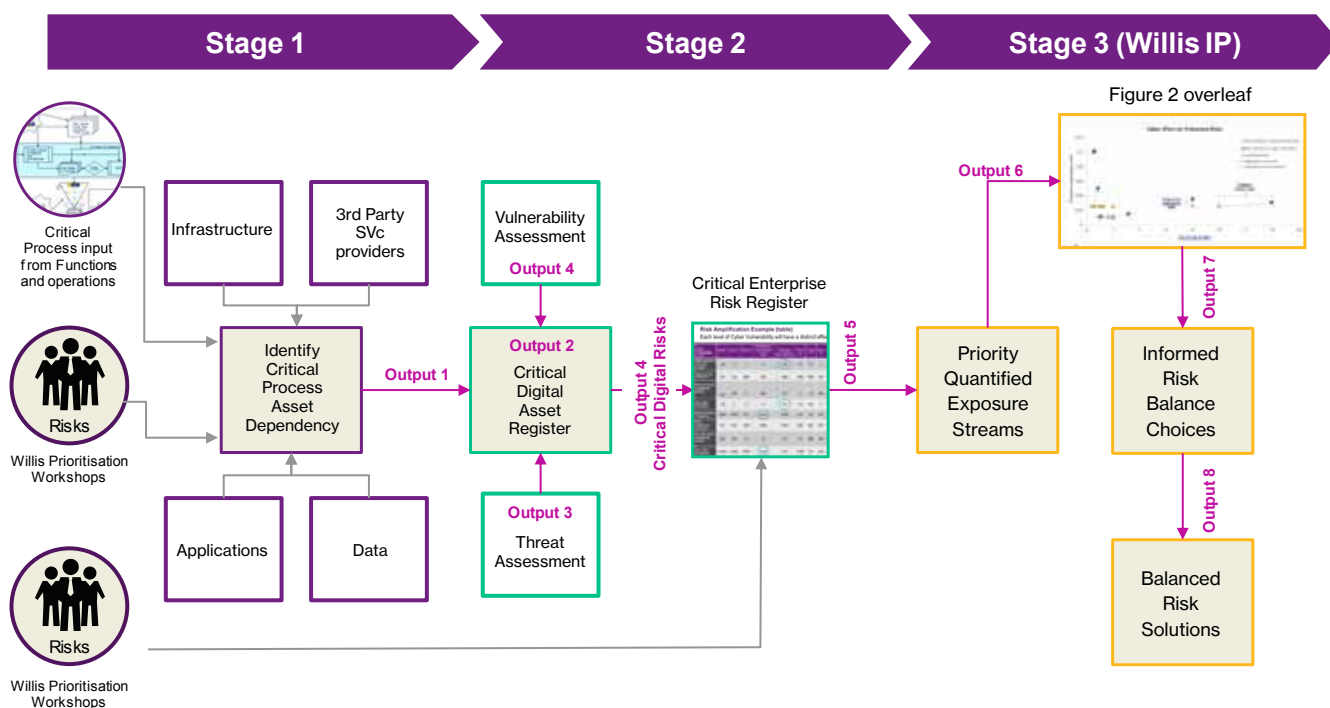
Money.cnn.com

This is important because in the US, the Department of Homeland Security (US ICS CERT) has intentionally suppressed the release into the public domain of those successful attacks on Critical National Infrastructure if they've been reported. Whilst this stimulates reporting, it does nothing for the visibility of the scale of the problem, nor of the community's ability to learn from others' misfortunes. Certainly it contributes to the boardroom challenge of accepting the scale of the threat we all face.



We spend a considerable amount of money on consultants and technology and then, when all that money has been spent, the CFO still can't quantify the cyber exposure in the portfolio. That hardly seems to be a good outcome.

Figure 1 - Willis Towers Watson Cyber Exposure Quantification in lifecycle context



Source: Willis Towers Watson

How to establish a cyber-roadmap

A good cyber-roadmap should normalise how we manage cyber risk so that it can be embraced within our existing disciplines of Enterprise Risk Management. It should also allow an organisation to take back control of its decisions in relation to capital expenditure to address incremental cyber exposure.

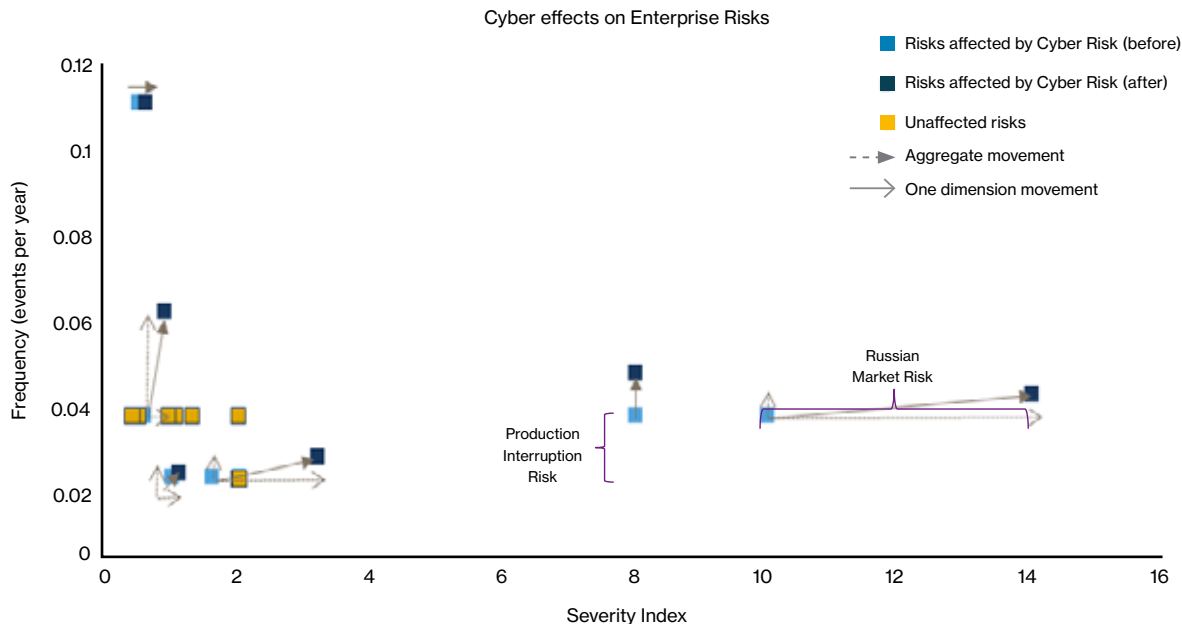
The context of such a cyber roadmap should reflect an assumed relatively high level of internal cyber defence maturity for the company in question while acknowledging that there is a likelihood of there being a delta within the company between the enterprise (data centric) cyber defence posture and that of the industrial control environment of the physical control of the plant and machinery in the facilities.

Figure 1 above identifies the lifecycle within which the cyber engagement resides. The risk intermediary's contribution is in the ability to deliver quantification of the cyber exposure as it applies to the risks already identified within the company's Enterprise Risk Management framework. This essentially answers the question - how do cyber vulnerabilities make the existing exposure worse?

The importance of the quantification is that it helps energy companies approach the decisions about addressing the exposure with the most effective deployment of capital. This allows them to address the exposure in exactly the same way as they approach these decisions in every other category of risk. Furthermore, in conducting the quantification of exposure an energy company will be able to make informed choices as to the most appropriate balance of risk mitigation, retention, funding and transfer, including reflecting on its existing covers and limits.

Figure 2 - Risk Amplification example

Quantification of cyber exposure expressed as relative movement of risk artefact



Source: Willis Towers Watson

In conducting the quantification of exposure, risk intermediaries should leverage the content from work already done within the organisation (in Stages 1 and 2 above) to understand:

- the critical business systems
- the critical systems required to enable those processes (the so called "Process-Asset Dependency Matrix")

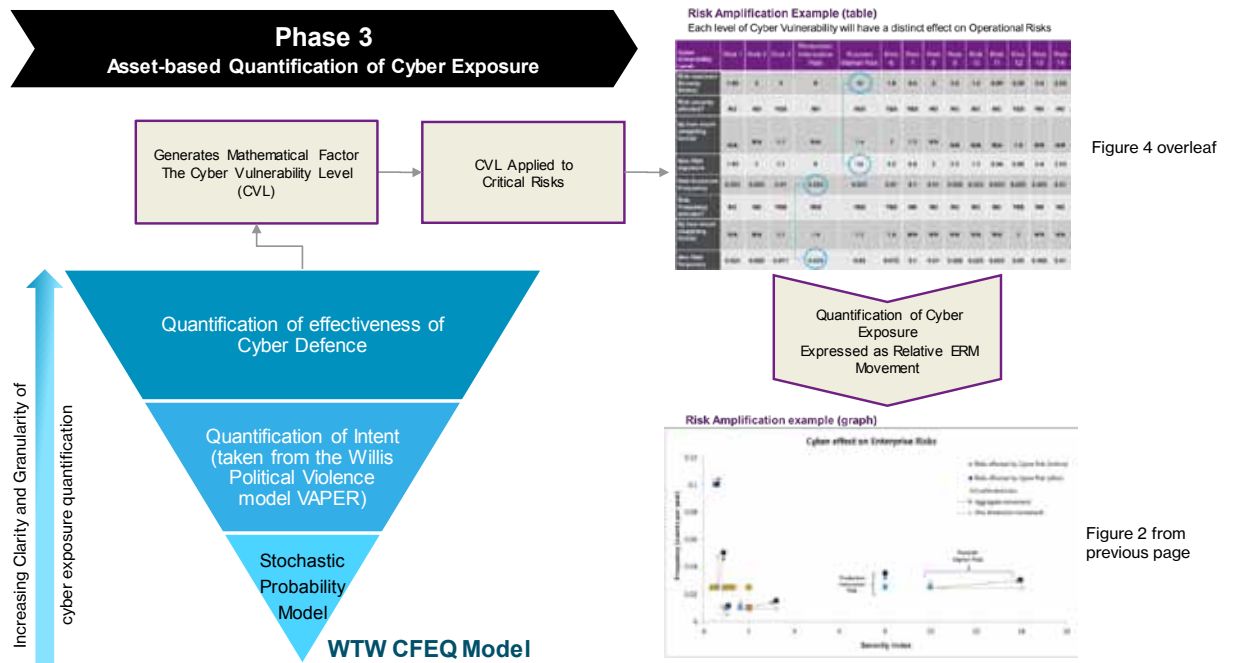
This allows the development of the critical digital asset register (Data, Applications, Infrastructure and 3rd Party service providers) against which a threat assessment is conducted, followed by a vulnerability assessment, all as per Figure 1 on the previous page.

This approach then assesses the effectiveness of an organisation's cyber defence posture by reviewing four key pillars:

- Effectiveness of definition of critical Digital Assets
- Effectiveness of assimilation of intelligence and management of the threat surface
- Effectiveness and dynamic nature of the definition of critical cyber defence controls
- Effectiveness of the definition and policing of effectiveness of outcomes derived from the critical controls

Figure 3 - Willis Towers Watson Cyber-Risk Fiduciary Exposure Quantification (CFEQ)

Quantification of cyber exposure across the portfolio



Source: Willis Towers Watson

Conclusion: effective cyber risk quantification is vital!

The assessment of the cyber defence effectiveness is the third layer of a quantification tool (outlined above in Figure 3). This approach generates a mathematical factor that is then applied to the existing quantified risk artefacts in order to generate a financially quantified view of the incremental cyber exposure. It is represented in a simple probability Vs Impact 2 axis chart.

Armed with this risk quantification model, an energy company would be able to:

- formulate decisions about the most effective use of capital relative to both individual risks and aggregated as total area under the exposure curve
- provide the opportunity to re-visit retained risk decisions in terms of scale, funding, captive and re-insurance
- understand more effectively where cyber peril resides
- provide a means to ensure that the risk in the portfolio can be addressed in the context of well understood perils
- use the discrete Cyber Liability insurance products specifically for the purpose for which they are intended and where their capacity limits are relevant as part of a portfolio approach

- include analytical broking support to assess existing covers in relation to the specifics of exposures identified – this would ensure that the existing coverage programme is leveraged for maximum effect when addressing the risk transfer solution options

Cyber risk and exposure is becoming more and more pervasive and threatens the core of our operations. Organisations have a fiduciary duty to understand and quantify their exposure and make appropriate provision for it.

However, most organisations are not including the quantification of their cyber exposure in the overall picture. This means that most organisations have unaddressed exposure on their balance sheets because of cyber vulnerabilities.

Few organisations are doing anything about it. Sad but true.



Peter Armstrong is Executive Director - Cyber at Willis Towers Watson and is based in London. Peter joined the Willis Group in 2014 to lead the development of our Global Cyber Practice. His background is largely in the Cyber Security, Security and Defence sectors where he has led consulting and services businesses. In addition to the more usual Enterprise Cyber expertise, Peter also has particular expertise in Industrial Control Systems cyber security within the Critical National Infrastructure Environment.

Figure 4 - Risk Amplification Example

Each level of Cyber Vulnerability will have a distinct effect on operational risks

Cyber Vulnerability Level	Risk 1	Risk 2	Risk 3	Production Interruption Risk	Russian Market Risk	Risk 6	Risk 7	Risk 8	Risk 9	Risk 10	Risk 11	Risk 12	Risk 13	Risk 14
Risk exposure Severity (Index)	1.05	2	1	8	10	1.6	0.5	2	0.5	1.3	0.94	0.59	0.4	2.02
Risk severity affected?	NO	NO	YES	NO	YES	YES	YES	NO	NO	NO	NO	YES	NO	NO
By how much (weighting factor)	N/A	N/A	1.1	N/A	1.4	2	1.2	N/A	N/A	N/A	N/A	1.5	N/A	N/A
New Risk exposure	1.05	2	1.1	8	14	3.2	0.6	2	0.5	1.3	0.94	0.89	0.4	2.02
Risk Exposure Frequency	0.025	0.025	0.01	0.025	0.025	0.01	0.1	0.01	0.025	0.025	0.025	0.025	0.025	0.01
Risk Frequency affected?	NO	NO	YES	YES	YES	YES	NO	NO	NO	NO	NO	YES	NO	NO
By how much (weighting factor)	N/A	N/A	1.1	1.4	1.2	1.5	N/A	N/A	N/A	N/A	N/A	2	N/A	N/A
New Risk frequency	0.025	0.025	0.011	0.035	0.03	0.015	0.1	0.01	0.025	0.025	0.025	0.05	0.025	0.01

Source: Willis Towers Watson

Security researchers say that a group of hackers has been targeting key Japanese infrastructure and commercial interests for over five years, and the attacks have mostly been completely undocumented, despite the broad range of assaults conducted.

Security researchers from Cylance, a security software provider that uses artificial intelligence and machine-learning to instantaneously identify and prevent malware and cyber-attacks, have published a new report entitled “Operation Dust Storm” with evidence that the group of attackers have been infiltrating critical Japanese infrastructure such as electric utilities, oil and gas, transportation, construction and finance companies to successfully gather sensitive data about Japan since 2010.

But that’s not all. In order to gather data on specifically Japanese resources and infrastructure, the hackers have also conducted successful cyber-attacks against companies in the US, Europe, South Korea and several South East Asian countries in order to access data about Japanese sub-divisions of larger foreign organisations.

The group uses a variety of different attacks and techniques such as unique backdoors and zero-day variants, as well as waterholes and spear phishing to breach Android mobile devices and corporate networks running on Windows. This shows that it is well-organised and clearly well-funded, so the researchers think it is likely connected to another nation or state that is keen to keep tabs on Japan.

Source: International Business Times

Most organisations have unaddressed exposure on their balance sheets because of cyber vulnerabilities. Few organisations are doing anything about it. Sad but true.

Managing regulatory risk

Energy under the regulatory spotlight – again!

Global regulators have never been so focussed on the energy sector. The Enron scandal in 2002 woke the industry up to the scale of how what seemed a small issue at first could rapidly lead to the complete downfall of one of the largest companies in the world. Fast forward to 2016 and the regulators are again scrutinising the industry closely.

Examples from the UK

In the UK, energy companies are always under severe public scrutiny. In 2015 Npower were fined a record GBP26 million for poor customer service and inaccurate billing. The Office of Gas and Electricity Markets (OFGEM) has also handed out other fines recently to Scottish Power, SSE and Engie, principally for their failure to install efficiency measures.

In February this year, British Gas were criticised for their high profits in the light of cheaper energy costs to them. The public is always seeking to look for the best deal and switching options are constantly being offered resulting in a movement of customers towards, in many cases, some of the smaller providers.

The UK Bribery Act 2010 is already impacting energy companies and their overseas operations. The Act makes it illegal to bribe private individuals and or government representatives through any connection with a UK company and/or individuals. A survey in 2012 concluded that, of the 26 cases being investigated, 20% were oil and gas companies.

Examples from the USA

The Financial Accounting Standards Board's (FASB) New Revenue Recognition Standard has forced the creation of one standard for all and therefore greater accountability for companies and their management.

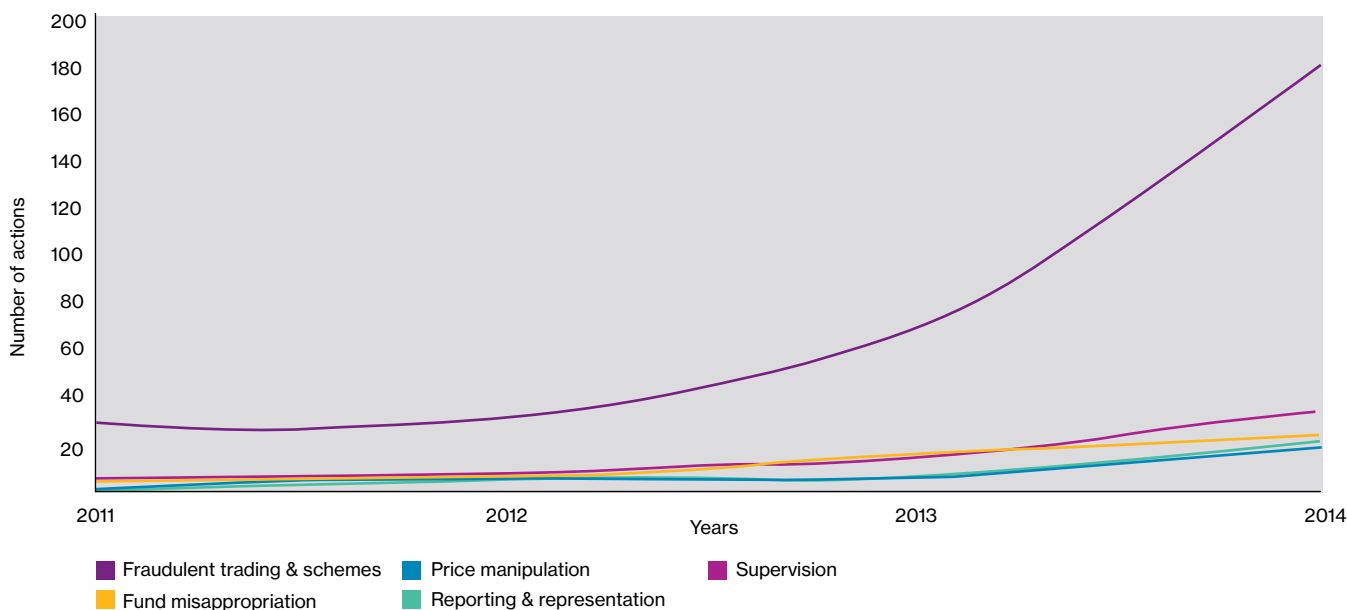
Furthermore, the US Commodity Futures Trading Commission (CFTC) is making itself known in the energy industry, along with the Federal Energy Regulatory Commission (FERC). Both are looking closely at market manipulation and hedging tactics and both regulators saw new leadership in 2015.

The Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) made the CFTC responsible for showing greater transparency in the over-the-counter derivatives market which includes energy companies that use swap trades to hedge their risk exposures.

The CFTC now oversees roughly 2,000 energy companies. In 2014, the CFTC obtained a record USD3.27 billion in monetary sanctions and filed 67 new enforcement actions. The USD3.27 billion in sanctions includes over USD1.8 billion in civil monetary penalties and over USD1.4 billion in restitution and disgorgement.

The CFTC's Division of Enforcement also opened more than 240 new investigations in FY 2014. In the financial year 2014, the CFTC also gave its first award under the Whistleblower Program, which Congress created as part of the Dodd-Frank Act. The positive news is that energy companies already know how to co-operate with the other main regulators, the Securities and Exchange Commission (SEC) and Environmental Protection Agency (EPA) so it won't be long before they work out how to tackle these relatively new agencies.

Figure 1 - Number of actions taken by the CFTC



The number of actions taken by the CFTC for fraudulent trading & schemes rose exponentially during 2013.

Source: www.CFTC.gov

Figure 1 above shows the frequency increase in US regulatory activity.

Even though this is a US regulator, its impact is felt worldwide. A well-known example is BP, still recovering from one of the largest corporate fines and punishments ever imposed and paid to local industries following the Deepwater Horizon blowout. Additionally lawsuits were filed against the company and certain Directors and Officers.

Country actions spiral out to local companies

The spiral effect of certain regulators imposing conditions on individual countries for energy efficiency will lead to more activity against local companies. In March 2015 the EU took Hungary to court for failing to fully transpose

energy efficiency rules. Hungary will now be monitoring its energy companies more closely. The EU has the power to fine companies up to 10% of their annual revenues in direct response to any of them breaking any antitrust laws.

Ongoing regulatory environment uncertainty

There is ongoing uncertainty about regulations and legislation. New leadership and direction in many areas is creating continued uncertainty about the future regulatory environment for the energy industry.

The fall in oil prices is driving a slowdown in investment with consequent pressure on boards to perform, although they cannot take their eye off the safety and governance issues where they are expected to deliver, or face the consequences.

The energy industry can no longer rely on the traditional drivers of growth such as power generation and transport markets as the world continues to drive efficiencies.

The governments of developed countries continue to limit carbon emissions. The Carbon Disclosure Project commits businesses to ask their suppliers for voluntary carbon emission disclosure. This is likely to be required in the EU under the Revised Fuel Quality Directive.

Global scrutiny with regard to pollution and greenhouse gas quotas is also significant. Energy companies are continuously being challenged to prove they are “doing the right thing” to prevent climate change, especially concerning sensitive activities such as Arctic drilling.

Directors now face severe personal financial consequences for mismanaging a company in a pollution incident.

Financial consequences will be harsh

Should an energy company fall foul of international regulators, the consequences will be harsh:

- Unless brought under control, a company's debt will increase and spiral with the slowdown in revenue.
- Investors are still looking for growth and positive change, all of which are tough given the economic environment that energy companies are currently facing due to the low oil price.
- The pressures that are therefore facing energy companies to deliver shareholder value are high, giving the potential for customers or suppliers to turn against the company in question.
- Any reduction or cut in investment will affect any ancillary industries.
- There will be a reduction in workforce, as temporary workers and contracts are cancelled or renegotiated.
- Concentrated unemployment in certain regions is driving down their economies, as is already evident in the global energy cities around the world.

Mitigation measures open to energy companies

Boards must ensure that not only do they continue to comply with all necessary regulations and governance but they must also ensure that the business runs efficiently.

Rigorous anti-bribery measures must be implemented to ensure that senior managers are aware of their obligations, such as under the UK Bribery Act 2010. Allegations from government buyers might be more likely at this time. Boards should consider creating or joining in rigorous anti-corruption initiatives along with increased levels of training.

The Economist reported on the renewable energy industry recently and identified through a poll, the following key areas where companies should concentrate in order to mitigate risk.

- Improve environmental audits
- Implement strict environmental standards
- Implement more frequent or detailed communications with policy-makers, regulators or industry bodies
- More frequent or detailed communication with media/consumers/environmental groups
- Adopting stricter monitoring of sub-contractors' environmental practices.
- Seeking redress from governments for impact of adverse policy decisions

Risk transfer solutions available

Energy companies have looked at the equity and debt markets by raising additional capital through debt or equity listings. Some have offset the increased risk of issuing a prospectus by purchasing a stand-alone ring fenced indemnity policy protecting them for claims made against them for statements made by the Company and Directors in the Prospectus (POSI).

For example, a large UK domiciled company raised in excess of EUR1 billion in a bond offering and purchased a Public Offering of Securities Insurance policy alongside to ring fence any claims made against their Directors and Officers and the company in the event of misleading or incorrect statements made in the offering document.

Keep one step ahead of the game!

With this increased regulatory environment one can see there is an immediate need for global energy companies to be one step ahead of the regulators and anticipate the problems before the regulators do.

Companies need to invest into highly sophisticated trade surveillance technology as the regulators have access to all their data so they can see signs of collusion or mismanagement. The message is clear from the regulators themselves that they actively encourage voluntary reporting of any issues and most self-reported problems result in a lower punishment or no punishment. Companies need to check their exposure and then analyse their current data collection systems to see how strong they need to be.

In addition to having the right systems, ensuring they have higher standards for maintaining accurate records is also essential. The Dodd Frank Act requires firms to do just that and also retain all records connected with a transaction.

Directors now face severe personal financial consequences for mismanaging a company in a pollution incident.

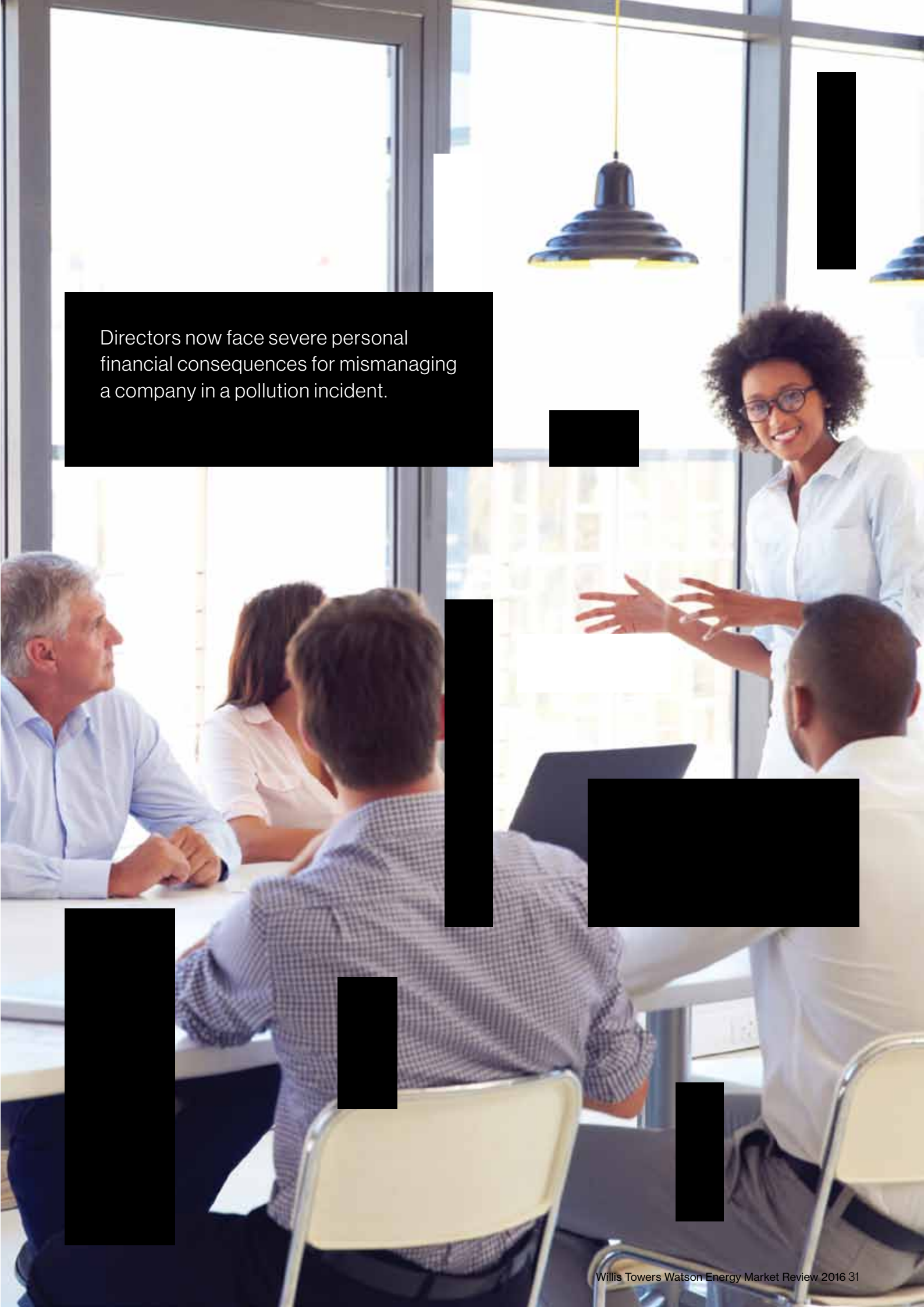


Figure 2 - DARCstar Features and Benefits

Features	Benefits
<ul style="list-style-type: none"> ▪ One insuring clause ▪ D&O cover on an 'all risks' basis ▪ Waiver of right of subrogation by insurer against policyholder and subsidiary in all circumstances ▪ Nil deductibles ▪ Clear triggers for investigation costs cover across a broad spectrum of external and internal investigations and enquiries ▪ Simple and transparent claims handling provisions ▪ A policy that is easy to understand 	<ul style="list-style-type: none"> ▪ Instead of the conventional twin insuring clause approach, with indemnification being the barrier between the two, there is a single insuring clause providing direct access for the directors to insurers ▪ Rather than an insured perils/affirmative cover approach, the assumption is that the risk is covered unless excluded ▪ A guarantee from the insurers that they will not seek recovery from the policyholder for indemnifiable loss ▪ No compulsory deductibles or retentions other than with respect to securities claims ▪ Legal costs protection uniquely tailored to the needs of directors and officers ▪ Greater certainty for directors in the coverage and claims handling process ▪ Clear, simple and concise terms

One example of the insurance industry providing a solution to the Energy industry has been the Willis Towers Watson bespoke DARCstar D&O Insurance product. This allows for quick access to protection for Directors in the event of an informal or formal investigation or claim against them.

We have worked closely with several oilfield service providers to provide them with this product so they have had an insurance solution that will protect their Directors when faced with the many different situations in which they may be asked to defend themselves in this economic environment. The product is deliberately broad and not specific, so that the Director has access to legal defence at an earlier stage than normal traditional products.

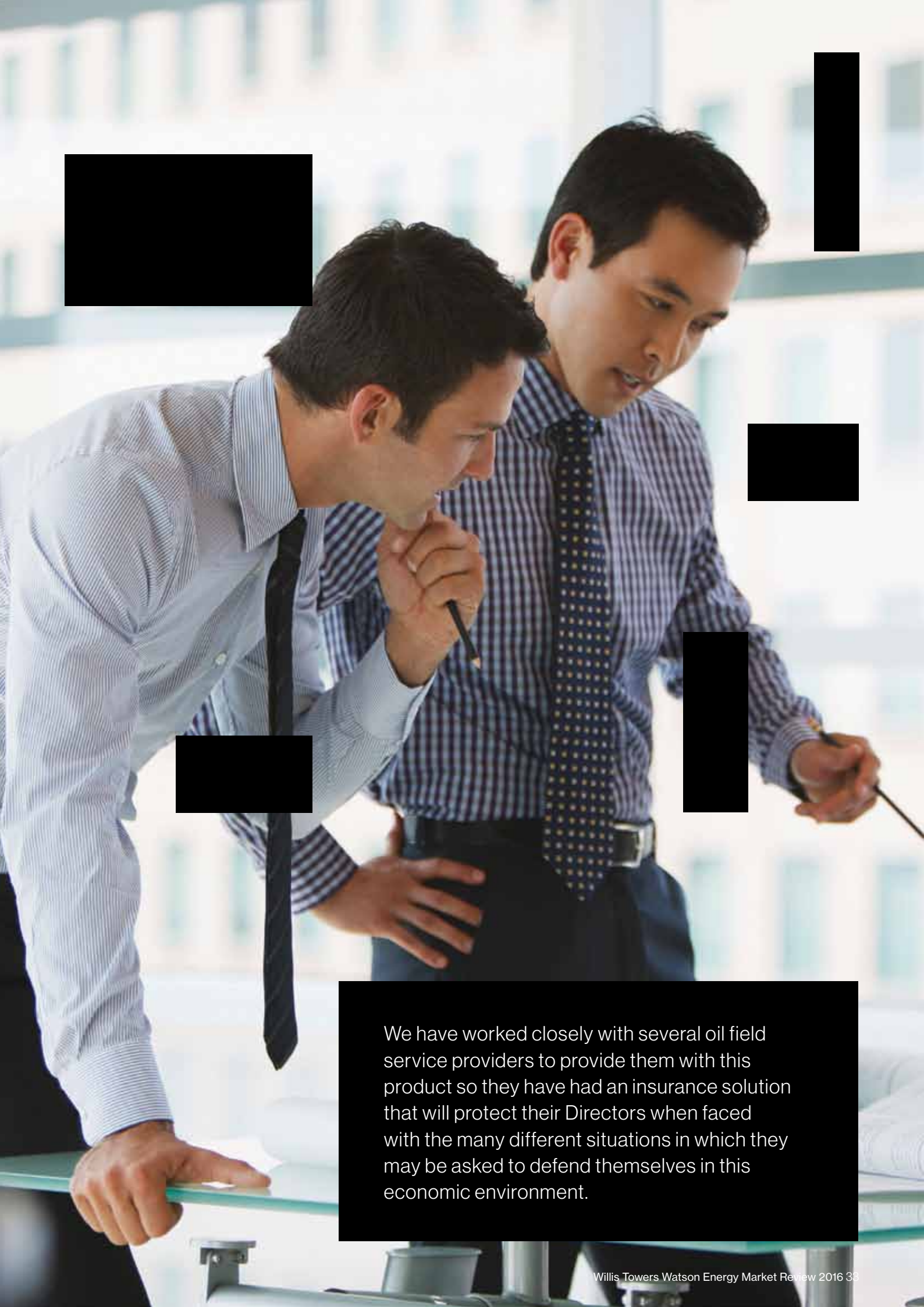
The coverage element that is of particular interest is the instant access to the policy when faced with an informal investigation prior to any external authorities formally beginning proceedings against Directors. An additional feature which buyers can also benefit from is the simple short format with clear and concise claims handling coverage.



Leslie Wright specialises in Directors' and Officers' Liability, Pension Trustee Liability, Crime and other related financial lines for UK and international companies in all sectors, including some of Willis Towers Watson's major Financial Institutions. He is well-known to the financial lines markets and is acknowledged as a D&O market expert, having put together many complex and large financial programmes.



Edward House specialises in broking International Directors & Officers, EPL and PTL accounts into the worldwide D&O Market. He joined Willis in 2005 following 2 years at Heath Lambert. Edward's current role at Willis Towers Watson is to promote development of international business into the London market, concentrating on Europe, the CIS and Commonwealth countries.



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Navigating the geo-political landscape

Why is the geopolitical outlook less stable for energy companies?

Recent years have seen substantial geopolitical shifts around the globe that have, in many cases, directly amplified threats and uncertainties for energy companies. Two of these drivers of change are themselves rooted in the conditions of the sector and the distribution of energy, namely the slump in energy prices and energy poverty in much of the developing world.

Indeed, geopolitical threats feature prominently in the list of what the World Energy Council's World Energy Issues Monitor describes as "issues that keep energy leaders awake at night". Reflected in these concerns are the trajectories and demands of Chinese and Indian growth and the implications of this shift in the centre of global demand - and consequently, global governance.

Russia

To the north, **Russia** has been heavily involved in conflicts in the Ukraine and the Middle East. Furthermore, its continued significance in the natural gas sector (particularly for Europe) continues to be harnessed to its current foreign policy.

Middle East

The direct threats to the energy industry that emerge from geopolitics are perhaps most evident within the political turmoil of the Middle East and North Africa:

- **Libya's** oil industry faces daily the threat of attack by Islamic Militants from land and sea in the absence of coherent governance and internal security. Libya is said to have lost \$60 billion in production and exports as a result of disruptions at oil ports and fields over the last three years.
- **Iraq's** economic downturn may challenge Prime Minister Haider al Abadi's position in favour of Shia hardliners, thus weakening the precarious union between Sunnis, Shia and Kurds, the failure of which could threaten the existence of Iraq in the face of aggression from the Islamic State Group.

- **Bahrain and Oman** face the urgent requirement for economic reform, specifically to reduce spending and subsidies – measures that have the potential to fuel social protests that can become violent in Bahrain where a Shia majority contests the legitimacy of the Sunni monarchy.
- In Shia **Iran**, thought by IHS to be capable of adding 500,000 BPD to the markets once they start exporting, a slow post-sanctions recovery may affect the popularity of President Hassan Rohani from whom a post-nuclear dividend is expected.
- In **Yemen** (where Shia Houthi Rebels at odds with the government are at war with a Saudi-led coalition and where Al Qaeda and Islamic State Group compete in the terrorist stakes) oil production is now at a record low of around 27 BBL/D/1K having averaged 324.11 BBL/D/1K from 1994 until 2015.

The fragility of the region extends into geo-politics through the complex regional and international alignments over the war in Syria, **Iraq's** persistent factional schisms and violence, and the Sunni/Shia tensions centred on the rivalry between **Iran** and **Saudi Arabia**.

The threat of terrorism is a cause of concern as a driver of uncertainty with considerable impact. Oil and gas terminals can represent iconic targets, the destruction of which rapidly concentrates the attention of the world's media. For example, in November 2014 Al-Qaeda's central leadership openly declared their intention to attack energy infrastructure such as key pipelines, production facilities and oil tankers in several marine chokepoints. Attacks on pipelines can increase the feeling of vulnerability in the population, especially if the impact has a direct economic effect or impedes power supplies to a fragile economy and its households.

Latin America

In Latin America, it is **Brazil** and its ability to deliver the reforms required to become a leader for energy integration that raises doubts. On the other hand, **Venezuela** - on its political precipice - must be near the top of the list of countries so reliant on their oil exports to subsidise the electorate that the slump in oil prices, along with spiralling inflation, will see increasing social unrest and challenges to the incumbent Maduro government.

Africa

In Africa, inevitable fuel subsidy cuts in **Angola** will stoke already present grievances over inequality and living costs; **Nigeria** will have to increase external borrowing due to a reduction in GDP. **Algeria** may be forced to raise domestic oil prices in order to meet its defence and public spending budget. Furthermore, **central African states** will likely tighten their control of the oil sector and raise the tax burden for extractives.

United States trade a key driver

The position of the **United States** in terms of trade and policy will continue to influence global energy markets particularly through its choices over gas, coal and oil. The question of EU Cohesion (to be tested to some degree by the UK's up-coming referendum on Europe) and energy policy convergence, as well as Europe's problematic exposure to the political whims of Russia over gas supplies, feature as potential areas of concern to energy leaders.

Oil slump effect

The highest geo-political waves are likely to be caused by the slump in oil prices themselves. According to Oxford Analytica, the political ripple effects will be pronounced; in the run-up to the September parliamentary elections, uncertainty in **Russia and the CIS** will be elevated by falling living standards as energy revenues are slashed. In **North America**, environmental groups citing low oil profits over environmental risk may gain traction in the delay or blocking of pipeline projects.

Energy Poverty

Finally, and seemingly not on the minds of energy industry leaders, is 'Energy Poverty'. According to the World Economic Forum, energy poverty, affecting half of the world's population, is the real energy crisis where "a lack of access to modern, reliable and affordable energy services hinders the aspirations of billions of people, and cripples economies. It, and not the recent drops in crude prices, the stability of OPEC nor the financial viability of traditional utility companies, is the real energy crisis".

What are the key geo-politically driven security risks to energy companies?

Against this backdrop of falling prices and (in many states) energy poverty, oil and gas companies will continue to actively search for new opportunities. However, many investment opportunities sit within environments that are socially, politically and economically fragile, leading to disruption including:

- civil protest and disorder
- insurgency
- terrorism
- cyber-attacks
- kidnap

Political uncertainty and insecurity are typically linked to poor socio-economic conditions that may ferment disaffection and opposition to government and the potential for conflict; in places where sect or ethnicity divides the population, these fractures may open further.

As petrochemical companies operate with the approval of (or in some cases in direct partnership with) governments, their associated infrastructure, logistics and personnel frequently represent an attractive, high profile and totemic target for opposition movements, terrorists and criminals.



Case study 1 - Colombia

Colombia's energy sector remains a considerable part of its economy and a key area for growth. However, production continues to be hampered by a lack of security in remote areas, prompting a series of disruptive military operations. Where violence has been normalised, persistent conflict has left large swathes of rural Colombia economically isolated; poverty rates in many rural departments (such as Cauca) are directly linked to the activities of guerrillas. oil and gas companies' infrastructure and staff has long presented an attractive target for common criminals, the Revolutionary Armed Forces of Colombia (FARC) and the National Liberation Army (ELN), who are particularly active in southern and eastern rural Colombia where much of the oil reserves are located.

While there were 118 rebel attacks on oil pipelines in Colombia from January to September 2014 (down almost 34 from 178 attacks in the same nine-month period in 2013) these attacks were more disruptive than in the past. By focusing their efforts on softer targets (such as pipelines) with asymmetric attacks and using improvised devices, it is estimated that terror attacks have cost Colombia's oil industry more than USD500 million in losses in the first half of 2014 alone. In a series of particularly devastating attacks, Colombia's second largest pipeline, the Caño Limon, was shut for two months in 2014.

The first months of 2015 saw a reduction in militant activity against energy infrastructure in Colombia, as FARC observed a unilateral ceasefire and held peace talks with the government. However, as peace talks stalled, the Marxist group stepped up their attacks, resulting in a spike of assaults on pipelines and oil tanker trucks.

Since then, attacks have again reduced as peace talks have taken a positive course and it is widely reported that a deal would be agreed in March 2016. On the upside, in regard to security, the Colombian Petroleum Association revealed that in 2015 there was a 60% decrease in attacks - a total of 90 overall - which prevented the production of three million barrels during this time. While the ELN are still active, there are also hopes that they will similarly be drawn into productive talks with the government, which could further ease security concerns.

Case study 2 – Angola and West Africa

The Republic of **Angola** is the second largest oil producer in Africa and is of course threatened by the drop in oil prices. Here, oil production rapidly accelerated between 2002 and 2008 as multiple deep-water projects became operational - in 2014, Angola produced 1.75 million barrels per day of petroleum and other liquids; oil accounts for over 90% of export revenues and 80% of GDP. Angola is expected to increase oil production and capacity with more than 10 offshore and/or deep-water oil projects set to become operational within the next five years and foreign investment continues to flow into the sector bringing with it a number of security challenges.

Angola now boasts the third-largest economy in sub-Saharan Africa; however, more than 30% of the population live below the poverty line. Wealth disparity and high unemployment remain the key drivers behind the country's high crime rates. Foreign nationals working or travelling in Angola are regularly targeted by criminal gangs and opportunist thieves, particularly along key interior transport routes and the north eastern border territories.

The current administration is facing a groundswell of grass roots anti government sentiment, shown by increasingly large and vocal opposition protests in the capital since 2011. Common grievances focus on corruption amongst business and government elites, growing levels of social inequality and the failure of the government to combat widespread poverty despite immense oil wealth revenues. Given the high levels of dissatisfaction and impending economic restrictions and rising prices, oil and gas enterprises themselves may feasibly become a focal point for increasing protest and potential violence.

Security challenges offshore and in ports are an equally salient threat to the industry as a whole. Driven by lucrative returns, fuel insecurity, corruption and chronic instability, piracy is worsening in the seas off West Africa. Offshore fuel theft, a relatively new phenomenon, is increasingly frequent with tankers targeted along an expanding extended coastal area, including off the coasts of **Angola, Cameroon, the Democratic Republic of the Congo, São Tomé & Príncipe and Liberia**. Fuel theft can be extremely profitable, as evidenced by an attack in January 2014 which saw USD8 million worth of fuel syphoned from a Liberian-flagged ship off Angola.

What risk mitigation measures are now available?

The risks to the oil and gas industry, particularly in frontier and emerging markets, are many, diverse and ever-shifting. In managing them, a proactive approach to the analysis of context, the risks and opportunities that it harbours and the mitigating measures it demands sits at the core of any resilient enterprise.

How best can such risks be identified, understood and mitigated within the framework of supply chain risk management?

Gaining an insight into risk exposures, knowledge of the regional and local context and the threats and opportunities it presents adds tremendous value. Companies cannot understand and prepare for economic risks unless they understand the politics and the associated security threats. Complex risk cannot be understood without taking into account stakeholders in and the dynamics of both the power and economic equations and the way in which these shape the threat landscape.

The effective integration of political and security risk management in regard to the energy supply chain may often require change management to bring about a culture of proactive threat analysis that directly informs both mitigating measures and the array of opportunities that come with deeper contextual understanding. There are three recommended stages to the management of political and security risks of energy companies, their installations and supply chains.

Stage 1 - understanding the context

The identification of threats to people and assets throughout the supply chain may be achieved through the geographical mapping of the chain from the furthest upstream to refinery and thence downstream to the point of release. This will incorporate air, sea and land links in a Strategic Asset Register that includes key intellectual and technical inputs from out of area if their loss could potentially disrupt the chain.

Whilst acknowledging state-specific threats such as areas of conflict or a vacuum in rule of law, it is important that regional and thematic threats that transcend boundaries are recognized and assessed. An example of this is the emerging and virulent terrorist threat to installations and foreigners from Islamist terrorism which is proliferating globally. A comprehensive analysis around strategic assets might include an 'actor mapping' and 'conflict analyses' of players in the political economy whose decision making

shapes the business and security environment. These are likely to include the political and military elites as well as local business leaders and single issue activists, all of whose decisions and actions may cause friction.

The aim here is to build scenarios that describe the roots and evolution of political, economic and/or security crises which may extend threats. For example, do locals in Mozambique currently expect a dividend from the upstream activity currently underway? How are local leaders seeking to gain political capital and financial reward from these investments? Which old conflicts have been rejuvenated and which assurances to the local population have companies failed to deliver?

Based on these insights what threats or opportunities might develop from this, in what way and how does this affect the local political and security situation? Such techniques lead to an understanding of the political and security landscape from which can be identified the threats to which the company may be or become vulnerable.

Once scenarios are developed, the modelling of consequent disruption and its effects can take place. Such modelling might include the physical effects of blast, in the case of terrorism or the effects of lengthy interruptions due to blockade in case of political unrest.

In order to exploit these understandings and the crucial regular reviews, a mainstreaming of this approach to risk management may demand localised and corporate shifts in the skills and approaches of senior management. Here, contacts and dialogue are made and maintained with a multiplicity of actors and sources in order to identify causal factors, patterns and possible scenarios. As the threat landscape is evaluated and changes, so must the modelling and measures of mitigation which are best constructed upon and integrated with threat analysis and scenario building throughout the chain. This should be factored in as a quantitative or qualitative component of the larger risk calculation and considered as a key feature of board-level decision making.

Stage 2 - mitigation

After identifying threats, vulnerabilities to them and the scenarios in which they may play out, it is then possible to model effects and begin planning, either to deflect them or deal with them when they occur.

Figure 1 - The geo-political risk management process



Source: Willis Towers Watson

It is important that:

- every scenario and model developed results in the production of understandable and practical mitigating measures.
- the decision making for each component of the chain and collateral affects (both upstream and downstream) lies with an assigned person of executive authority answerable to the board.

The options for mitigation are as varied as the threats they confront, but the key is to be realistic and imaginative in their planning – for example not assuming that air corridors or ports will remain open in times of crisis, nor allowing poorly-monitored CSR schemes to be ‘captured’ by local elites for their own benefit.

The scope of threats may be broad, and for this reason consultants may be commissioned to assist in analysis and planning. Typical areas of activity driven by continuous situational analysis may involve planning for medical emergencies, planning for political and natural disasters including evacuation, physical security at installations and a terrorist threat assessment of upstream and strategic installations. Other measures may include business diplomacy, lobbying, community liaison and the building of a dynamic network of local and regional influence and insight.

Prior to moving towards risk transfer measures, scenario-based crisis management training, including that of family support and strategic communications, should be included in this portfolio.

Stage 3 - risk transfer

A thorough understanding of the social, political, economic and consequent security environment will allow a certain amount of risk mitigation through management and process change. However, in current volatile circumstances, and further to the traditional lines of insurance, political risk insurance and insurances such as evacuation, high-risk Accident and Health and Kidnap for Ransom policies are vital components in assuring investors and boards that the duty of care for both people and assets has been addressed.

Conclusion – a board-embedded risk management strategy is essential!

A board-embedded risk mitigation strategy that places emphasis on the identification of key geo-political, domestic political and security risks, as it does the key threat and value drivers, is crucial for energy companies in the foreseeable future. The integration of these with practical mitigating measures, along with pertinent risk transfer solutions into the decision making process and Enterprise Risk Management architecture, will help ensure the resilience and growth prospects of any energy company prepared to implement such a strategy.



Tim Holt is head of “Inform” at Alert 24, Willis Towers Watson’s Special Contingency Risks crisis management consultancy. Prior to joining Willis, Tim spent his career as an Army Officer, International Red Cross Delegate, in behind the scenes diplomacy and as a conflict and risk management adviser for the British Government overseas. He has worked globally for corporations, the British Government, and the UN as a risk management adviser and responder, encouraging intelligence-driven risk management.

Meeting the environmental threat

Changes in environmental risk landscape

For energy companies operating across the globe there is a myriad of legislation affecting operations. Much of this legislation includes Environmental Law that imposes strict liability for clean-up and third party damage arising from all operational phases. There are over 16,000 different environmental laws around the world, creating huge potential for change of law exposures occurring during long term contracts.

Increasing public awareness of environmental issues has massively increased the scrutiny operators are under. Often this awareness can reach fever pitch and, in the case of UK Shale Gas market, has actually delayed developments of new opportunities in the onshore licensed areas.

The Deepwater Horizon/Macondo loss in the Gulf of Mexico has also very publically pushed the impact of pollution incidents to the top of all boardroom agendas since 2010.

Case Study: European Union

In the European Union the EU Liability Directive has created a number of additional exposures for operators that are commonly excluded from other insurances:

The Directive 2004/35/EC of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage (ELD) establishes a framework based on the “Polluter Pays” principle to prevent and remedy environmental damage. The Polluter Pays-principle is set out in the Treaty on the Functioning of the European Union (Article 191(2) TFEU). As the ELD deals with the “pure ecological damage”, it is based on the powers and duties of public authorities (“administrative approach”) as distinct from a civil liability system for “traditional damage” (damage to property, economic loss, personal injury).

The Directive defines “environmental damage” as damage to protected species and natural habitats, damage to water and damage to soil:

- Operators carrying out dangerous activities listed in Annex III of the Directive fall under strict liability (there is no need to prove fault).
- Operators carrying out other occupational activities than those listed in Annex III are liable for fault-based damage to protected species or natural habitats.

The establishment of a causal link between the activity and the damage is always required. Affected natural or legal persons and environmental NGOs have the right to request the competent authority to take remedial action if they deem it necessary.

The ELD was amended three times through:

- **Directive 2006/21/EC** on the management of waste from extractive industries
- **Directive 2009/31/EC** on the geological storage of carbon dioxide and amending several directives
- **Directive 2013/30/EU** on safety of offshore oil and gas operations and amending Directive 2004/35/EC

The amendments broadened the scope of strict liability by adding the “management of extractive waste” and the “operation of storage sites pursuant to Directive 2009/31/EC” to the list of dangerous occupational activities in Annex III of the ELD. The Offshore Safety Directive, containing an amendment to the ELD (extension of the scope of damage to marine waters), was adopted in June 2013.

Result: reduced certainty

The ELD has reduced certainty for operators in the energy sector by creating a significant exposure over and above the pure clean-up cost. What must be remembered is the potential for compensatory remediation and “alternative habitat creation” can be directly linked to a corporate’s size and market capitalisation – rather than the cost of cleaning up the original pollution incident. In simple terms a “clean up bill” of, say, USD100,000 over a 2 month period could result in a Natural Resource Damage remediation requirement 20 times greater in terms of both cost and time.

Further introductions of Pure Financial Loss clauses to contracts have increased contractual exposures for many contractors operating on a global basis. This means that many contractors are effectively indemnifying the principal for environmental risks that are often uninsured (gradual pollution/first party clean up and liability arising from pre-existing conditions).

Balance sheet consequences

The tumbling price of oil on the global markets is obviously affecting operators and contractors across the energy sector. But how is the downward pressure of prices affecting what is happening on the ground (and indeed beneath the sea) around the world?

In conversation with many of our clients it is evident that the negative oil price movement has reduced balance sheet reserves and cash at hand because fewer contracts are being let for exploration, drilling, product recovery and production. This economic downturn is apparent across the globe.

But isn’t everyone in everyone in the same boat? Well yes, to a degree, there is a general downturn across the onshore and offshore operational areas. But what is interesting is the fact that the recent drop in WTI and Brent Crude prices has had a multiple effects, namely:

1. The price drop per barrel has caused many “marginal” fields to be mothballed and/or plugged and abandoned, increasing legacy liability for many principals whilst revenue drops.
2. Abandoning old infrastructure or extending the operational phase of existing infrastructure (Christmas trees, collection pipelines) increases the potential for loss of containment.
3. With contracting activities being switched from “new installations” to “decommissioning”, the resultant increase in risk of pollution is directly inverse to the revenue.

So, in effect we have a perfect storm of latent liability being increased by more “dirty” decommissioning activities of older infrastructure whilst less cash goes on the balance sheet or into captives.

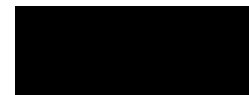
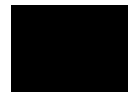
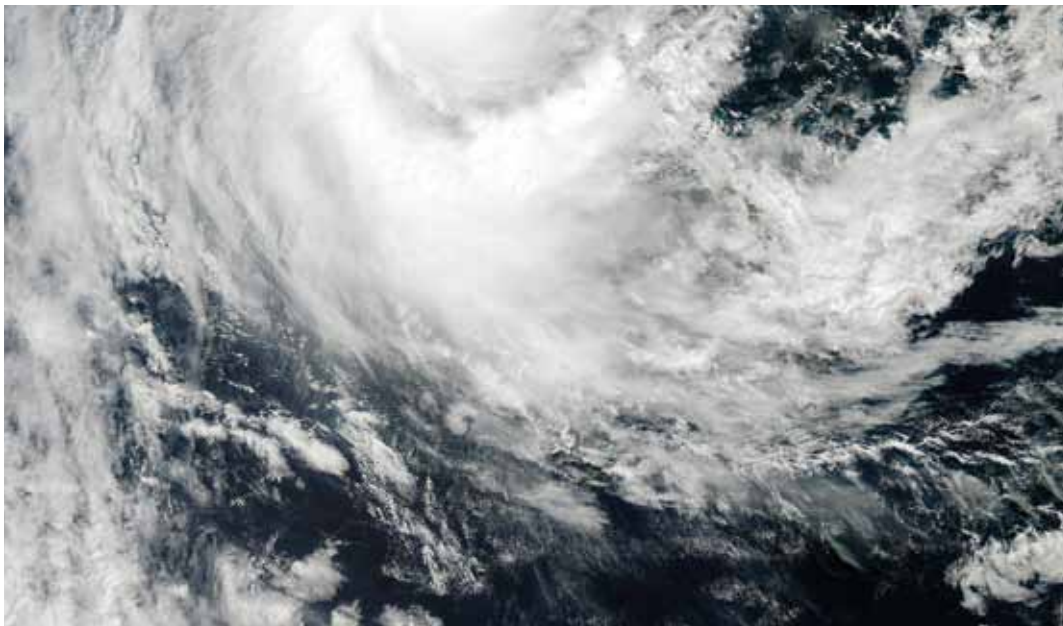
Available risk transfer solutions

The London Insurance market (in conjunction with Willis Towers Watson) has recently designed some novel and unique risk transfer policies that address many of the issues mentioned previously. This market is at the vanguard of designing bespoke policies for the energy industry across the globe in the following areas:

- **Contractors Pollution Liability policies**, for wet and dry operations across the globe
- **Pure Financial Loss policies**, to cover Third Party Financial losses following a pollution Incident
- **Environmental Impairment Policies**, that sit alongside General Liability policies and “fill the gaps” left by the common exclusions of gradual defect and pre-existing conditions
- **Insurance for Contractual Warranty and Indemnity provisions**, something that is commonly excluded by other standard policies
- **Site based insurance** for storage and refinery operations

The Channel Syndicate and Willis Towers Watson recently put together a unique Environmental Insurance (with pure financial loss extension) program for an offshore contractor and a national combined oil and gas provider. The production of a unique environmental risk transfer product is a big step forward for the Environmental Impairment Liability (EIL) market as no market has ever offered cover for pure financial loss, let alone for the offshore oil & gas sector. Coverage includes:

- Cover for all business activities and licenced areas – onshore and offshore
- Downhole equipment and plugged & abandoned wells
- Pre-existing conditions
- New conditions (gradual)



The policy designed to fill the gaps excluded by Operators Extra Expense and Third Party Liability policies.

The financial loss cover addresses two forms of claim:

- those from third parties who have incurred a **loss of earnings** as a result of them being unable to, say, fish the waters because pollution has damaged the sea and killed the fish
- those from parties who actually use the natural resources for **subsistence purposes**. This is unique coverage.

Interestingly, we've seen two recent enquiries from companies who are complaining that the oil majors are passing more and more environmental risk down on to them via onerous contractual indemnity and warranty, and the contractors are looking to transfer this risk as revenues are reduced and capital reserves are under increasing pressure.

One of the major limitations to the provision of large scale insurance for the energy industry is capacity, while the market could easily put together USD350 million of capacity for a project, the size of the numbers involved in potential EIL claims simply dwarf this sizeable figure. Many claims in recent years have exceeded USD1.3billion when clean up and subsequent pure financial loss is taken into account.

So where does the market provide benefit? The benefit is for all those claims and issues that are currently either uninsured or are being funded out of profit (declining) and loss accounts in the future. For prospecting and contracting companies EIL Insurance can be an essential part of the risk management process to transfer contractual risk and protect revenues – essential during this global energy crisis of price.

For any company with captive and/or balance sheet reserves the insurance community can, and does, provide meaningful insurance and reinsurance of these complicated (and potentially long tail) liabilities.

Conclusion

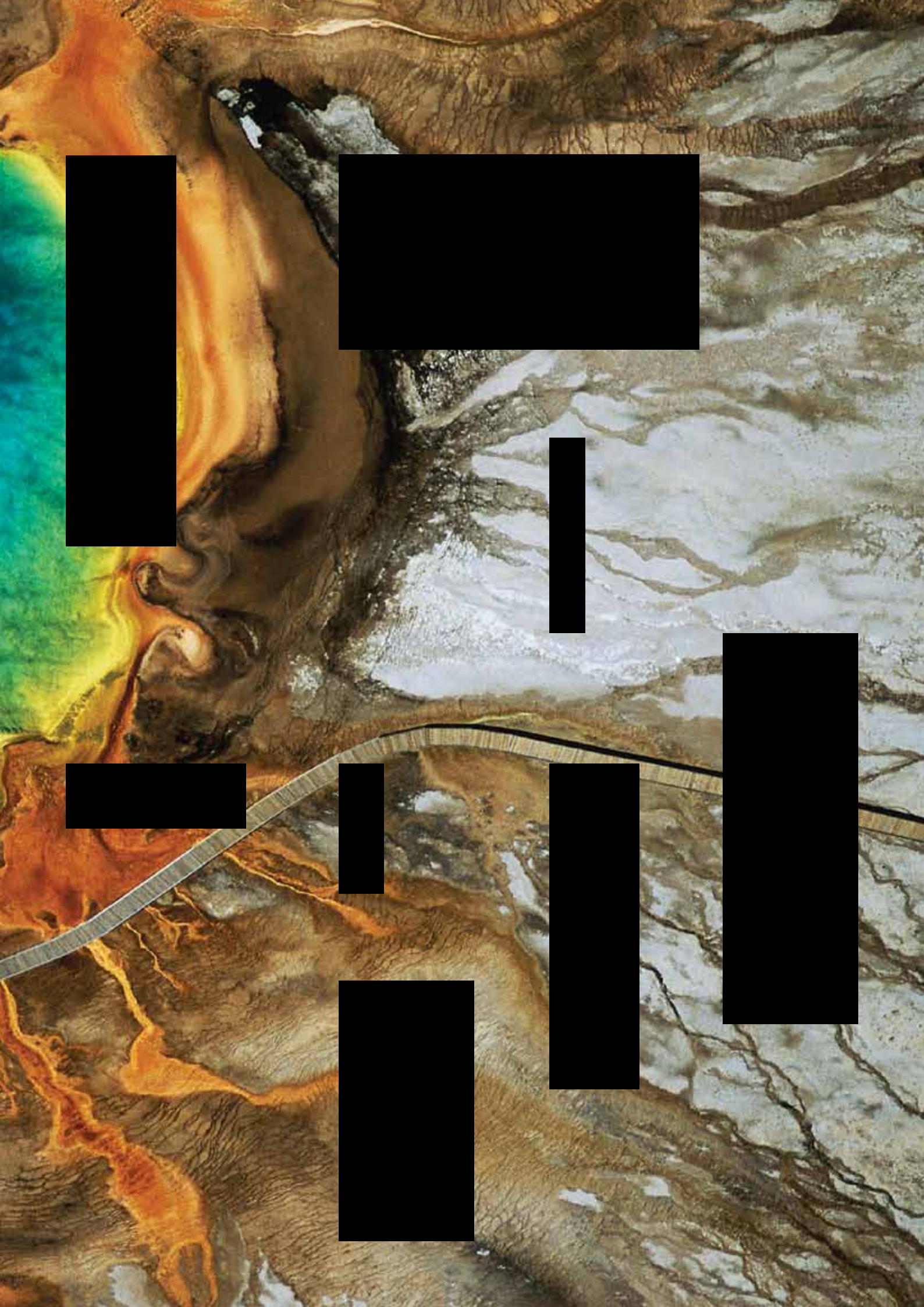
Insurance is only part of the risk management toolkit for all companies involved in the energy industry. Advanced engineering, operating at the outer extremes of the globe and increasingly strict regulation dictates that the management of environmental risk is part of daily operations. Integration of specialist insurance products into the conventional risk transfer suite can only add to insulate business during these uncertain times.



James Alexander is Environmental Practice Leader for Willis Towers Watson responsible for developing the practice in London and providing service to our clients outside of North America and Canada.

An aerial photograph of a river delta, showing a complex network of channels and distributaries. The water is a deep blue, transitioning to green and yellow as it approaches the land. The land is a mix of brown, tan, and white, indicating different soil types and possibly some snow or ice. A large black rectangular box is centered on the image, containing white text. Several other smaller black rectangular boxes are scattered across the image, obscuring parts of the landscape.

Part two Insurance market updates



Upstream

Introduction

In last year's Willis Natural Resources Market Review, we led with an article likening today's Energy underwriters to the Antarctic explorers of old, facing the most serious of challenges not only to come first in the race to the South Pole but also to survive at all. One year on, we can report that very little, if anything has changed. The same competitive pressures that we outlined in our leading article last year have, if anything worsened during the last 12 months. This market is now facing the challenge of survival in an environment where:

- A significant percentage of the premium income pool has evaporated during the last 12 months alone
- capacity continues to increase
- low oil prices continue to not only destroy potential premium income but also pressurise risk management budgets across the industry
- significant losses, some of which are not recoverable from reinsurance treaties, continue to mount

For the moment at least, the market remains intact. There have been no withdrawals of any significance, and to date the portfolio continues to make money, although for many it is marginal. But the factors that we have listed are long term issues, and some would say that it is only a matter of time before the loss record engulfs what little premium

income remains, with significant consequences for today's market.

A slow motion car crash?

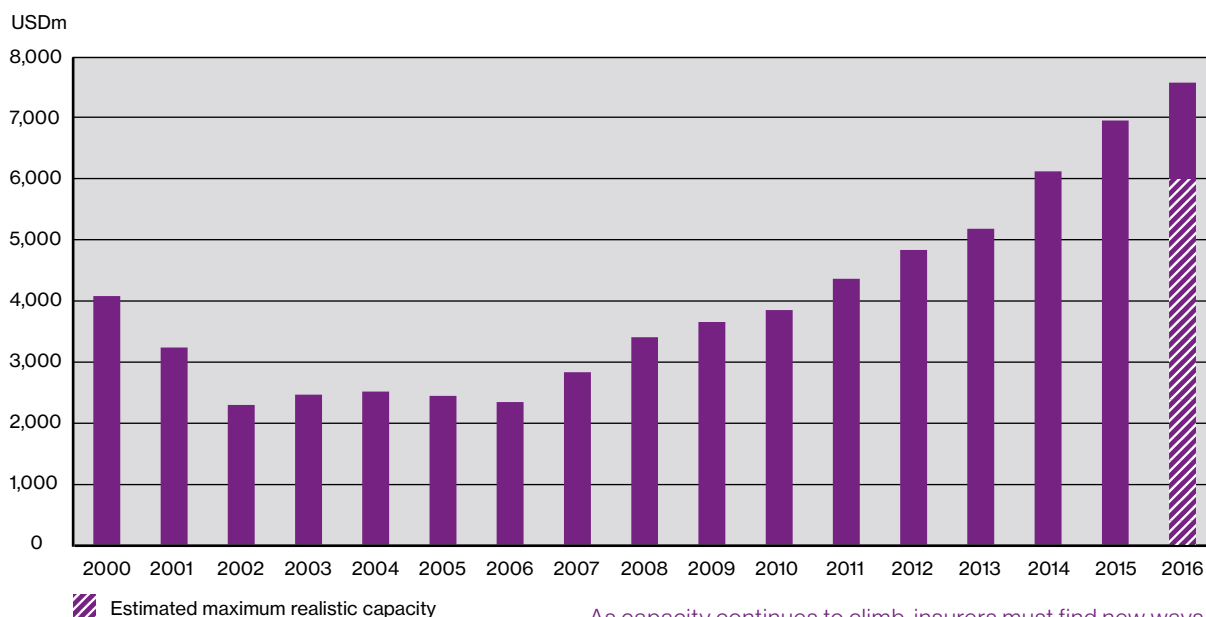
So is it a case of a slow motion car crash – with an inevitable market restructuring at the end of this process – or is there any light on the horizon for this beleaguered market?

Let us have a look at the key issues of capacity, losses and profitability and determine the prospects for this market in the years ahead – while at the same time identifying the most effective ways in which energy companies can benefit, both in the short and long term.

Capacity

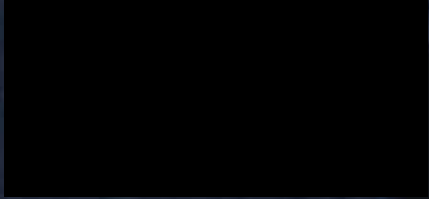
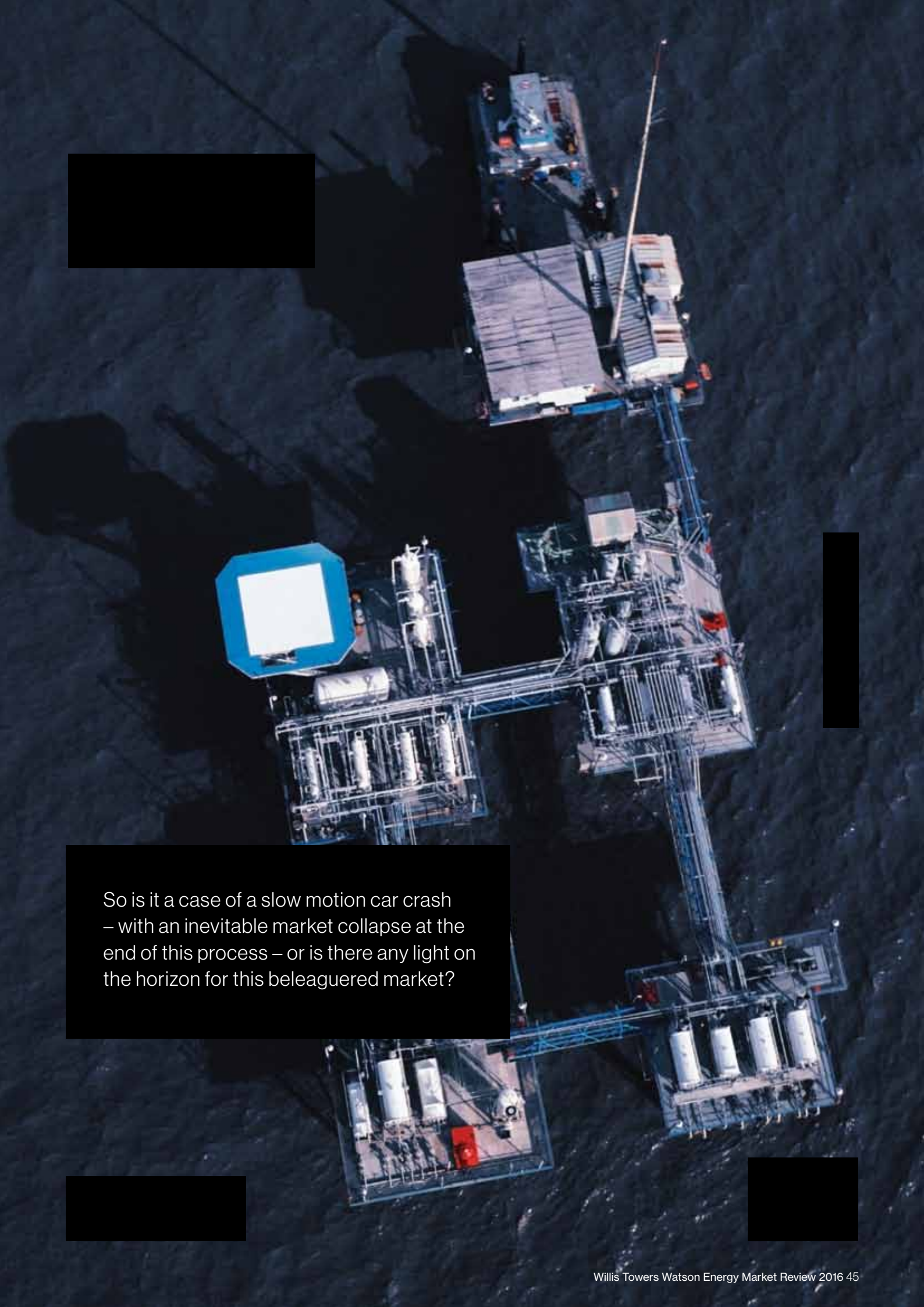
With the global glut of reinsurance market capacity showing absolutely no signs of abating - and with treaty reinsurance pricing reducing still further - we are not at all surprised to report another increase in total theoretical underwriting capacity for 2016, up to just over USD7.5 billion (see Figure 1 below). This is now the tenth year in a row that capacity has increased – the chart shows that when this trend began, in the aftermath of hurricanes Katrina and Rita, the comparable figure was little more than USD2 billion.

Figure 1 - Upstream Operating insurer capacities 2000-2016 (excluding Gulf of Mexico Windstorm)



As capacity continues to climb, insurers must find new ways to differentiate themselves to their client base.

Source: Willis Towers Watson



So is it a case of a slow motion car crash – with an inevitable market collapse at the end of this process – or is there any light on the horizon for this beleaguered market?

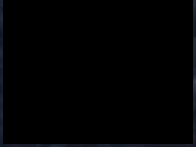
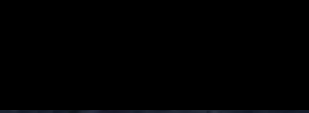
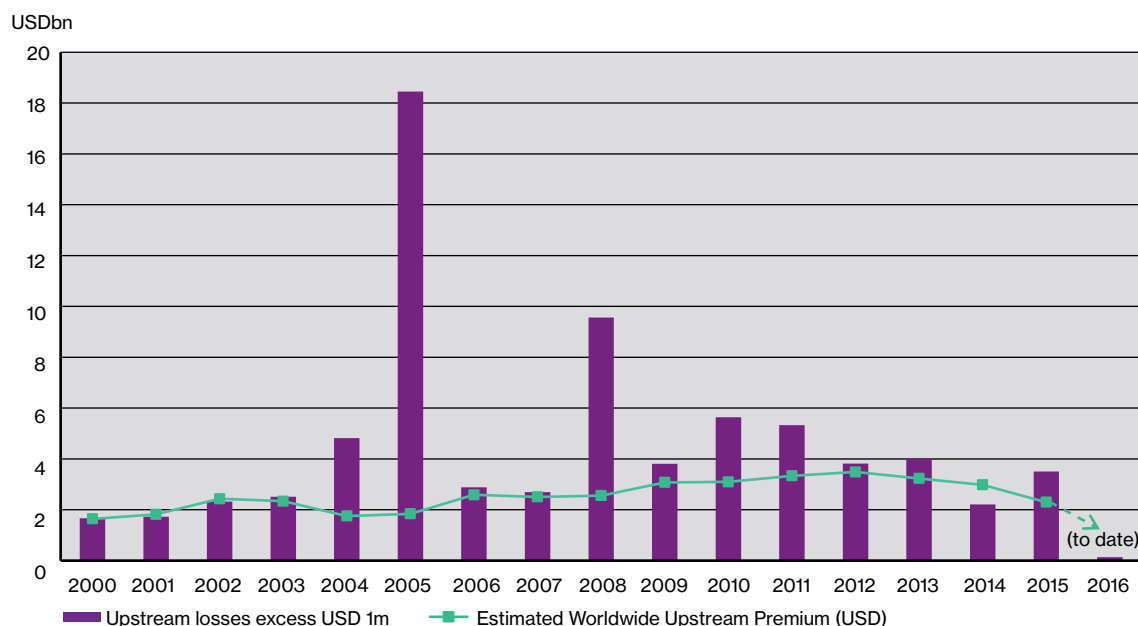


Figure 2 - Upstream Energy losses 2000– 2016 (excess of USD 1m) versus estimated Upstream premium income



Source: Willis Towers Watson/Willis Towers Watson Energy Loss Database as of March 1 2016 (figures include both insured and uninsured losses)

Mergers & Acquisitions add to the pressure

The increase in capacity has not been concentrated into any specific area of the market. However, the recent spate of mergers and acquisitions in the international (re) insurance market has certainly prompted some of these increases. For example, recent Asian investment in the market has been conducted with a view to taking a more dominant position in sectors such as Upstream Energy, and most of these Asian-backed insurers will be expected to compete for leadership positions on key programmes as well as for premium income.

In any event, we now estimate that on a realistic basis, as much as USD6 billion can now be placed for a single programme. These record capacity levels have now led to a simplification of programme designs, with straightforward quota share programmes generally replacing the more complicated layered structures used previously when insurers had more choice of underwriting strategies due to higher premium income levels available.

Losses and premiums

Figure 2 above maps overall upstream industry losses (excess of USD1 million) against overall estimated global Upstream premium income levels over the last fifteen years or so¹. Apart from the obvious loss spikes in 2005 and 2008 caused by hurricanes Katrina, Rita and Ike, two recent developments stand out:

- The first is that the loss record for 2015, which is by no means yet fully matured, shows that the overall total (including insured and uninsured losses) is now returning to what we would usually expect from this portfolio, following an unusually benign year in 2014. Indeed, there is a significant chance that the final figures for 2015 might be much higher than the current figures from our Database suggest.
- The second, however, is much more alarming from an underwriting perspective - a noticeable depreciation in estimated premium income levels, from just under USD3 billion in 2014 to approximately USD2.3 billion in 2015 – a significant drop.

¹Willis Towers Watson uses the Lloyd's Audit code figures as a basis for estimating overall global energy premium levels, grossing up the official figures to take into account our own estimate of Lloyd's overall market share of the class in question. It is important to stress that these are therefore only estimates and should not be used for sophisticated actuarial calculations.

Upstream Market Underwriter Movements, 2015-16

Name	From	To
Rory Thompson	Argenta	AIG
Ed Carey	Navigators	Unknown
Lorraine Mackey	Axis	Hiscox
Catherine Gregory	Apollo	Endurance
Phil Poetter	Hannover Re	Allianz
John Swann	Zurich	CNA Hardy
Nina Seljeflot	Starstone	Antares

What has happened to Upstream premium income?

How can the premium income pool have declined so dramatically? In last year's Review we spelt out the factors that would lead, in our opinion, to just such a collapse in premium income levels:

- From a **demand perspective**, this is almost entirely due to the combined effects of the collapse in oil prices, resulting in cutbacks in exploration and production activity, increased mergers and acquisitions within the energy industry and consequently reduced risk management budgets. Most recently, this has had a particular effect on Business Interruption values and the number of construction projects being planned.
- From a **supply perspective**, this has been because of increased competition for business within the Upstream insurance market, brought about by increased capacity and the relative profitability of the portfolio.

So the drastic rate of decrease in premium income levels is down to pressures from both the supply side and the demand side operating at the same time. We at Willis Towers Watson struggle to recall a time when a collapse in oil prices has occurred at the same time as such increased competition in the insurance market, and the application of these two factors simultaneously is having an unprecedented effect on the premium pool available to insurers. Indeed, it is fair to say that no one in the Upstream insurance market truly foresaw the savage impact that the oil price has had on their portfolio.

It's interesting to relate that according to the US Energy Information Administration (EIA), "US Gulf of Mexico (GOM) crude oil production is estimated to increase to record high levels in 2017, even as oil prices remain low. EIA projects GOM production will average 1.63 million barrels per day (b/d) in 2016 and 1.79 million b/d in 2017, reaching 1.91 million b/d in December 2017."

The EIA goes on to say that: "Production in the GOM is less sensitive than onshore production in the Lower 48 states to short-term price movements. However, decreasing profit margins and reduced expectations for a quick oil price recovery have prompted many GOM operators to pull back on future deep water exploration spending, reduce their active rig fleet by scrapping and stacking older rigs, and restructure or delay drilling rig contracts. These changes added uncertainty to the timelines of many GOM projects, with those in the early stages of development at greatest risk of delay or cancellation."

Source: EIA website

Figure 3 - Upstream losses in excess of USD50 million, 2014-15

Year	Type	Cause	Region	Land / Offshore	PD USD	OEE USD	BI USD	Total USD
2014	Rig	Blowout	Latin America	Offshore	65,000,000	30,000,000	16,500,000	111,500,000
2014	Platform	Piling operations	Latin America	Offshore	95,147,421			95,147,421
2014	Platform	Subsidence/landslide	Asia Pacific	Offshore	89,000,000			89,000,000
2014	Well	Blowout	North America	Land		61,600,000	11,500,000	73,100,000
2014	Platform	Unknown	North America	Offshore	68,000,000			68,000,000
2014	Well	Blowout	Middle East	Offshore		50,000,000	10,000,000	60,000,000
2014	Well	Mechanical failure	Asia	Offshore	56,000,000			56,000,000
2014	Rig	Mechanical failure	North America	Offshore	7,000,000		44,000,000	51,000,000
2015	Platform	Fire + explosion/VCE	Latin America	Offshore	780,000,000			780,000,000
2015	MOPU	Explosion no fire	Latin America	Offshore	330,000,000		112,500,000	442,500,000
2015	Rig	Leg punch through	Latin America	Offshore	240,000,000			240,000,000
2015	Platform	Collision	Middle East	Offshore	200,000,000			200,000,000
2015	Pipeline	Ruptured pipeline	North America	Land	190,000,000			190,000,000
2015	MOPU	Faulty workmanship	Latin America	Offshore	116,000,000			116,000,000
2015	MOPU	Corrosion	Latin America	Offshore	100,000,000			100,000,000
2015	Well	Blowout	Latin America	Offshore		90,000,000		90,000,000
2015	Well	Blowout	Middle East	Offshore		80,000,000		80,000,000
2015	Pipeline	Corrosion	Middle East	Offshore	60,000,000			60,000,000
2015	Rig	Leg punch through	Middle East	Offshore	60,000,000			60,000,000
2015	MOPU	Unknown	Africa	Offshore	60,000,000			60,000,000
2015	MOPU	Unknown	Africa	Offshore	50,000,000		6,540,000	56,540,000
2015	MOPU	Corrosion	Australasia	Offshore	50,000,000			50,000,000

Source: Willis Towers Watson Energy Loss Database as of March 1 2016 (figures include both insured and uninsured losses)

2015's major Upstream loss record has startled the market.

Increase in major attritional losses

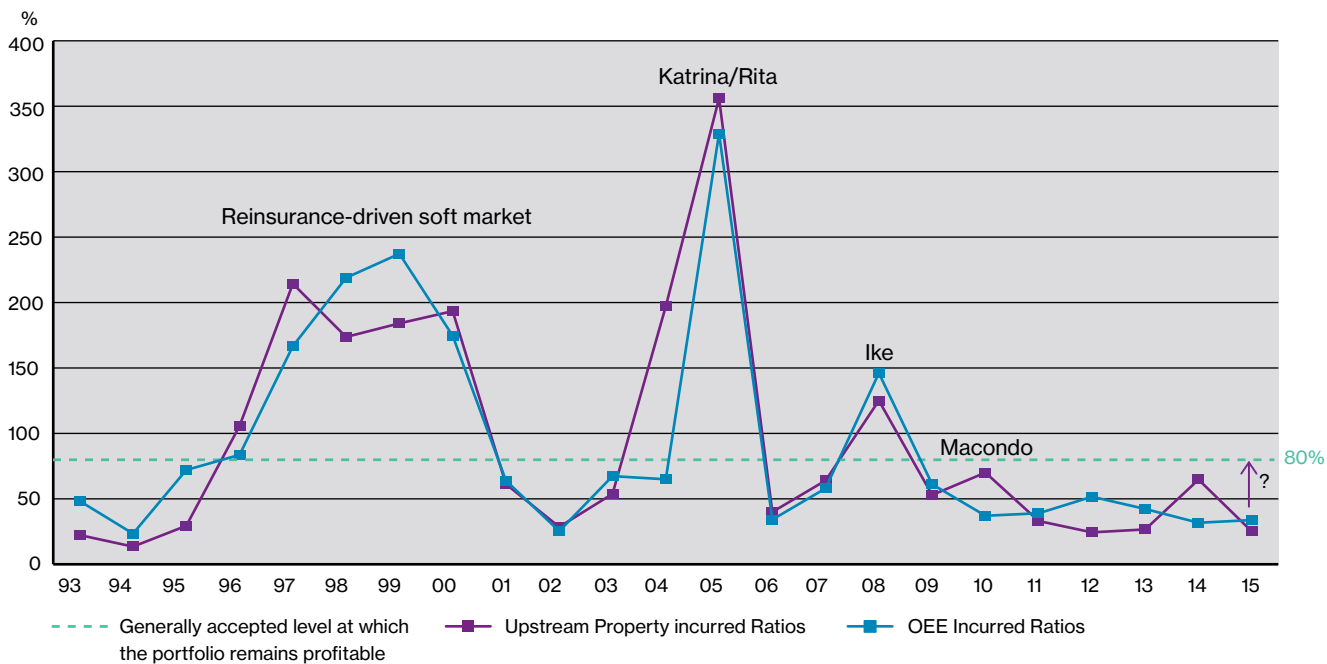
Meanwhile the increased loss record in 2015 is due not because the market has experienced a number of truly catastrophic losses, but because the number of "attritional" losses (between USD50 – 300 million, large enough to be significant in their own right but generally not large enough to be collectable under treaty reinsurance programmes) has increased, as evidenced by Figure 3 above.

This in turn has served to further erode insurer profitability and created additional pressures on the entire portfolio.

Profitability – nudging towards the red?

To find out just how profitable this portfolio is, we need to turn our attention to the Lloyd's audit code results published every quarter (see chart opposite right). These audit code results show Incurred Ratios (i.e. received premiums against paid and outstanding claims) going back over twenty years. The received wisdom in the market is that an underwriter needs to achieve an Incurred Ratio of below 80% if his or her portfolio is to generate an overall profit (taking into account operating expenses and reinsurance costs).

Figure 4 - Lloyd's Upstream Incurred Ratios 1993 – 2015 (as at Q4 2015)



Source: Lloyd's
 "Upstream Property" – combination of ET/EC/EM/EN audit codes
 "OEE" – combination of EW, EY and EZ audit codes

Although the Upstream Property portfolio result was dangerously close to the 80% break-even figure, Lloyd's still generally made money from this portfolio in 2014.

Upstream portfolio usually makes money – unless there's a windstorm

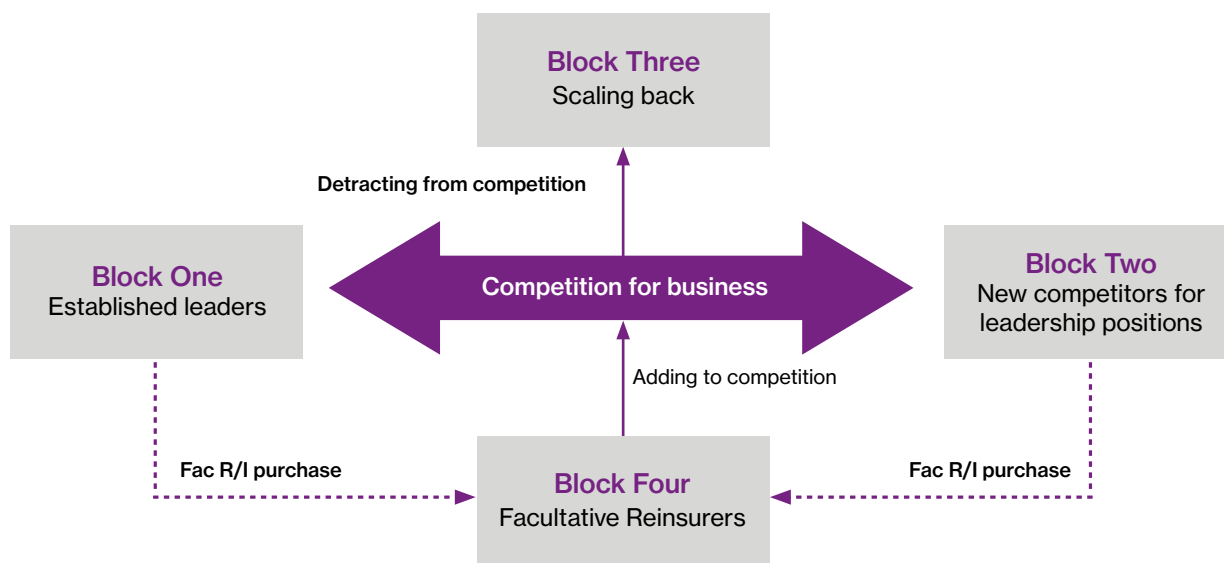
As pointed out in previous Reviews, the data displayed in Figure 4 above provides the evidence that this market has always made an overall underwriting profit this century, except when impacted by major hurricane losses in the Gulf of Mexico (even in 2010, the year of the Macondo/Deepwater Horizon tragedy). However, the 2014 year of account - where a number of the major 2015 losses are likely to impact – shows that the Incurred Ratio has now crept up to 64% - near enough the 80% figure to suggest that it would not take much to take the market into negative profitability for the first time since 2008. The figures for 2015 currently show something more positive, but these statistics are still too immature to provide a truly accurate barometer of insurer profitability.

It should also be remembered that the premium income figures compiled by Lloyd's referred to earlier in this chapter also includes all Facultative Reinsurance² (Fac R/I) premiums received by these reinsurers as well as direct premiums from clients. There is therefore an element of "double counting" in the Lloyds figures as some premiums received by those insurers who write Fac R/I will be allocated to the same audit codes as the original premium. This is why although there is only an approximate reduction of 25% from 2014 to 2015 in stated overall premium levels within the Lloyd's figures, we estimate that the actual reduction is more likely to be somewhat more.

If we compare these figures to the overall losses chart instead in Figure 2, we can see that if the loss levels of 2010-11 were repeated now - with the premium base lowered so dramatically – it would almost certainly bring the portfolio over the 80% threshold and into the red.

² By "Facultative Reinsurance" we mean specific reinsurance policies taken out by original insurers for individual original insurance placements, as opposed to automatic cessions into annual reinsurance treaties

Figure 5 - today's Upstream Energy insurance market



The market today

So how are current market dynamics shaping up in light of the most recent developments? In Figure 5 above we have attempted to cast some light on how the market is playing out, given the difficult hand that it has been given to play over the last 12 months or so. Clearly this illustration is something of a generalisation but it does show how the competitive forces discussed earlier are affecting today's market, with any semblance of loyalty to existing programme leaders having long since evaporated.

Block One – established market leaders

In Block One, we have the established market leaders. They continue to receive the lion's share of the existing major programmes, but in contrast to previous soft markets (such as the late 1990s) they are generally continuing to compete for business and follow the market down rather than to stay aloof and maintain a conservative underwriting stance. The main reason for this is that while most of them have been provided with additional capacity to maintain their market position and share of the portfolio, one or two have additionally been involved in some high profile mergers over the last 12 months or so. This has resulted in them having to take into account additional capacity on top of what they had to feed last year.

Block Two – new competitors

In Block Two, we have identified some fresh competition to the established leaders, in the form of other insurers who are now fully geared to lead business. These insurers have not traditionally had a reputation for being market leaders but have realised that the only way to maintain their market share (and signed lines) will be to establish themselves as leaders in their own right. Some of these new leaders are adopting a much more proactive marketing position than in the past, offering favoured clients additional offerings such as tailored training programmes and offering to sponsor various activities such as seminars and conferences to ensure that they form long term, individual relationships with an increasing number of their client base.

Moreover, London is not the only location where we are seeing increased competition for business. In Norway, established leaders such as Gard have been joined by several others, including the Norwegian Hull Club and other international insurers with local binding authorities. Although this market has traditionally been more conservative than London, we are now seeing some highly competitive terms being produced from Norway, especially for local business. Furthermore, insurers such as Qatar Re, Brazil's IRB, Africa Re and Korea Re are providing further marketing options for Upstream business, regardless of location.

The net result of this development seems, at least on the face of it, great news for buyers – increased leadership options and a continuation of the softening process, despite the recent losses.

Block Three – scaling back to survive

In Block Three however, we have identified a segment of the market (which includes at least one prominent market leader) that has perhaps seen the signs of disaster on the horizon and is now taking action. These insurers are possibly under less pressure to meet short term premium income targets and have management support for scaling back their underwriting operations (especially for smaller programmes where if a loss occurs there is no realistic short term payback), waiting for the market to turn before stepping in to provide capacity when others have withdrawn due to the market's slide into unprofitability.

One underwriter recently described this approach to us as the “Nuclear Cockroach” option – hiding behind a more conservative strategy until the storm has passed and it is safe to come outside to offer capacity once more.

Block Four – searching for fresh premium income

Finally in Block Four we have the less fortunate part of the market - those insurers who are neither leaders nor have any mandate to scale back their portfolio. More often than not they do not have the capacity to attract the interest of either brokers or buyers in their own right and have to somehow find a way to meet their premium income targets at a time when the overall pool is rapidly depleting. One of the only options open to these insurers to achieve this objective is by writing Fac R/I business.

The growth of the Fac R/I market is a direct corollary of the overall market softening in recent years. With too much capacity chasing a dwindling premium income pool, it is inevitable that some of the smaller insurers from Block Four are finding that the only way they can match their premium income targets (or indeed, write any sort of a meaningful portfolio at all) is to write this class of business.

This in turn is obviously fuelling the softening process. Although Lloyd's regulations no longer permit wholesale “churning” of insurance programmes on a facultative basis as was permitted in the 1990s, it is becoming apparent that the purchase of Fac R/I is becoming a significant tool in the armoury of insurers from Blocks One and Two.

Why it's still all about price – for now

In previous soft market eras, insurers have differentiated themselves not only on price, but also on retention levels, breadth of coverage, claims handling and premium payment terms. Given the abundance of Fac R/I capacity within the Upstream market, it would seem logical that buyers and their brokers would seek to include wider

coverage and even to buy down existing retention levels, especially since that in most instances the Fac R/I programme would absorb not only the decreased retention but also the majority of the wider range of exposure offered.

However, these are not normal times. Given the choice between a lower retention level at the same price as last year or a cheaper price based on the existing retention level, buyers with reduced risk management budgets are tending to opt for the option that requires the least premium spend.

So despite the need for innovation in this market, which we highlighted at some length in our 2015 Review, it seems that even if the market did show some innovation and offer a more user-friendly, wider and more responsive product to its client base there would not necessarily at the moment be the demand from the buyer to sustain such a product – in all likelihood, the buyer would simply prefer the existing product at a cheaper price.

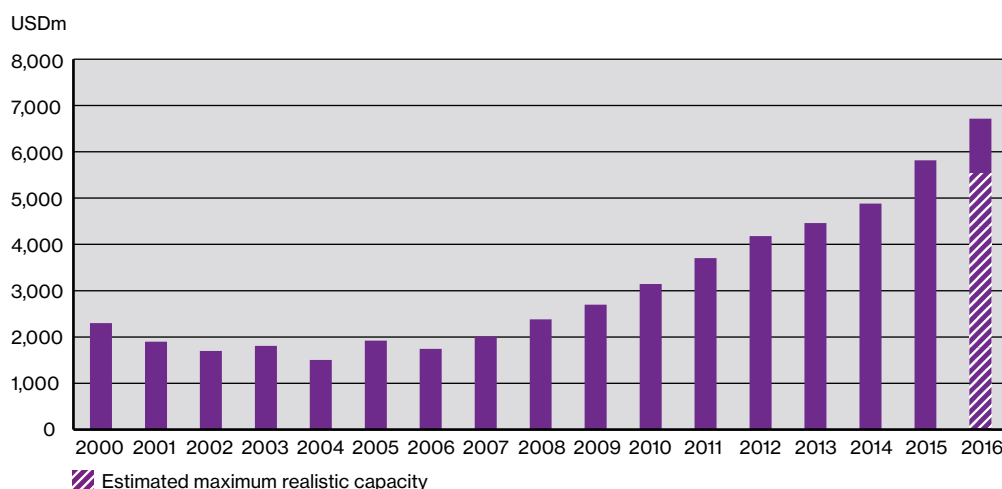
A new cyber product in the pipeline?

The one exception to insurers' and buyers' focus on price as opposed to wider and more effective risk transfer solutions is the case of cyber risk, where buyer demand would clearly be robust. In truth, not much has changed from a risk transfer perspective for Upstream buyers since we covered this subject in some detail in 2014's edition of the Willis Energy Market Review. The Upstream market has yet to provide any meaningful form of risk transfer solution for resultant loss or damage to Upstream energy infrastructure following a cyber-attack, and although we understand that one or two of the leading insurers in this market have been working on a product in recent months, there was still no sign of its introduction when this Review went to press.

We expect that only a limited amount of cover – perhaps only between 10-15% of an average placement – will be available initially if this product is eventually introduced later this year. We can then foresee that it will take a further period - perhaps as much as 12 months – before the rest of the market will be able to follow suit and accept this cover.

So eventually we do believe that this cover will indeed be available to Upstream buyers. By the time of our next Energy Market Review in 2017, we should be able to comment on this issue in much greater detail.

Figure 6 - Offshore Construction insurer capacities 2000-2016 (excluding Gulf of Mexico Windstorm)



There's no problem with Offshore Construction market capacity – it's just that the orders have reduced significantly.

Source: Willis Towers Watson

Offshore Construction

In line with the Operating sector of the Upstream market place, abundant capacity continues to drive down rating levels within the Offshore Construction sub-sector. This downward rating trajectory has also been driven by Fac R/I insurers referred to earlier (Block Four) who are prepared to competitively underwrite “working layer” policies on a project by project basis.

Were rating levels too high to begin with?

Historically, an abundance of direct Offshore Construction market capacity, combined with an aggressive intervention by quota share reinsurers, has resulted in a sustained reduction in rating levels. However, it can be argued that, following the dramatic rise in Offshore Construction rates at the end of the 20th century, there has been plenty of scope for rates to come down.

The dramatic rate rise at the close of the last century was brought about after abundant capacity drove down rating levels only for the market to experience a deteriorating loss record. Only time will tell whether the current “soft” rating cycle will once again expose a poor loss record within the sector.

The competition for business amongst underwriters in the sector and the resultant effect on rating is being further compounded by the fall in the oil price and the consequent dearth of projects. Accordingly, when projects do come to market there is increased competition amongst underwriters to participate in the business.

Losses from existing projects mount

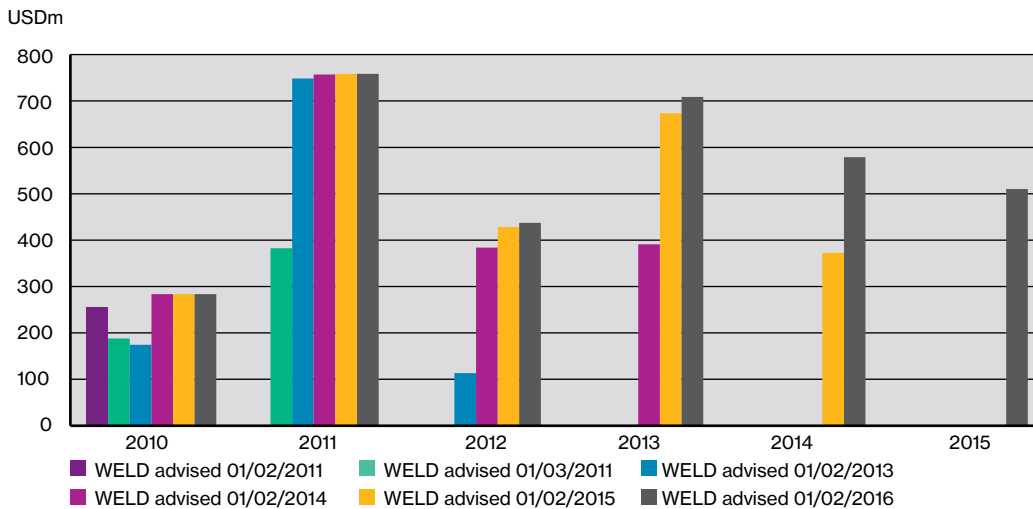
As if this were not enough gloom for Offshore Construction insurers, 2015 was a bad year for losses, as evidenced by Figure 7 on the next page. It can be seen from the chart that the total recorded losses for 2015 advised to date represent the largest initial total advised for any year since 2010. Even in 2011, the heaviest Offshore Construction loss year to date, the initial advices at the end of the year only totalled some USD390 million, compared with a total of USD500 million already advised for 2015. The Offshore Construction market needs premium badly in order to compensate for these losses; how ironic then that this deterioration in the loss record has occurred just as lower oil prices are preventing several major planned projects from going ahead.

Furthermore, we understand that of those that are indeed going ahead, a significant proportion of these programmes are likely to end up being absorbed by captive insurance companies. It's therefore little wonder that leading insurers are looking to other parts of the Upstream portfolio to compensate them for this somewhat depressing outlook for this sub-sector of the portfolio.

GOM Wind

Perhaps the one area of outstanding success within the Upstream arena in recent years has been Gulf of Mexico windstorm (GOM Wind) – especially following the aftermath of hurricane Ike in 2008. Following a wholesale revision of aggregate limits, retentions and rating levels (outlined in our 2009 Review) those insurers who selected to continue investing in this sub-sector have enjoyed a virtually loss-free portfolio – now for the seventh year in succession.

Figure 7 - Offshore Construction insurer capacities 2000-2015 (excluding Gulf of Mexico Windstorm)



The 2014 Offshore Construction loss record has deteriorated during the last 12 months and 2015 has started badly – at a time when offshore construction premium income is reducing dramatically.

Source: Willis Towers Watson Energy Loss Database as of March 1 2015 (figures include both insured and uninsured losses)

Is the rest of market too scared to compete?

The reader might therefore be forgiven for thinking that here at least is one area where there is a stack of profitable premium income to compete over. However, history suggests that this class either goes extremely well or extremely badly. Those insurers who did not continue to write GOM Wind in the aftermath of Ike are therefore still in no mood to augment their haemorrhaging premium base by offering competition to the established panel. Indeed, any underwriter who suddenly decided to invest in this class just before a major hurricane caused widespread losses (as in 2005 and 2008) might well find that his or her own position being questioned by their management.

A clear field for existing leaders

So perhaps it's no surprise that the existing panel of GOM Wind leaders continues to have the field pretty much to themselves, although we do in fact anticipate some measure of softening this year as brokers re-structure and possibly re-layer the existing programmes. Of greater concern to them than any competition from newcomers is the worry - once again - that reduced risk management budgets will mean that less cover is bought this year than has been the case for the last seven years. Although the received wisdom is that most buyers are essentially forced to purchase as much GOM Wind cover as is practically possible to demonstrate to shareholders and boards their prudence, this factor is now being dwarfed by the need to save as much money as possible.

It therefore remains to be seen whether this portfolio can continue to provide the “treasure chest” of premium that GOM Wind insurers have relied upon to help assuage the general market softening in the Upstream sector.

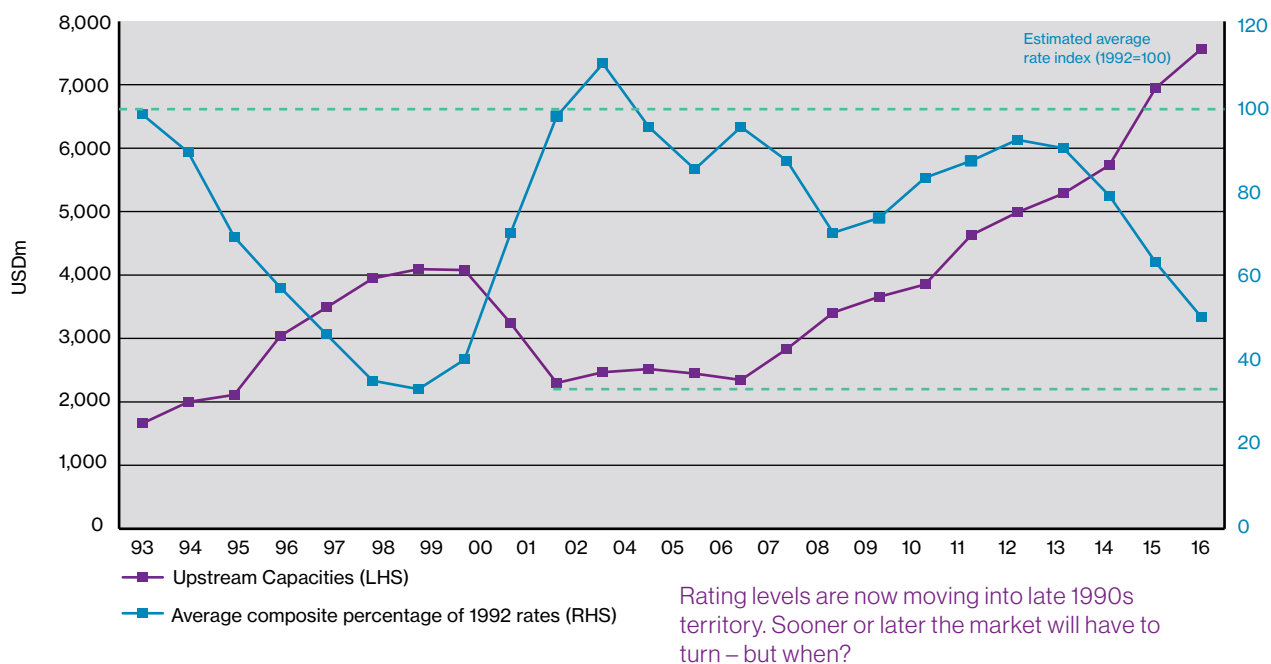
OEE

One area of the Upstream portfolio that had, until recently, held steady in the face of competitive market pressures was Operators Extra Expense (OEE). Following the Macondo/Deepwater Horizon tragedy in 2010, buyers were keen to purchase increased programme limits for this class (as well as for Offshore Third Party Liabilities) in view of the perceived additional exposure to these risks outlined by the loss. However, today we can report that even this sub-sector has no longer proved to be impervious to the general market softening. While in previous years insurers would be prepared to be competitive on a schedule of wells featuring a wide spread of risk and a decent amount of premium income, today they are happy to offer rates which represent a significant reduction on last year - even on a relatively modest schedule of wells - so long as the Operator is well known to them.

The jury's out on AFE rating methodology

Questions still remain over the effectiveness and accuracy of the current OEE rating methodology, based on Authorization for Expenditure (AFE). There are now fears in some quarters that such a rudimentary methodology, based purely on the original cost of drilling the well and then applying various loadings for specific programme limits may not prove sufficiently robust in the long term – particularly if such factors as location, geography, third party property in the vicinity, pressure and temperature levels as well as depth of the well in question are not taken into consideration. For example, how should an AFE-based rating model be applied consistently to different technologies such as are now used in the Arctic and in say the shale gas fields? So far there has been very little progress in the market in developing a more accurate rating methodology.

Figure 8 - Upstream Capacity versus Rating Levels, 1993 – 2016 (Excluding Gulf of Mexico Windstorm)



Source: Willis Towers Watson

The outlook for 2016

We finish our analysis of the Upstream market in 2016 with Figure 8 above, which shows how the market has moved over the years in terms of average rating levels compared to available underwriting capacity. One glance at the chart firstly shows the overall correlation between capacity (supply) and price (rating levels) but more importantly it shows how steep the current softening process is now that the “false equilibrium” of increased prices at a time of growing capacity (2008 – 13) has been well and truly consigned to the past. If it wasn’t for the upswing in loss activity during 2015 which we referred to earlier, no doubt the softening would be even more intense.

Near the bottom of the cycle?

As the chart shows, it will not take long before overall rating levels reach their 1999 nadir – indeed, we would suggest that in some cases this nadir has already been reached. If so, you do not need to be an underwriting expert to see that overall portfolio unprofitability may not be far away. Regardless of overall reinsurance market capacity, no one is going to deploy capacity for a line of business where premium income is no longer sufficient to make it worthwhile, even without underwriting losses.

The calm before the storm?

So 2016 may represent the calm before the storm. Sooner or later, rates are going to get to the point where they simply can’t drop any more, and if that situation is accompanied by any increases in current loss levels, then the picture is likely to change dramatically.

In the event of this scenario, the first element of today’s market to disappear will be Block Four – those unfortunate Fac R/I underwriters who have not been able to offload their share of the portfolio on a retrocessional basis. And without this key element of today’s soft market dynamics, it will not take long before those insurers that remain in the market begin to try and redress the situation.

However, the last time the market went through this process in 1999, underwriting capacity had peaked at around USD4 billion and by 2001 had started to decline even before 9/11. Today, we see absolutely no sign of that dynamic at work. Instead, we expect capacity levels to increase once again in 2017 so although there may be some casualties amongst Block Four insurers if the portfolio goes into the red, there may be still be too much capacity in play for there to be anything other than a flattening out of the softening process. Alternatively, if losses are really bad we may see something of a market turn, in which case history suggests that it is likely to be Block Three insurers who will benefit the most.

The implication for buyers

What does this mean for buyers? Of course, the simple answer is to take full advantage of the market's current predicament and force prices down still further. But a wholesale withdrawal of capacity following a market meltdown is by no means in the buyers' interests. Furthermore, the more experienced buyer is likely to have one eye on the future, and ensure that his or her programme is placed with insurers who are most likely to still be in play in the event of a change in market dynamics – whenever that change occurs.

At the moment, market observers can only watch and wait, to see what will happen in the event of a truly unprofitable year, where increased losses finally catch up with a depleted premium income pool. Would the market simply carry on regardless, or would this persuade a significant number of insurers to withdraw, prompting a market turnaround?

In the meantime the market continues to show all the signs of a car crash in slow motion. No one involved has any option but to watch and wait for an unprofitable year - which is bound to happen, sooner or later.



Chris Dear is global head of Upstream Energy at Willis Towers Watson. An Upstream market practitioner since 1987, his extensive experience and expertise in the International arena enables him to address the major concerns emanating from the energy risk transfer programmes of major Upstream clients from around the world.

Contingent Extra Expense Wording For Drilling Contractors Jr1016/004

Following a consultation process, the Joint Rig Committee have launched the JR2016/004 Contingent Extra Expense Wording For Drilling Contractors which is intended to be an identifiable and recognisable product that provides clarity of coverage, rather than a restriction on previous wordings which had evolved from EED 8/86 and not been specifically designed for the purpose.

The new wording provides indemnity for costs in the scope of EED 8/86 on a modified basis, triggered by Gross Negligence or Wilful Misconduct for which tiered definitions apply. Clauses such as Due Diligence and the Blowout Preventer Warranty of EED 8/86 are no longer included as they were inconsistent with the Gross Negligence or Wilful Misconduct coverage triggers. Importantly, coverage can only be triggered by a court judgment, not an allegation of Gross Negligence or Wilful Misconduct.

A condition precedent to the attachment of cover is that the Insured shall have entered into a Drilling Contract with each applicable Operator in respect of the rig(s) which are required to be scheduled, such Drilling Contract being required to include the specific terms as detailed in the wording.

Defence Costs are only payable after liability has been established, with Underwriter's prior consent being required prior to costs being incurred. Any attempt to modify the basis of Defence Costs may be viewed as being inconsistent with the intended backstop nature of the coverage. The governing law is the State of Texas; however, any variation to this standard position may have the effect of broadening coverage which is likely to be a factor in the underwriting decision.

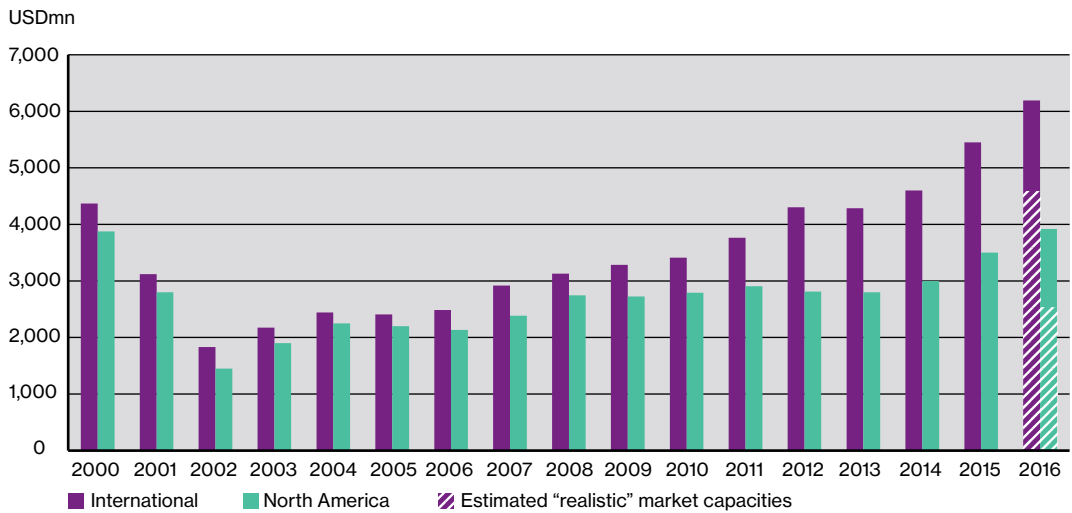
Offshore Dismantling & Removal Insurance

A reoccurring theme throughout media coverage of the fall in the oil price has been speculation surrounding a potential rise in platform decommissioning activity. Market forces and domestic legislation will continue to influence the frequency of such platform removal projects. In the event of a rise in the number of such projects a bespoke Offshore Dismantling & Removal marketplace exists. Willis Towers Watson has access to primary market capacity of GBP100,000,000 subscribing to a dedicated pre-agreed broad form policy wording. If required, additional capacity is available within the Excess Liability markets.

This emerging risks category is a complex class of business and a clear understanding of the numerous contractual exposures is central to an effective risk transfer strategy. To clearly guide companies faced with such potential exposures we have prepared a paper entitled Offshore Dismantling & Removal Insurance for the Oil & Gas Insurance which is available upon request. In addition to explaining the width of cover available under our policy wording the paper also outlines our contract analysis tools, explores placement strategies and compares the cover available under traditional market wordings.

Downstream

Figure 1 - Global Downstream insurer capacities 2000-2016 (excluding Gulf of Mexico Windstorm)



Capacity levels may have increased once more in theory, but realistically programme maximums remain the same as last year.

Source: Willis Towers Watson

Introduction

In last year's Review, we suggested that 2014's poor loss record, coupled with a reduction in the available premium pool, might well lead in 2015 to a period of widespread unprofitability in the Downstream insurance market. Rather remarkably, we can report that nothing of the kind has taken place during the last 12 months; instead, a period of relatively benign losses has been accompanied by the prospects of additional premium due to the significantly lower feedstock prices since the date of our last publication.

Meanwhile, competition for business continues to increase. What can buyers expect from this next phase of the market cycle?

Capacity

As shown in Figure 1 above, in 2016 total theoretical market capacity has now passed the USD6 billion mark so, like its Upstream counterpart, continues to increase to new record levels. However, this simple statistic masks two important developments. The first is that no matter how high overall theoretical capacity totals continue to mount, the maximum programme limit that any broker can realistically (and commercially) place in the market today has remained unchanged at USD4.5 billion, a figure beyond which further risk transfer is unnecessary for all but possibly the most highly valued assets and infrastructure.

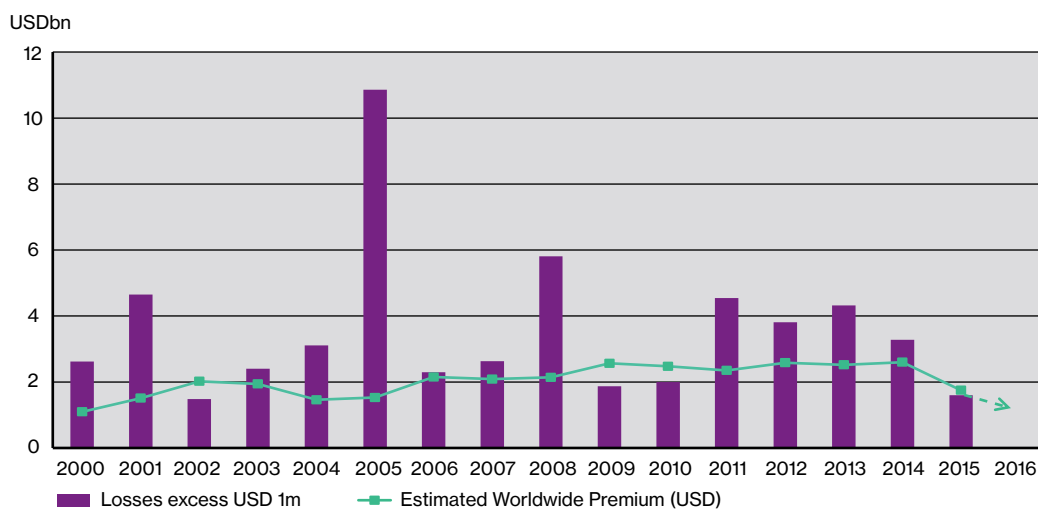
The effect of this year's capacity increase has therefore not been so much to prompt buyers to increase their programme limits; rather, it has been to generate additional competition for the existing Downstream portfolio, the majority of which will continue to feature the same programme limits as last year.

The emergence of the "super carrier"

The second development, however, is possibly more significant. One of the reasons for this year's capacity increase has been the dramatic increase offered by a very small number of major composite insurers, some of whom can now afford to take as much as USD1 billion of a given programme - and maybe in some instances even more. This seems to be a very significant reaction to the current market conditions by these insurers, who are certainly not afraid to show their true colours as they make a bold claim for market share currently occupied by other leaders in the market.

This exponential increase in underwriting muscle and market presence really does serve to fundamentally alter existing market dynamics; on this basis, the major composite insurer in question effectively owns the programme, deploys its significant engineering resources so that the risk is full understood (and mitigation measures put in process where necessary); the result is that a secure risk partnership is created. Any undesirable elements of the programme can then be reinsured out to other (re) insurers on a facultative basis, while the remainder of the market may well have to settle for an excess programme featuring much less of the risk (and consequently much less of the premium).

Figure 2 - Downstream Energy losses 2000 – 2016 (excess of USD 1m) versus estimated global Downstream premium income



The 2015 Downstream loss record is an improvement on 2014 and although premium income may be down, overall profitability has been maintained in this class.

Source: Willis Towers Watson/Willis Towers Watson Energy Loss Database as of March 1 2016 (figures include both insured and uninsured losses)

Should buyers put all their eggs in one basket?

This approach – of a having a single insurer underwrite the majority of a buyer’s programme as part of a long term risk partnership – has always found particular favour in certain territories, whereas in other parts of the world risk managers are usually reluctant to “put all their eggs in one basket”, preferring instead to include other, much smaller insurers on the main part of their programme to offer different perspectives and to ensure that the programme pricing is truly reflective of the current market climate. Indeed, should the leading insurer suddenly walk away from a particular buyer for some reason (for example, their risk is no longer considered of sufficient quality from an engineering perspective) then that buyer would be left in a challenging predicament.

Both approaches have their own advantages and disadvantages, but regardless of individual buyer preferences, there is no doubt that these major composite insurers can now offer a more simplified marketing solution, allowing them the potential to make significant further inroads into what is already a competitive portfolio.

These major composite insurers are very active in North America so it is no surprise to see the total capacity figures increase here as well. However, the reluctance of several International markets to participate in North American (particularly US) business means that the overall total for North America remains some way below the International total.

In the meantime, these major composite insurers face fresh competition from the likes of XL Catlin who are not only able to deploy a much more significant block of capacity on a combined basis following their merger, but can also underwrite from multiple domiciles as well as Lloyd’s.

Losses and premiums

Figure 2 above shows overall Downstream losses (both insured and uninsured) set against our best estimate of overall Downstream energy premium income. It is easy to see why perhaps Downstream insurers are beginning to breathe a little bit more easily – losses recorded by our Database are significantly down (to date) on those recorded for last year. Indeed, if one looks a little further back it can be seen that 2015 could materialise as being one of the most encouraging so far this decade, and indeed this century from an overall loss perspective. Moreover, so far for 2016 (March 1) we have had no notifications of any Downstream losses at all.

Premium still thin on the ground

However, the chart also shows that Downstream premium has been in decline since 2014. The reasons for this were outlined in some detail in our last Review, but here the picture is not quite as acute as in the Upstream sector. Although some of the reasons that we gave last year – the increase in capacity, the increased use of captives, reduced risk management budgets, low interest rates and absence of major catastrophe losses – are still in play and offer good reasons for the current market softening, we do expect additional premium to become increasingly forthcoming from a surprising source - increased Business Interruption values, a development that we comment on later in this chapter.

We therefore foresee a slight flattening of the rate of premium income decline in 2016 (although not necessarily a decrease in exposures), which may provide some respite from the pressures which these insurers have been under for the last two years or so.

Figure 3 - Downstream Upstream losses in excess of USD50 million, 2014-15

Year	Type	Cause	Region	PD USD	BI USD	Total USD
2014	Petrochemical	Fire no explosion	North America	75,000,000	603,000,000	678,000,000
2014	Refinery	Fire + explosion/VCE	Eurasia	104,152,070	570,902,266	675,054,336
2014	Tank farm/terminal	Fire + explosion/VCE	Latin America	65,000,000	110,000,000	175,000,000
2014	Petrochemical	Fire + explosion/VCE	Europe	30,000,000	135,000,000	165,000,000
2014	Refinery	Fire no explosion	Asia Pacific	40,000,000	120,000,000	160,000,000
2014	Refinery	Fire + explosion/VCE	Asia	14,273,219	118,635,846	132,909,065
2014	Petrochemical	Mechanical failure	North America	27,553,436	98,600,000	126,153,436
2014	Refinery	Faulty work/op error	Europe	41,065,180	65,155,500	106,220,680
2014	Chemical	Faulty work/op error	North America	30,000,000	75,000,000	105,000,000
2014	Petrochemical	Fire + explosion/VCE	Eurasia	83,000,000		83,000,000
2014	Oil sands	Subsidence/landslide	North America	79,722,350		79,722,350
2014	Refinery	Fire no explosion	Europe	3,445,000	65,460,000	68,905,000
2014	Chemical	Explosion no fire	North America	30,000,000	38,000,000	68,000,000
2014	Petrochemical	Fire no explosion	North America	25,000,000	40,000,000	65,000,000
2014	Refinery	Mechanical failure	Europe	775,000	50,475,000	51,250,000
2015	Petrochemical	Fire + explosion/VCE	Europe	156,000,000	332,000,000	488,000,000
2015	Refinery	Fire + explosion/VCE	North America	100,000,000	320,000,000	420,000,000
2015	Chemical	Fire no explosion	Europe	26,000,000	150,000,000	176,000,000
2015	Oil sands	Fire + explosion/VCE	North America	71,596,000		71,596,000

Source: Willis Towers Watson Energy Loss Database as of March 1 2016 (figures include both insured and uninsured losses)

The Downstream market loss record has improved - maintaining insurer profitability in this class.

BI losses dominate the major loss statistics

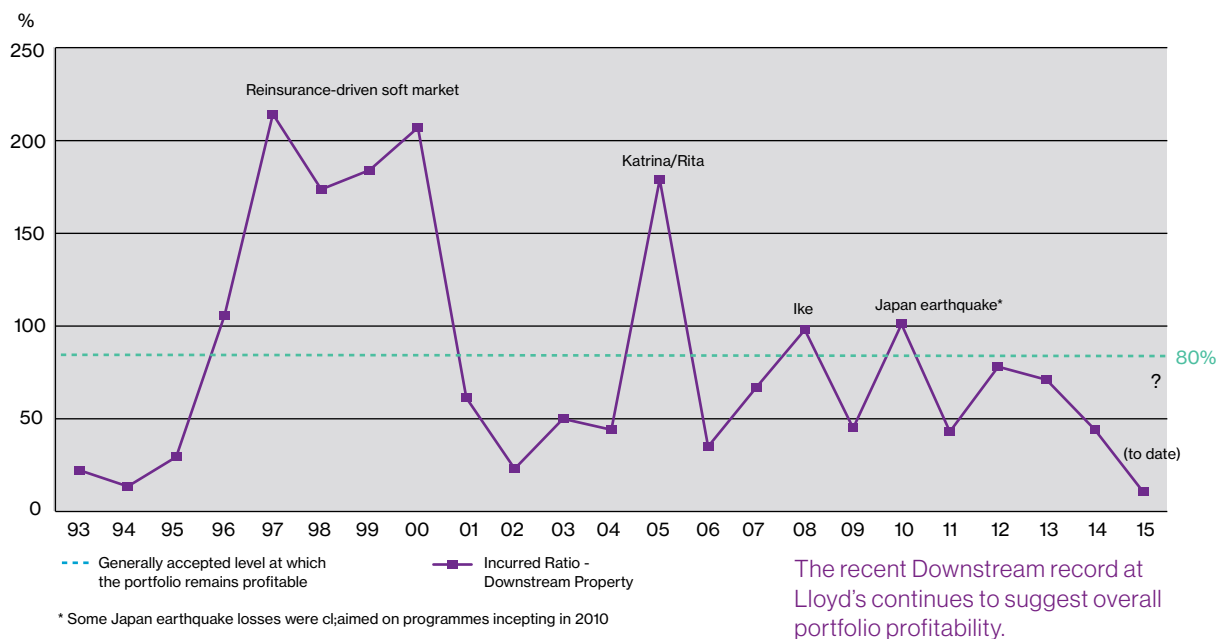
The chart above shows the difference between the two years loss experience from a major loss perspective. It can be seen that our Database has only recorded for losses over USD50 million so far during 2015, while there were 15 such losses in 2014. However, of particular interest (apart from the absence of natural catastrophe losses) is the split between Physical Damage (PD) and Business Interruption

(BI) elements; only two of these major losses contained no BI element while in every other instance the BI element has been significantly higher than the PD element – sometime overwhelmingly so. And with BI values set to rise for the reasons we articulated earlier, perhaps the 2016 overall loss record may eventually turn out to show a return to the higher loss levels of 2011-14.

Downstream Market Underwriter Movements, 2015-16

Name	From	To
Tejal Bartlett	Zurich	Unknown
Animesh Majreker	Zurich	Unknown
Laura McDonagh	Zurich	Chaucer
Ernesto Berger	Zurich	Saudi Aramco
Greg Walters	Argo	Energy Risk Indemnity
Peach Everard	Axis	Locktons
Rob Kuchinski	AIG	Allied World
Tim Kania	Liberty	Aspen
Eric Armellino	Advent	Aspen
Helen Watkinson	Liberty	XL Catlin

Figure 4 - Lloyd's Downstream Property Incurred Ratios, 1993-2015 (as at Q4 2015)



Source: Lloyd's

Lloyd's figures suggest portfolio profitability

As most of our readers are aware, our Database records both insured and uninsured losses, so to determine overall portfolio profitability we have to look at the only official statistics available to us from Lloyd's (in Figure 4 above) and to do our best to draw some overall conclusions - despite the fact that Lloyd's share of the overall Downstream portfolio is much less significant than its Upstream counterpart. From these figures we can conclude that the global Downstream portfolio probably fell into unprofitability in 2010 (following the Thai floods and the Japanese earthquake and tsunami in 2011, where much of the related Downstream losses were picked up by the 2010 year of account) but since then has (probably) achieved positive underwriting results, despite flirting with danger in 2012 and 2013.

We can therefore say that there is nothing about these figures to suggest that this class is about to become unprofitable.

Indeed, given the recent upswing in the loss record as well as the recent capacity increases, all the signs are that we are in for a continued period of market softening – and a new phase in the market cycle.



Market Developments

Will Facultative Reinsurance reduce retention levels?

For several years now Downstream insurers have addressed the softening market climate by competing on price and price alone to maintain or increase their market share. However we have always commented that such a strategy cannot continue *Ad Infinitum*; at some stage premium levels will reach a point where the portfolio would offer insufficient returns to make the deployment of capacity worthwhile. In last year's Review we suggested that, with overall rating levels at an all time low, and with capacity levels at an all time high, something else might have to give if insurers were going to keep a skin in this particular game and maintain their share of this portfolio.

We also suggested that despite the softening market conditions, retention levels were holding firm, as no insurer wanted to break ranks and offer programmes at levels that have proved historically unprofitable.

However, in our Upstream chapter we have commented at some length on the subject of Facultative Reinsurance (Fac R/I) as an inevitable feature of a softening insurance market. In the Downstream market we now believe that the growth of Fac R/I purchase has presented leading insurers with a perfect opportunity to differentiate themselves in a different way – by offering lower retention levels to their most valued clients while at the same time keeping their net retention at the same (or even at a higher) level.

How much could programme retentions reduce? Given the appetite of the Fac R/I market, it may well be that some programmes could be offered new retentions levels at a significant percentage of existing levels. If the relative cost is very much the same, it is surely likely that they will take them up on the offer.

We should point out that we have yet to see hard evidence of this trend. Although the purchase of Fac R/I is common enough in the market, up until now it has not formed part of the leaders' overall underwriting strategy. Yet with major composite insurers in particular able to use their own facultative departments to write the primary treaties for their Downstream portfolio, we believe that it is only a matter of time before a major leader purchases a whole

account primary aggregate reinsurance, thereby offering reduced retentions at the same terms as their nearest competitors in a deliberate and comprehensive strategy to maintain and enhance market share.

History tells us that when the major composite insurers who drive this market start to deploy such a strategy, that is when the next phase of the market cycle begins.

Will increased Business Interruption values lead to increased programme limits?

We referred earlier to a new development - that BI values are increasing. At the moment, the much reduced cost of feedstock (as everyone knows, the price of crude has gone from over USD100 per barrel to USD30 per barrel in a matter of months) is allowing refiners to make much healthier margins, and although this situation may not last too long because of competitive pressures, for the moment their business environment looks a lot healthier. Logic therefore suggests that their Business Interruption values are now set to significantly increase (if they have not done so already) which in turn will provide Downstream insurers with more premium income.

So we now have a potentially very interesting scenario whereby BI waiting periods may be significantly reduced at a time when BI values are actually increasing. While there are certainly premium income opportunities arising from this development, the potential exposure to the primary Fac R/I market may be very significant.

At the other end of the spectrum, it could be logically argued that with BI values increasing, overall programme limits should also be increasing. However, as our capacity chart illustrates, maximum realistic market capacity remain exactly as it was a year ago and insurers are still loath to increase existing limits. The reason that is usually given for this is that if the programme limit is increased, their own share of the overall programme (and premium income) is reduced if they are unable to increase their dollar line proportionately.

The more astute Downstream leaders may therefore have to consider how to strike the right "marketing mix" of lower retentions and increased limits in order to stand out from the pack and take advantage of the increased premium on offer from the increased BI values.

A return to an All Risks policy form?

One final way in which a leading Downstream insurer might consider differentiating itself in this softening market is by considering the re-introduction of the old All Risks policy form that was in use in the market up until the tragic events of 9/11. Since then of course, the offering from the Downstream market has been essentially limited to PD and BI following fire and/or explosion, with a sub-limit for Contingent Business Interruption (CBI) limited for some time to FLEXA (Fire, Lightning, Explosion, Aircraft) perils. Cover for such losses proximately caused by acts of terrorism can now only be provided by the specialist Terrorism market; this market's offering has evolved into very advanced cover for specific risks such as Political Violence.

Today, while the threat of terrorism coverage has hardly abated (as referenced earlier in this Review) the competitive nature of this market does suggest that the time might be ripe for the more proactive leaders to consider a more user-friendly Policy Form that would allow the buyer the opportunity to purchase the full range of PD/BI protection from a single source.

In some instances, especially where the programme leader is not a Terrorism expert, it may be prudent for the main Property programme to assume just the first USD50 million of Terrorism cover, with the balance being placed in the stand alone Terrorism market. Alternatively, coverage could be accessed (either on a primary or on an excess basis) via a specific Terrorism pool such as TRIA in the US or Pool Re, with the Property programme picking up the balance of the cover.

Deletion of cyber sub-limits increasing

In the meantime, progress is being made on providing a more comprehensive cover for damage following a fire/explosion caused by a cyber-attack. An increasing number of market leaders are now accepting NMA2195, which buys back this cover (originally excluded by CL380) without the requirement of a sub-limit (unlike NMA2914, a clause often deployed by the market).

As we move further into 2016, buyers and their brokers therefore have an opportunity to design a more comprehensive product that will provide the buyer with assurance that an increasing proportion of their overall risk is transferred within a single policy.

Smaller leaders - can they still compete?

Given all that we have commented on with regard to the market share "land grab" by some of the major composite insurers, the reader may be forgiven for thinking that the game must surely be up now for smaller insurers featuring capacity of no more than say USD40-50 million. However, this is not necessarily the case. While it is true that some of the less well-known smaller insurers may struggle to be offered the portfolio breadth that is really required to make a success of this class, there are several underwriters who used to be very well regarded when employed at major composite insurers who now head up much smaller underwriting operations. These underwriters continue to be much in demand by major buyers as long term strategic risk partners, and from a broker perspective can often act as antidote to a rather larger programme leader who would like the opportunity to use its market muscle turn the screw and force less favourable terms from the buyer.

Should there be more competition for Midstream business?

One clear indicator that this market is not softening quite as dramatically as the Upstream market is that a significant number of Midstream programmes (including "REC-friendly risks such as pipelines, gas compressor stations, terminals, LNG facilities and the like) have recently been lost to the Upstream market who, in a reversal of the usual position, are now offering more competitive terms for this business than their Downstream counterparts. These insurers therefore have to ask themselves if they can afford to let this traditionally well-regarded part of the portfolio be lost to the Upstream market - perhaps for the foreseeable future - or whether they should revise their underwriting strategies to take this increased competition into account.

We now have a potentially very interesting scenario whereby BI waiting periods may be significantly reduced at a time when BI values are actually increasing.

To centralise or expand?

As Downstream insurers face the continuing softening of their market, they are now under some considerable pressure to cut distribution costs in whatever way is possible. Due to the different ways in which various insurers are structured and managed, there is no one way to do this, and certainly in underwriting hubs such as Dubai we are seeing a variety of strategies in operation.

One option is for insurers to centralise the insurers' underwriting operations, concentrate on doing business in one of the major Downstream market "hubs" (e.g. London, Houston, New York, Miami, Dubai or Singapore) and close down other regional offices where the cost of doing business does not justify the increasingly meagre returns in terms of premium income. For example, several Singapore-based insurers have in recent years expanded their operations into regions such as the Middle East but have found to their consternation that this has not proved to have been a successful strategy; they have now decided to retreat from this region and focus on their core book of business, hoping in this way to ride out the soft market cycle. Meanwhile one well known insurer has significantly scaled back their appetite for Energy risks and is now looking to take a very selective approach on asset type, and where possible only an excess of loss basis.

Another is to take a contrary position, electing to focus on specific lines of business that offer significant premium volume or spread of risk and expand the insurer network still further, but focusing almost exclusively on these superior lines of business where they have more margin. Due to the high volume of premium usually associated with this class of business, Downstream Energy is often identified as just such a class, but then again the recent reduction in portfolio premium income may now make this class less attractive to some insurers.

What should the buyer make of these insurer coming and goings, of all the differing strategies that are currently being deployed to keep insurer portfolios afloat in these challenging times?

We believe it is vital for the buyer to take full advantage of any insurer change of strategy by ensuring that they are kept comprehensively informed of developments and by consulting with their broker to determine how best they can benefit and keeping their existing marketing strategy constantly under review.

The outlook for 2016

Lower rates than the last soft market - and getting lower still.

Figure 5 on the opposite page, which compares Downstream market capacity with estimated average rating levels shows that, despite the recent improvement in loss records, rating levels continue to head further downwards, to a level that no current market practitioner has ever seen before. For most of the last five years, we can see that rates have been kept at levels last seen in the soft market of the 1990s, but now even that barrier has been well and truly broken (although it would be interesting to compare what lines of cover were included in the rating levels in 1999 compared to today's market offering). No wonder insurers are now attempting to find other ways of differentiating themselves as we have articulated earlier in this chapter.

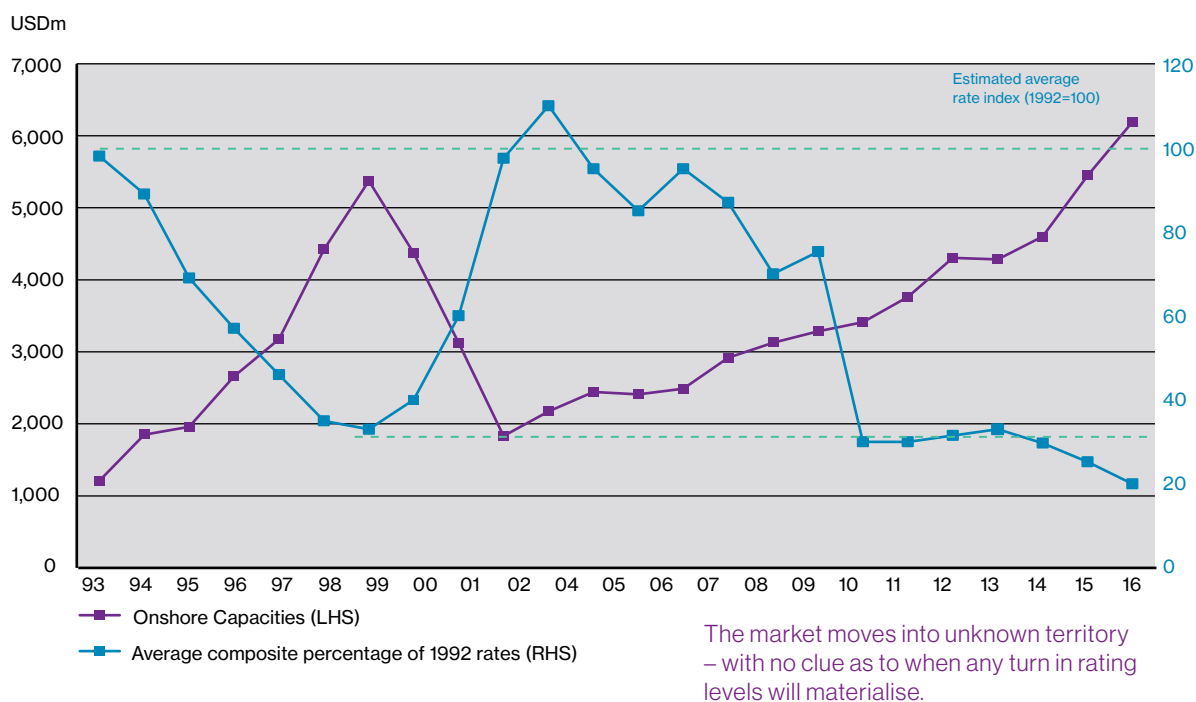
But no reason to panic!

However, there is still a very long way to go before this sector slides into general unprofitability. The emergence of the Fac R/I market has, if anything, provided a further buffer for the established market insurers should the loss record significantly deteriorate and, in the meantime, insurers have fresh premium income to look forward to as refining margins increase. Furthermore, so long as the global glut of reinsurance capital remains committed to the Property & Casualty sector, we believe that there will be more than enough capacity available to meet the demands of this sector of the Energy industry for the foreseeable future.

The danger of raising prices in the future

But for those insurers hoping to see rating levels rise beyond the norm of the last five years, back to the days in the aftermath of 9/11 when buyers had no choice but to accept the terms of the much more limited capacity on offer, we think there can only be long-term disappointment. In any event, we are firmly of the opinion that should rating levels harden significantly in the future for whatever reason – an exceptional natural catastrophe, for example – the market would then run into the danger of losing clients on a permanent basis. During the last 20 years, the supermajors have led the way in scaling back their dependence on the commercial insurance market, with some hardly using it at all while others have reduced their operating programmes to a limit of some USD200 million or so.

Figure 5 - Global Downstream Capacity Versus Estimated Average Rating Levels, 1993 – 2016
(Excluding Gulf of Mexico Windstorm)



Source: Willis Towers Watson

Furthermore, the rapid growth of captive utilisation during this period has not been restricted to the super-majors, and should rating levels ever increase beyond what buyers consider to be affordable, we would suggest that the next tranche of major energy companies might decide to scale back their involvement with this market. History suggests that once a buyer decides to scale back their insurance purchase, there are very few examples of them ever deciding to reverse the decision in the future.

Differentiation beyond price?

If the market wants to keep the demand for its products at a level that generates sufficient premium income to enable the class to continue to be worthwhile, then raising prices is unlikely to form part of the solution – regardless of market dynamics. Instead, we believe that

capacity providers should think more laterally about how to continue to attract buyer interest instead of assuming that demand for their product will continue to be as inelastic as in the past.

As 2016 progresses, we will be watching with interest as to the extent to which some of the ideas that we have discussed in this chapter come to fruition. In the meantime, the opportunities for buyers to secure more cost-effective and comprehensive risk transfer solutions are simply there for the taking.



Justin Blackmore is Chief Broking Officer, Property and Casualty at Willis Towers Watson.



Graham Knight is Head of Downstream, Natural Resources GB at Willis Towers Watson.

Onshore Construction

Market softening continues as capacity tops USD4 billion

In an industry that has undergone significant change during 2015, overall insurance market conditions are one of the few aspects of the construction arena that have remained consistent.

Current reinsurance treaty renewals show every sign that 2016 will perpetuate the ongoing soft market. Significant market capacity continues to be the main driver of the softening, with total global market capacity on a PML basis now standing at over USD4.2 billion (security rating of “A” (AM Best or S&P or better - insurers with ratings below “A” only add to this capacity). Indeed, we understand all major insurers involved in this class have increased their capacity in one way or another at January 1 – perhaps unsurprisingly, given that is one of the few options open to them to maintain market share in this environment.

The soft market conditions that have prevailed for the last four years therefore continued during 2015, resulting in an even more competitive environment. As in other sectors, the significant market capacity increases in recent years have resulted in rates and premiums that are now down more than 30% year on year, with projects featuring some industries experiencing reductions of nearly 50%.

Mergers and acquisitions contribute to market conditions

Over the past year, we have seen two factors that have exacerbated capacity levels still further:

- Global M&A activity in the insurance sector hit new heights in 2015, with USD143.5 billion worth of transactions announced (see our Willis Towers Watson “Defying Gravity” Report of January 2016). The Construction industry was not exempt from this broader, global trend, with examples such as XL Catlin being the most prominent; furthermore, as reported elsewhere in this Review, Asian insurers have also contributed significantly to this trend. This type of activity will likely only continue, as the Asian market is expected to be the centre of M&A activity over the next three years.

- Market capacity has also expanded in recent years with the entrance of new insurers such as Axis, Barbican, AWAC, Helvetia, (formerly National Suisse) Travellers and Novae. Furthermore, carriers from several “emerging” markets such as China and India are now writing more international business. Most insurers now have multiple entrance and access points and local underwriting “hubs” also continue to be more active, although many still have to report into respective head offices for high value or complex risks.

Serious losses not enough to offset market softening

Furthermore, while there were certainly some significant incidents recorded during 2015, most notably the Seattle Tunnel wall collapse, the Poland refinery incident and the Swakop Husab Uranium fire, these were relatively few in number.

However, this small number of major incidents will do little if anything to affect overall market conditions where the driver remains the amount of overall market capacity available.

Energy industry remains a market focus – but concerns remain

The Energy industry has been and will remain an area of focus for Construction insurers in 2016. However, this industry has some unique considerations which they will take into account:

- With the notable exception of India, the reduction in oil prices has led to a slow-down in investment and therefore reduction in premium volume from the most impacted regions such as the Middle East, Russia, Brazil, Mexico, China and the United States (with India being a notable exception).
- There has been a significant increase in Probable Maximum Loss (PML) calculations, due largely to the increase in financial losses that would be incurred in the event of a Delay in Start-Up (DSU) of the project.
- Underwriting concerns for construction within the Energy industry continue to evolve. Compared to previous years, construction projects in the Energy space are getting bigger, taking longer, and becoming more complicated. Contract values continue to escalate, with USD2 billion now an average Sum Insured compared to USD1 billion only 12 months ago.

- Increasing inter-dependency between new and existing plants raises accumulation concerns. Scrutiny around Refurbishment and Revamping projects, in particular the Contractual Agreement between Owner and Contractors as regards responsibility for damage and indemnity to reinstate, continues to increase.
- Testing and commissioning periods continue to get longer, raising concerns with Construction insurers as to whether insurance is being requested to cover post-commissioning operational risk. This is of particular concern, as operational markets continue to exclude testing and commissioning risks. And while five years ago, coverage for the instillation of unproven equipment was an outright exception, coverage is now provided albeit with significant scrutiny and restrictions.

There are several other aspects of a project that are taken into consideration during the underwriting process. Natural Catastrophe exposures have been and will continue to be a focus area, as is transportation and storage risk, particularly those that are outside of the site or the country of the risk. Tie-ins, particularly in and

around existing plants, and the supplied equipment's country of origin, for example China (European suppliers are preferred) will be subject to serious examination. And finally, claims will continue to receive a high degree of attention as negotiations continue to be more extensive and settlements more difficult to conclude.

Conclusion: good underwriting information remains essential!

As we look forward into 2016, it is unlikely that much will disrupt continued market softening, with rates dropping as much as 10%. But as always, projects with thorough and timely information will undoubtedly fare more favourably in the underwriting process. This includes the demonstration of quality controls supported by technical information such as manufacturer and supplier details, lead times of critical items, accurate PML reports, control monitoring results and a willingness to include DSU cover.



David Warman is leader of the Willis Towers Watson Construction Global Centre of Excellence to ensure the specialists in London provide technical and placement support to all Willis offices globally and ensure that marketing and servicing standards are delivered to the highest levels.

The View from Asia

We have continued to see an increase in authority given to the major Construction underwriters in Asia where they now have the same capacity and ability to provide broad cover to projects that their parent offices have done in the past. This continues to create significant competition between insurers, benefiting clients in terms of coverage and price.

Innovation is also important and in respect of technical projects with challenging testing and commissioning requirements (such as the Oil and Gas sector) insurers are now prepared to offer seamless cover from Construction to Operational by offering the first twelve months operational cover under the Construction policy. Allied to that, we are seeing the inclusion of Ocean Marine Transit in some Construction policies, including Delay in Start Up.

2016 will be a challenging year for insurers, with a reduced flow of projects, particularly in the Oil and Gas sector. They will therefore be very keen to support projects that they regard as being well risk managed.

Chinese insurers are also developing their interests in international projects, whether these involve Chinese interests or not, as they see less flow from domestic projects as well.

Certainly the signs in the first quarter of 2016 are that Construction insurers in Asia will be aggressive for business opportunities in the energy sector and they recognize that, to be competitive, both price and coverage must be under the spotlight for them to be successful.

Political Violence/Terrorism

Continued development of terrorist capability

2015-2016 has seen the continued development of capability and scope of global terrorist activity, not least the recent tragic attacks in Brussels. The focus is maintained on Islamic State, but they are far from the only threat:

- Extremist terrorist activity has become increasingly widespread, sophisticated and coordinated.
- Terror groups have the strategy, capability and funds to launch sizeable attacks, highlighted by the events in Paris and Brussels - US/Western companies remain the key targets.
- Iraq, Syria, Libya, Nigeria and Kenya are all key areas where attacks have been most prolific.
- Contagion from Syria into Turkey, Lebanon and Jordan is a real and growing threat - the breakdown of the ceasefire between the PKK and the Turkish government fuels this risk.
- Violence continues in Africa:
 - In West Africa, Al Qaeda inspired groups, MEND, Islamic State Militants and their allies Boko Haram
 - In East Africa, predominately Al Shabaab
- Further attacks against Western, Government and strategic interests should be anticipated in both regions.
- The Terrorism & Political Violence markets in London, Singapore and Dubai, in spite of significant losses, have remained competitive, with rate reductions for most risks - this is expected to continue through 2016.
- Asia - Terrorism and Political Violence capacity, and specialist expertise, continues to become more regionalised, specifically in Singapore which is now firmly positioned as the primary hub for Asian business. It may be worth noting that the largest Terrorism placement in the world is based in Asia (USD3.2 billion) and provides a representation of the significant capacity available in the global marketplace.

Islamic State threat sustained

2015 saw sustained high levels of Terrorism and Political Violence, punctuated with the large scale attacks in Paris. The significant threat of Islamic State has not reduced - indeed, the movement remains well funded, organised and ruthless.

The sustained ability of IS and its affiliates to launch attacks should prompt companies to make sure they have adequate protections in place.

IS has had a significant impact across the entire Middle East and North Africa region. The emergence of the Libyan branch and the endurance of their alliance with Boko Haram significantly increase the possibility for cross border attacks in Northern Africa and widens the scope for coordinated attacks in multiple regions. IS are ideologically driven to expand their territory; with their growth in Syria and Iraq somewhat halted, North Africa offers them new avenues to continue their territorial expansion. The lawless situation in Libya is proving a fertile ground for the development of this capacity in North Africa and this is allied to issues within Egypt, which came to a head with the bombing of the Russian flight Metrojet 9268 out of Sinai.

IS considers energy infrastructure critical to their operation. Oil and gas production is one of their main methods of generating finance (alongside kidnappings and ransom) and the income generated from this industry has helped propel them to their position as the pre-eminent Islamic extremist group. However, oil and gas production in Syria and Northern Iraq has been severely curtailed by Western intervention, hampering IS efforts and it will be interesting to see if IS repeat this strategy of financing in Libya.

Increase in "Lone Wolf" attacks

"Lone Wolf" (individuals acting outside of established terrorism networks) attacks increased in 2015, both in terms of frequency and complexity. The November 2015 Paris attacks highlighted the economic costs that this type of attack can inflict, both in terms of increased Terror alert levels and the imposition of a State of Emergency in France, and the effect of this has been felt across Europe. Security services often struggle to detect and prevent these attacks, while overseas extremist groups continue to exhort their follower/supporters to carry out further attacks.

Migration flow to Europe brings its own risks

There is a significant risk arising from the major migration flows from the Arab world into Europe. IS and other extremist groups will use this opportunity to move fighters and operatives into European target countries, and indeed the organisers of the Paris attacks utilised this exact method.

The Terrorism & Political Violence markets in London, Singapore and Dubai, in spite of significant losses, have remained competitive, with rate reductions for most risks - this is expected to continue through 2016.

There is a limit to what European countries can do to detect this behaviour. The European Union is duty bound on a humanitarian level to continue to provide protection and residence for this flow of humanity. It is therefore imperative that companies acknowledge this threat and make sure they are protected appropriately.

Energy industry an increased risk

Energy companies remain at an increased threat level due to their propensity to work in hostile environments and the high value of their product. Moreover, due to the international nature of many energy operations there is often a nationalist sentiment against their operations locally which can easily be exploited by extremist groups.

It is of paramount importance that energy companies are aware of the risk they face and manage it appropriately. Some energy companies benefit from OIL which provides limited coverage. Companies need to make sure that the coverage offered is appropriate for the risk they are facing. The commercial market is able to provide capacity excess of OIL and on a Difference in Conditions/Difference in Limits basis.

2015 Attack Round-Up

Key worldwide attacks in the last 12 months include:

- **Tunisia** – the Bardo National Museum attack on March 18 and the Sousse attack on June 26 2015 highlighted the risk to Westerners in North Africa and the ability of IS to project its power.
- **Kenya** - the Garissa University attacks in Kenya on April 1 left at least 147 dead. The attacks were claimed by Al-Shabaab; African Union (AU) forces in Somalia continue to frustrate this organisation. In turn this makes the AU home territories legitimate targets for Al-Shabaab attacks.
- **Ukraine** – this was one of the main stories of 2014-2015; however, in the last 12 months the ceasefire has been (largely) observed. The local situation has stabilised but there remains low scale attacks happening on a regular basis.
- **Thailand** - the Ratchaprasong bombing occurred outside the Erawan Shrine at the Ratchaprasong Intersection in Bangkok; worldwide events often overshadow the ongoing political issues in this country.

- **USA** - America had three notable terrorist incidents in 2015 and the first three months of 2016. The Charleston Church shootings were carried out by a white supremacist looking to provoke a race war, and then the country experienced the Chattanooga and San Bernardino shootings. These attacks clearly underline the range of threats the USA faces, both from internal pressures and external extremist sympathisers.
- **Kuwait** – a mosque was bombed in June 2015, demonstrating that the IS threat is not just faced by western countries.
- **Paris** - November 13 2015 saw the launch of multiple attacks across Paris causing upwards of 130 fatalities. This IS attack caused significant repercussions within Europe but also prompted Britain and France to start bombing IS within Syria.
- **Colombia** - 2015 saw continued progress in this country. Peace negotiations have made headway between the government and FARC, but ELN, the country's second largest rebel group, continues to mount attacks. Energy infrastructure remains the prime target, with pipelines suffering numerous attacks.

New Denial of Access Business Interruption offering - no need for property damage

In 2016, a new and “first to market” product is to be launched, responding to exactly the kind of threats most often faced by companies today. This product is a standalone Denial of Access Business Interruption offering that can be triggered with or without Property Damage occurring. The deductible structure has been tailored specifically to reflect the threats to companies and the deductible waiting periods ranging from 6 hours to 3 days, depending on clients specifications. Cover will respond not only to Terrorism and Sabotage risks but also to Civil Commotion, Malicious Damage, Strikes, Riots, Civil Commotion, Protestors and orders of Civil or Military Authorities.

Expansion into high risk territories

With the softening of Terrorism rates in the traditional markets of North America and Europe, insurers are increasingly moving into territories considered high risk. This effect is reducing rates in most geographies. Following significant new capacity entering the market in 2014-2015, the last 12 months have seen this trend continue with upwards of USD200 million of new capacity entering the market. In combination this should lead to clients benefiting from softening rates and increased capacity for difficult covers, and indeed available limits are growing for all perils.



Lloyd's Dubai encourages more Terrorism market entrants

Lloyd's Dubai has now opened and trading, and a number of Lloyd's syndicates not previously in the region have started writing Terrorism and Political Violence, following a similar pattern to the establishment of Lloyd's Singapore. Both these developments have increased competition between local markets and London, which has brought benefits to the insured as rates have been forced downwards.

Summary – a real and present risk

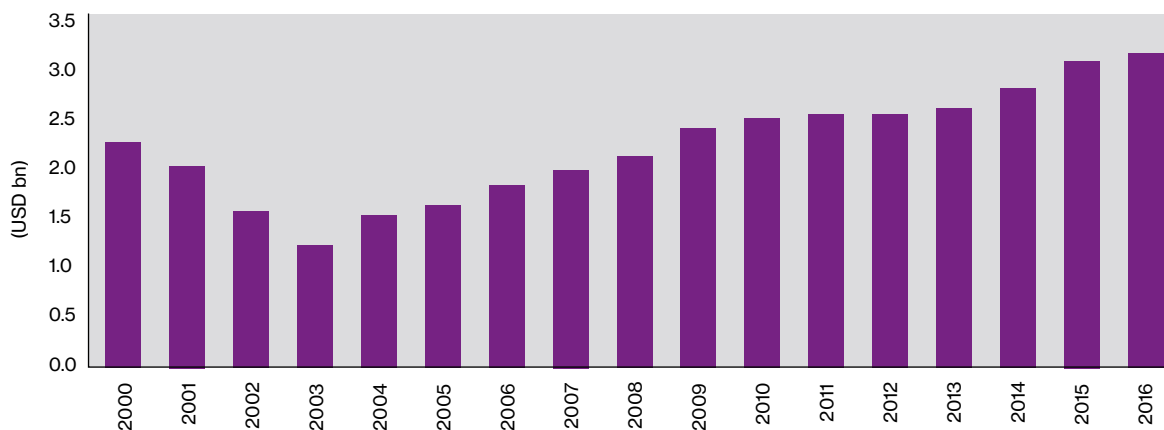
The world continues to be a difficult place to conduct business, with Political Violence in all its guises a real and present risk. Companies need to make sure that this risk is clearly identified and evaluated; risk mitigation needs to be considered, of which insurance can form a crucial part. The Political Violence market continues to evolve and bespoke offerings are able to be crafted as never before. 2016 will continue to create challenges but with active risk management there are certainly a range of solutions available.



James Borrie heads up Willis Towers Watson's Terrorism and Political Violence department in London, part of our Corporate Risk and Broking sector.

Liabilities

Figure 1 - International Liability Market Capacity (USD bn)



Source: Willis Towers Watson

International Onshore Liability

Have you ever stepped into a crowded lift and felt the floor lurch downwards unnervingly? This is a feeling that new entrants to the liability market are becoming accustomed to. As the supply of liability capacity grows relentlessly, rates continue to jolt downwards. What are the reasons and where will it all end?

The Liability market has reached a new peak in 2016 with global capacity at all-time high of USD3.1 billion.

This published/theoretical capacity is often considerably more than is actually utilised in practice. For example some insurers only focus on certain industries or have certain treaty restrictions, so that the actual realistic capacity available is approximately USD1.5 - 1.6 billion for onshore risks, and approximately USD1.0 - 1.2 billion for offshore risks. This level of capacity is still more than adequate for all but the largest buyers and represents a virtual tripling of capacity over the past 13 years.

The overabundance in capacity has been driven by a number of macro-economic and industry factors, including:

- Low interest rates, leading capital to seek a profitable home
- The relatively profitable results across the Casualty class as a whole over the past few years
- The desire for insurance investors to spread their risks across a wider portfolio than just short-tail Property insurance
- The cheap cost of treaty reinsurance
- The movement of a number of senior and experienced Liability insurers away from some established companies to set up their own Liability operations.

Number of leadership options continues to expand

The result of these factors has not only been a growth in capacity, but a growth in choice of insurers. In the past 2-3 years alone we have seen the arrival of a host of brand new Liability markets including Ascot, Acapela, Apollo, Canopus, Dale, Hardy, MCI, WR Berkley and most recently Probitas, all staffed by seasoned veteran underwriters. In addition, we are yet to see any meaningful reduction in capacity following the recent spate of Mergers and Acquisitions.

The increasing emergence of broker facilities (such as the Willis Towers Watson G360 facility with up to 20% of additional capacity per risk) has added to the available capacity.

Regional markets become more aggressive as buyers cut back on activity and expenditure

London, Dublin, Bermudan and Continental European based Liability insurers are having to compete not just with themselves but with local regional markets that are becoming increasingly aggressive and autonomous.

In the Energy sector, these insurers been faced with a perfect storm as clients, faced with falling oil and commodity prices, have cut back dramatically on their activities and seen increased pressure on their insurance budgets. According to Rystad Energy consultants, investments in oil and gas are expected to fall to USD522 billion, their lowest level in six years, following a fall of 22% to USD595 billion in 2015. As a result, many major construction exploration and expansion projects have been put on hold.

Meanwhile, exposures increase...

The irony is that Liability exposures are increasing, not reducing. The growth in environmental regulation, the increasing spread in litigation costs globally and the increase in legal costs and awards have all combined to raise liability exposures. Equally, many companies are quicker to test their contractual conditions in an effort to lay off losses and liabilities on their contractors, suppliers and joint venture partners. Governments are also increasingly willing to impose very significant fines on companies that are involved in events causing damage, injury or pollution. In one recent case there is a claim of up to USD7 billion being levelled against certain energy companies. In addition the Macondo well blowout in 2010 highlighted the potential for Liability exposures running into tens of billions of dollars. Even Liability losses from a seemingly modest loss such as a tank farm explosion can run to excess of USD1 billion.

A 2-tier market

The net result of the oversupply and reducing demand is a soft liability market. However, there are important variations depending on the profile of the client, resulting in essentially a 2- tier market. For simple, single territory onshore operations requiring modest limits, the massive

over-supply in capacity and aggressive local markets can result in buyers benefiting from significant premium reductions. For the larger energy clients that have a global footprint, more complex operations (offshore, marine, pipelines) and requiring meaningful limits, the capacity pool is smaller and premium reductions are more measured.

Can anything stop the freefall?

In 1852 Elisha Otis, the father of the modern elevator, invented the first safety system. In the event that the elevator cables broke, a frame at the top of the elevator car would shoot out, bracing the elevator against the walls of the lift shaft and stopping it in its tracks.

As yet, there is no sign of such a system operating in the Liability market. Rates continue to drop, albeit at a measured pace. In a recent article Swiss Re has predicted that Liability rates will start firming in late 2016, but we are yet to see any sign of this; there is simply too much supply chasing limited demand.

However, we do see underwriters writing more intelligently and strategically, focussing on risk selection, reducing their line sizes where prices are getting "too thin" and starting to pull back from the unprofitable sectors. Recently three insurers, Axis, Dual and Marketform, have pulled out of open market Liability business and we expect to see market consolidation eventually act as a brake on capacity growth, albeit not this year.

A good time to take stock

Wise buyers, working with their broker, will use the current trading conditions not just to ensure the best deal but also review their breadth of coverage, enhance their limits and foster their relationship with key strategic carriers. Liability claims can come out of nowhere and, soft market or hard, the real value of a Liability policy is when it responds to a loss.

We have seen that Liability claims are becoming more likely not less likely; in these challenging economic times for energy clients their Liability policy can act as valuable balance sheet protection in the event of a major loss. However this is only the case if time and effort is spent to ensure that breadth of coverage is not sacrificed in the current race to commoditise and cut cost.

Marine Liabilities

It is more of the same for the Marine Liability market and its customers. The market continues to have more capacity than is being used in 2016, and this should equate to competition-driven reductions, with “vanilla” accounts achieving the strongest renewals. Over the past two years there have been new entrants to the mix; the effect the additional capacity has had on pricing has been heightened by the movement of certain individual underwriters within the market. Most pundits point to underwriter movements universally, including in London with Apollo, Acapella, Amlin, Hardy and others to corroborate the continued softening. One Lloyd’s insurer leading the charge in the Marine Market in particular is the Standard Syndicate.

Renewals of marine programs should see flat to maybe 10% reductions, while in some circumstances the continued softening impact could be greater. Incumbent markets will stress the importance of continuity, new capacity or newly-in-place underwriters will offer savings and perhaps improved conditions.

In North America, Australia and elsewhere, 2016 will see a number of newly constructed terminals and other terminals reconfigured to export LNG/LPG and/or support single point mooring facilities as exports of gasses are allowed. This aspect will be embraced by the market, as it creates new opportunities for capital use.

2015 has passed without major events which would shift or halt where the market is moving. A better claims record in 2015 seems to belie the volatility of years previous and the deterioration seen therein. The largest buyer of Marine cover, the International Group, has seen a soft renewal for most facets for its 2016 year. The potential merger of the Britannia and UK P & I Clubs will impact how this new entity may buy its reinsurance, and will be watched by the market at the end of 2016.

North American Excess Liabilities

Buyers under pressure to reduce costs

In a twist on a quote attributed by some to Ben Franklin about calling a steer a bull, risk managers may enjoy another year of softer markets, but they would rather have the price of oil back to a level that would support their premium payments more easily. 2016 activity will see clients presenting such carnage on underlying rating bases that by the end of the second quarter insurers may become insouciant to all but the most impassioned plea to recognize the industry’s dire position.

While 2015 may not have brought any Excess Liability market-moving losses, at least not at the time of this writing, it will be the year that underwriters will point to gaining increased knowledge on tailings ponds and underground gas storage facilities. Buyers will also remember the year for the loss of some lead Excess Liability markets as well as the continuing deterioration of commercial auto liability losses into excess programs.

Stable capacity

For North American domiciled accounts, total capacity is in the area of USD1.2-1.3 billion and this remains stable. Year on year, capacity has increased marginally; specific insurer exits have been matched by other entrants and increased capacity from established participants. This amount is somewhat theoretical, as pricing and coverage anomalies appear the higher the limit acquired. Realistic capacity (on substantially the same form and within balanced pricing parameters) amounts to some USD700-800 million, which reduces perhaps for pipelines and contractor programs.

More primary arena competition?

We note, as we have in recent years, that the number of leaders for Excess Liability placements is very limited. An interesting dynamic here is that certain markets are now looking at lower attachments, still above the lead excess area, to create the desired commercial objectives: market share, increased premiums and market presence. It seems that the favorable loss picture for the past half-decade has indeed given some markets increased courage (bolstered maybe by the availability of pliable reinsurance).

Withdrawal of Axis

The market continues to have a large number of insurers available to participate in excess roles. One notable exit from the Bermuda market is Axis, deciding in autumn 2015 to stop underwriting all Excess Liability business in London and Bermuda.

The reasons given by Axis are surely playing on the minds of all excess carriers taking on Energy exposures: difficulty in gaining and maintaining scale, lack of profitable organic growth opportunities, new markets entering with additive capacity and finally “challenging jurisdictional issues”.

Canadian regulators tighten up

The last of these issues looms large in 2016 and beyond. For example, Canadian regulations over offshore oil and gas exploration and production, transport of petroleum and products by rail, and large pipeline exposures seem to have riveted on strict liability, polluter pays, and insurance limits in place of CAD1 billion or more for the operators in those segments. We note other countries have enacted similar requirements, albeit not pursuing the level of liability protection that the Canadians have, but some countries are asking their domestic energy operations if those limits are achievable.

Increased retention temptations?

Most buyers are paying attention to underlying program retentions which they have maintained or moved to during a more robust time. There is a temptation to save premium by increasing retentions, and this must be tempered by the increased adverse financial exposure to retained losses. We expect to see pressure on insured limits through 2016 and perhaps beyond. Premium savings by removing top layers may not amount to a huge percentage savings, but displacing some of that capacity can create the competition needed to move some price-stagnant lower layers.

A good time to negotiate broader coverage

Regarding policy form, in general terms, insurers are not restricting coverage, nor are they significantly broadening coverage either. We note the intention of some in the Bermuda market to change the base form substantively unchanged since last century. Chubb has brought out its 007 form, graciously disposing of some “Bermuda form requirements”, but also updating certain conditions and exclusions. For many buyers and most major global insureds, the Occurrence Reported form constitutes a (major) portion of their placements. We expect increased attention to levels of Cyber coverage available through excess liability policies through 2016. The JL2013 (both claims made and occurrence triggers) forms are the widely accepted policies for London energy placements, and North American domestic policies can be followed if large limits are not sought.

Multi-year policies?

While multi-year policies still are not typically available, there are a few insurers who might consider them at the right terms. Insureds should challenge for this possibility, understanding that it may require the annual participants on the program to recognize this. Multi-year policies do ensure a more stable renewal book for insurers, one of the things previously mentioned they desire.



The market therefore continues to be soft, and will allow for reductions as buyers' exposures reduce. At some point, either in time or within a buyer's specific programme, a minimum premium will be determined.

Pricing realities

As far as pricing is concerned, the following realities continue to hamper insurers' ability to firm up rating levels:

- Global reinsurance market capital remains abundant, in part due to the continued low interest rate environment, i.e. alternative capital continues to flow into the reinsurance market fueled by the hope of better returns on investment. As a result, there remains an over-abundance of reinsurance capacity for direct markets.
- Neither the Upstream nor Downstream sectors have suffered market-changing losses, so their relatively benign loss records have been extended. However, two large Natural Resource losses did occur toward the end of 2015, which could move ratios dramatically.
- Consolidation within the broader energy industry following the oil price collapse means fewer clients available to purchase insurers' capacity.

More leaders needed!

While the above factors should enable some market softening to progress, with regard to more complex Natural Resource clients, a lack of insurers prepared to lead has prevented this to date. As a result, on the downstream/refining side, until there are more insurers willing to lead this class of business, it is unlikely that pure "market reductions" will be provided, i.e. premium reductions without decreases in exposure or due to program restructuring or the like.

Insurer consolidation continues

We expect insurer consolidation to continue in 2016. The ongoing environment of low interest rates continues to challenge insurers' investment income streams. With organic growth hard to come by, inorganic growth becomes all the more appealing. However, since 1+1 does not necessarily always equal 2, over time one might expect less competition, possibly more controls over deploying capacity and as a result, flattening premiums and/or premium increases.

Minimum premium levels?

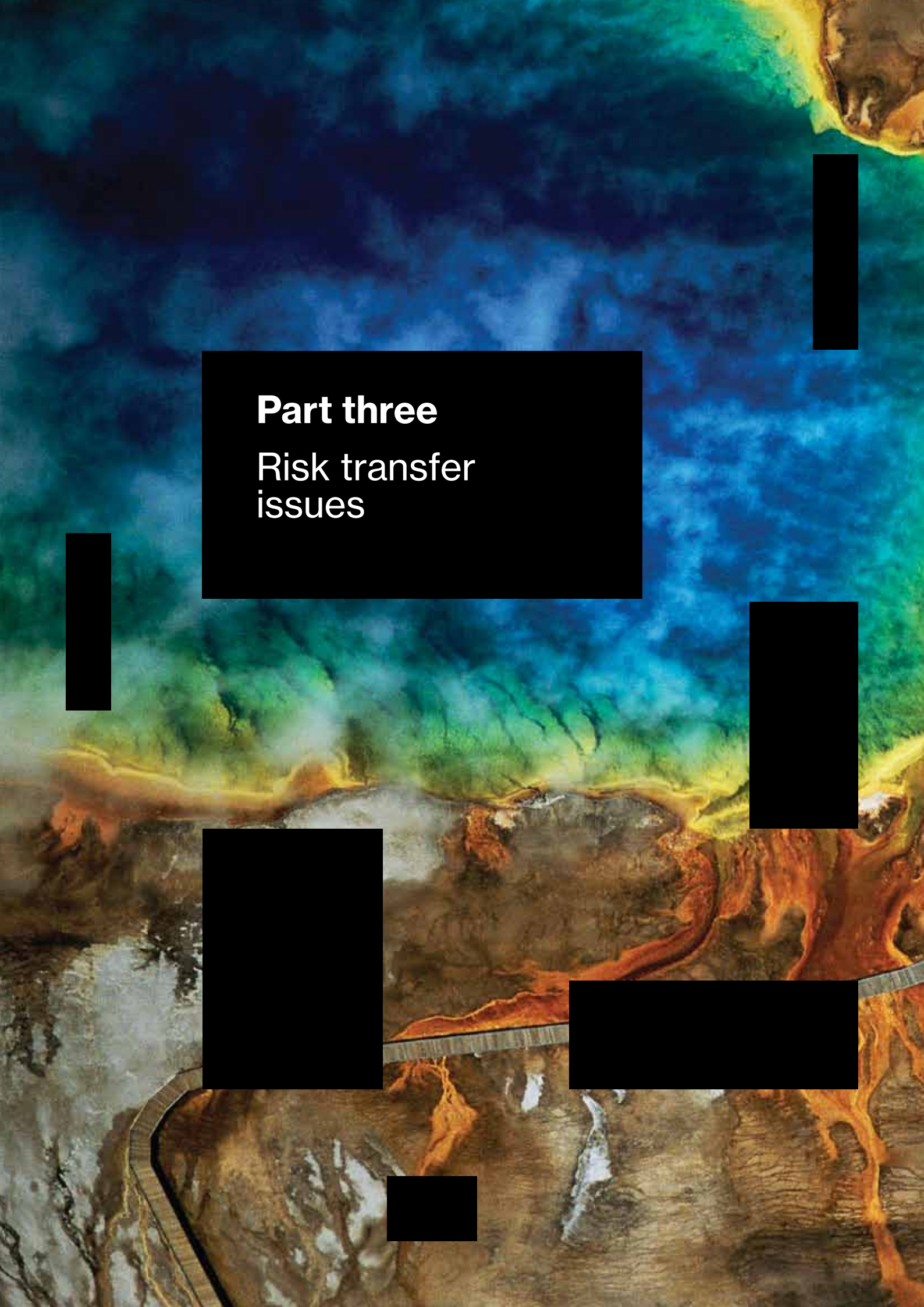
The market therefore continues to be soft, and will allow for reductions as buyers' exposures reduce. At some point, either in time or within a buyer's specific programme, a minimum premium will be determined. No doubt the market will continue to try to hold the line at that level, but even then, "will not be lowered" stances are bound to have a little bit of play in them.



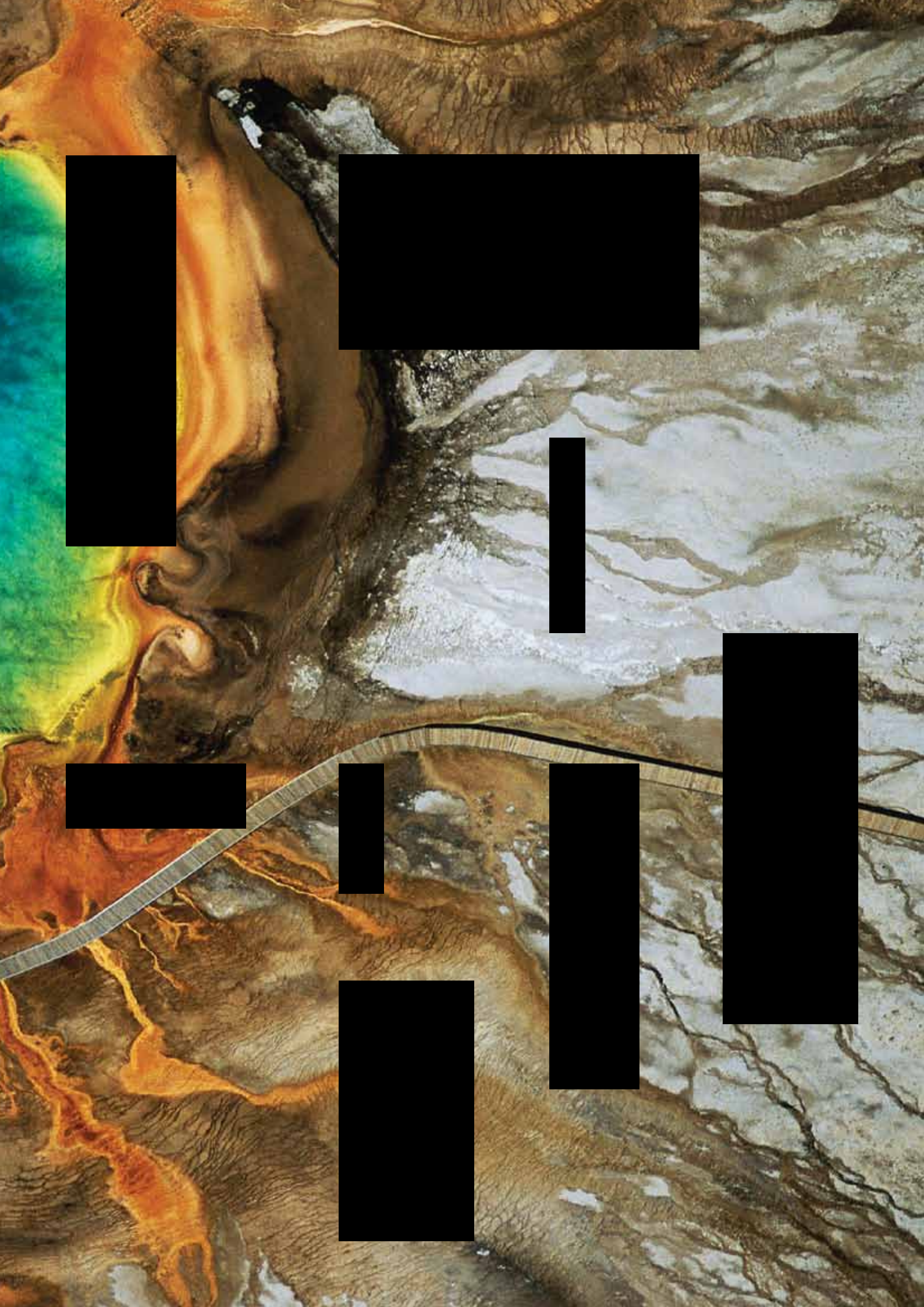
Mike Newsom-Davis heads up the International Onshore Energy Liability team at Willis Towers Watson in London, which has portfolio of over 70 international energy and utility accounts. He has responsibility for the strategic design and marketing of liability programmes for major energy clients.



David Clarke is currently responsible for the handling of all North American based liability business coming into Willis Towers Watson's London office, specializing in complex Casualty placements. His work with major energy clients includes several areas of specialization, including Primary and Excess Casualty, Marine Liabilities and Pollution risks.

An aerial bathymetry map of a coastal area. The map uses a color scale to represent depth: dark blue for the deepest parts, transitioning through light blue, green, and yellow to brown and white for the shallowest parts near the shore. A central black box contains the text 'Part three Risk transfer issues'. Several other black rectangular boxes are placed over the map, obscuring some of the bathymetric details. The map shows a complex coastline with various channels and shallows.

Part three
Risk transfer
issues



The 2015 Insurance Act – why it matters

Introduction

It has been reported that 1 in 4 London market insurers will have to rely on investment returns to make a profit in 2016 (PWC December 2015). The market is soft across its various classes of business and this includes the Energy sector, which also faces a number of key challenges from increasing costs associated with sourcing and extracting hydrocarbons and the price of commodities.

In January this year Brent crude reached a 13 year low of USD27.67, which on the face of it is fine for consumers but very worrying for the sector, its assets that must be maintained and financed and of course its employees –several majors are cutting back on their workforces worldwide, blaming the low Brent crude price.

Business costs in such circumstances are always under the microscope - particularly expenses such as insurance premiums.

With the needs of Assureds and their insurers potentially in conflict, policy coverage specialists are no doubt being inundated with potential amendments to policy wordings relating to Upstream and Downstream insurance contracts in preparation for the introduction of the Insurance Act 2015 in August 2016 (“the 2015 Act”).

A new landscape for insurance contract law

Despite 60 years of criticism, the Marine Insurance Act 1906 (“MIA”) is not being formally repealed but the 2015 Act will set out a new landscape for insurance contract law. Fundamental changes will be made in respect of the negotiation of the contract of insurance and a greater onus will fall upon insurers to ask key questions of the Assured and its business before the policy incepts or renews.

The 2015 Act will affect the way in which business is underwritten and placed. It also changes insurers’ remedies for non-disclosure and misrepresentation, breach of warranty and fraudulent claims. The 2015 Act will have particular ramifications for key aspects of insurance law, including critical policy provisions such as Warranty and Due Diligence Clauses.

The Assured and its brokers will be required to make a fair presentation of the risk. This represents a fundamental shift from the doctrine of “utmost good faith” (enshrined in Section 17 of the MIA). That is not a new concept - in fact there is an element of going “back to the future”. Nearly 250 years ago Lord Mansfield (Carter v Boehm (1766) 3 Burr 1905 at 1909) stated:

“Insurance is a contract based upon speculation. The special facts upon which the contingent chance is to be computed, lie most commonly in the knowledge of the insured only; the underwriter trusts to his representation and proceeds upon the confidence that he does not keep back any circumstance in his knowledge, to mislead the underwriter into a belief that the circumstance does not exist, and to induce him to estimate the risk as if it did not exist.”

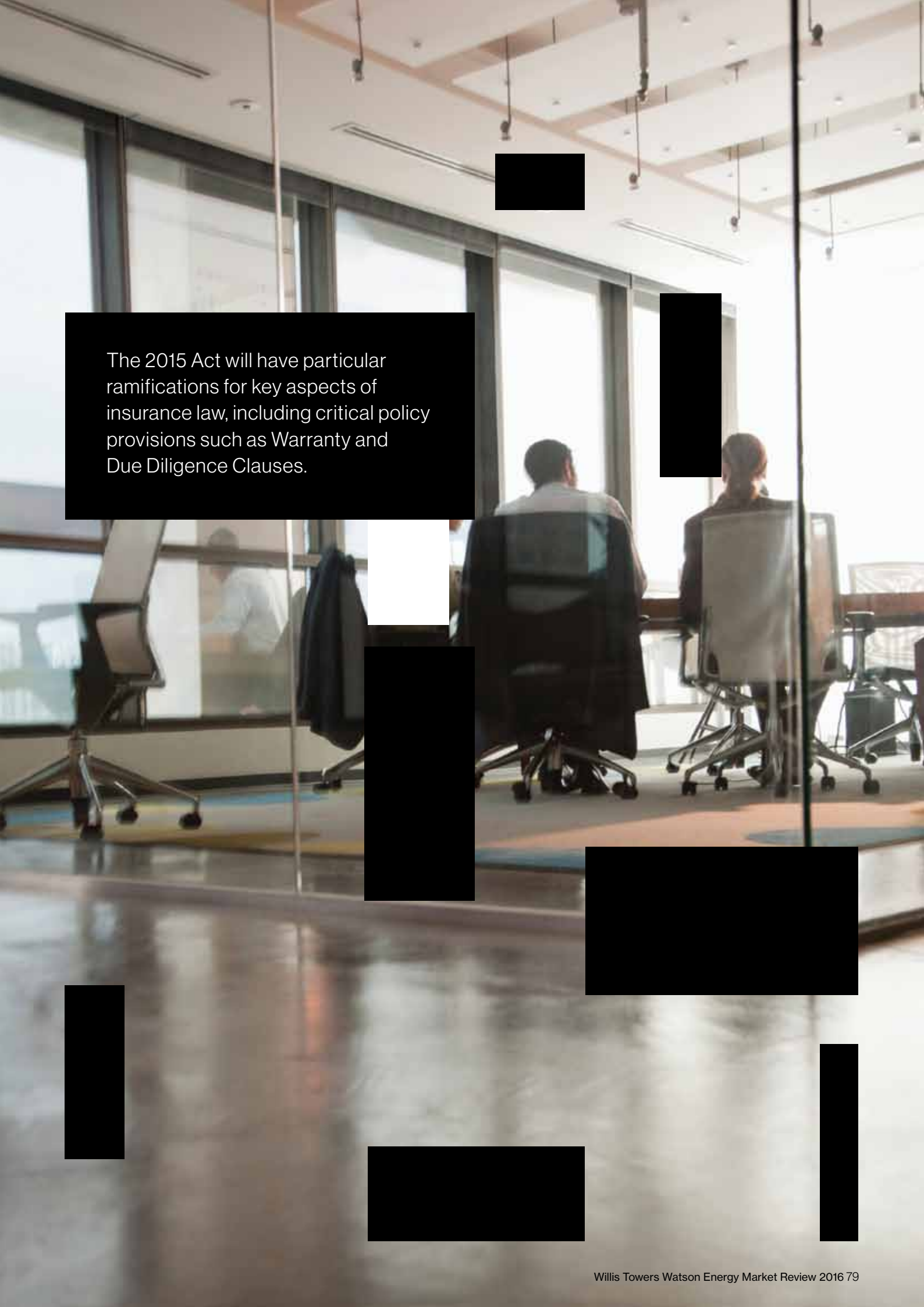
What does this mean in practice, against the backdrop of statements of practice, FCA rules, FOS discretions and industry guidance?

First, these changes will apply only to business insurance (consumer insurance having already been clarified by the Consumer Insurance (Disclosure and Representations) Act 2012).

Fair Presentation

The most important aspect of the 2015 Act is the requirement of a fair presentation of the risk.

The Law Commissioners criticised the perceived practice of overly complicated presentations and “data dumping” by Assureds and their agents. Accordingly, disclosure must be “in a manner which would be reasonably clear and accessible to a prudent underwriter” (Section 3(3) (b) of the 2015 Act).



The 2015 Act will have particular ramifications for key aspects of insurance law, including critical policy provisions such as Warranty and Due Diligence Clauses.

Multi-nationals seeking coverage in the London insurance market have been accused of “data dumping” and providing a mass of information that may not be particularly relevant to Insurers in determining whether to accept the risk. The Assured must carry out a reasonable search for information; with what is “reasonable” depending on the size, nature and complexity of the business.

The 2015 Act places a duty on the Assured’s senior management (including the board of directors and others such as Risk Managers, amongst others, who have actual knowledge of the Assured’s business) to make a fair presentation of the risk.

The Assured will be deemed to know what “should reasonably have been revealed by a reasonable search”.

Positive duty of inquiry for the insurer

Unlike the MIA where the Insurer was not required to ask questions or indicate what it wished to know, the 2015 Act also creates a positive duty of inquiry for the insurer. Also, an Assured is not required to disclose information that an insurer already knows (Section 5 (1)); or information that it ought to know (Section 5 (2)); or information that it is presumed to know (Section 5 (3)). As is the case now, an Insurer will also be presumed to know things which are common knowledge.

Examples of “material circumstances” for the purposes of a “fair presentation” are set out in the 2015 Act for guidance. They include “special or unusual circumstances” relating to the risk; any particular concerns that led the Assured to seek insurance in the first place; or anything which those concerned with the class of insurance and field of activity would generally regard as being required to be dealt with in a “fair presentation”. Insurers and brokers have been tasked with developing protocols setting out their agreed procedures.

The fundamental change is that Insurers are required to raise queries if they are put “on notice” of information that requires further clarification. No defence of non-disclosure will be available to Insurers who do not raise enquiries in those circumstances.

The 2015 Act places a duty on the Assured’s senior management (including the board of directors and others such as Risk Managers, amongst others, who have actual knowledge of the Assured’s business) to make a fair presentation of the risk.

Also, the effect of the MIA had “evolved” in the Courts where if an insurer had been put fairly on enquiry about the existence of other material facts, which an enquiry would have revealed then if the insurer does not pursue those enquiries he will have been held to have waived the disclosure of those material fact(s). The test is objective while the insurer need not be “...a detective on one hand nor lacking in common sense on the other” notwithstanding that mere possibilities would not put the insurer on enquiry (per L.J. Rix – WISE (Underwriting Agency) Ltd v Grupo Nacional Provincial SA [2004] 2 All ER 613 at [64]).

Remedies

The 2015 Act also changes the remedies that are available to parties to the policy.

The test for reliance on the “nuclear” remedies of non-disclosure or misrepresentation will change significantly. Furthermore, the ability of either party to avoid the policy for a breach of good faith is abolished.

It will be possible to avoid a policy only where the misrepresentation or non-disclosure was deliberate or reckless, which, depending on the facts of the case may prove to be an extremely difficult test for an insurer to overcome. In all other cases the following proportionate remedies will apply, depending on what the Insurer would have done if a fair presentation had been made:

1. If the Insurer would not have entered the contract at all, it can avoid the contract but return the premium
2. If the Insurer would have entered the contract on different terms, the contract is treated as if those different terms were applicable
3. If the Insurer would have charged higher premium then the amount paid on a claim may be reduced proportionately

The test of what the Insurer would have done had it known the true facts remains entirely subjective, while the burden of proof for avoidance is also unchanged. It remains to be seen whether the Courts will be more willing to conclude that the Insurer has met this burden with proportionate remedies being on the menu as opposed to the one option presently available.

The level of egregious behaviours – in terms of what constitutes an unfair presentation – will no doubt be developed by case law. The increased options available to Insurers should assist commercial relationships as opposed to having only the sole present “nuclear” option.

Warranties

The MIA provided that a warranty had to be strictly complied with, whether it was material to the risk or not (Section 33 (3)). If not complied with, the insurer is discharged from liability from the date of the breach.

The effect of the breach is actually automatic rather than being dependent upon the insured’s acceptance or election of the breach (per Lord Goff - Bank of Nova Scotia -v- Hellenic Mutual War Risks Association (Bermuda) Ltd (The Good Luck); HL 1992).

The 2015 Act will mirror the present position in consumer contracts of insurance by doing away with basis of the contract clauses. Long lists of answers to questions in a Proposal Form being “converted” into individual warranties will be a thing of the past. Instead, all warranties will become “suspensive conditions” so that an Insurer will be liable for losses that take place after a breach of warranty has been remedied, assuming this is possible.

For example, if an oil tanker steams in to a warranted excluded area she may be without cover for the period of that element of the adventure and she is only “back on cover” when she is navigating non-excluded waters.

Alternatively, and considering the matter from a non-marine perspective, if the Assured breaches a warranty that an alarm system will be inspected every six months that breach will be “remedied” if the system is inspected after seven months, with coverage being deemed to have been suspended for one month in such circumstances. If a claim arises during that one month period then Insurers can potentially rely upon the breach of warranty.

The Act makes it clear that breaches of warranty that are irrelevant to the loss that occurs will no longer discharge Insurers from liability. If the Assured can show that failure to comply with any term in the contract (including warranties) could not have increased the risk of the loss which actually occurred in the circumstances in which it occurred, insurers will no longer be able to rely on the breach to exclude liability.

In order to limit the scope for dispute, it would be advisable for the parties to clearly set out their requirements and the consequences for non-compliance. Warranties are still “live” but clear wording is required for them to bite. The usage of detailed protocols has been encouraged and should include specific reference to warranties.

Fraudulent claims

An Insurer is not of course liable to pay a fraudulent claim. Under the 2015 Act an Insurer will have the option of terminating the contract from the date of the fraudulent act – not the discovery of it – or if it does not treat the contract as having been terminated refuse all liability to the insured in respect of a relevant event after the time of the fraudulent act without any return of premium.

The Law Commissioners believed that Insurers would welcome this option as it would allow greater commercial flexibility. The Insurer can then refuse to pay any claims from that point onwards (but will remain liable for legitimate losses before the fraud) whereas previously under the MIA an Insurer may be able to cancel the policy from inception regardless of when the fraudulent act occurred enabling them to recover any sums already paid prior to the act.

Contracting out

The changes are intended to be a “default regime” for business (non- consumer) insurance. The Law Commissioners anticipated that “in sophisticated markets, including the marine insurance market, we expect contracting out will be more widespread”. A business opportunity has been presented to Insurers and brokers who wish to provide and negotiate a bespoke product.

That said, if Insurers seek to proceed arbitrarily during the placing negotiations they will be required to identify every change which they do not intend to apply and the opt-out for that change separately in the policy. The changes need to be transparent.

The Act makes it clear that breaches of warranty that are irrelevant to the loss that occurs will no longer discharge Insurers from liability.

Where Insurers intend to include a more disadvantageous term than in the default position, they must take sufficient steps to draw that to the Assured's attention before the policy incepts and the disadvantageous term must be "clear and unambiguous as to its effect". Particular attention in that regard should be given to small businesses (especially when purchasing via online platforms).

However it is not possible to contract out of basis of contract clauses (see Warranties above).

The Enterprise Bill

This bill proposes an amendment to the 2015 Act that, if passed, could be law in 2017. Basically, insurers will be faced with an implied obligation to pay claims within a reasonable time.

How long is that? I do not know, as with all claims the facts will differ from case to case. Where the insurer is in breach the remedy is damages which will be awarded in addition to and distinct from any right to enforce payment of the sums due under the policy and any right to interest on those sums.

The clock is ticking - Insurers, brokers and Assureds would be well advised to get up to speed with the new framework and be prepared for the "new normal".

Again, the amount will be case specific and will vary. This implied term can be "contracted out" provided the transparency requirements are complied with and the insurer does not deliberately nor recklessly fail to pay the claim.

A limitation period is deemed to be of one year from the date when the insurer actually makes payment (if it does) or the last payment if in tranches or if earlier 6 years from the date on which the cause of action for the breach of the implied term occurred.

The bill is currently in the House of Commons having been amended by the Lords last year.

A final word

The Act has in parts codified modern case law (as did the MIA in its day). However, the introduction of proportionate remedies in cases on non-disclosure and warranties are startling and the effects on the insurance market will be far-reaching.

The clock is ticking - Insurers, brokers and Assureds would be well advised to get up to speed with the new framework and be prepared for the "new normal".



Chris Dunn is Managing Partner at specialist Marine Insurance solicitors Waltons & Morse LLP and has provided policy coverage advice in respect of some of the world's largest offshore oil & gas risks.



Mutual capacity – A review of Oil Insurance Limited

Introduction - a volatile industry!

The energy industry has been the fuel that has driven global economic development for over 100 years. Nations have become enormously wealthy and perhaps overly dependent, individuals have made and lost fortunes, geopolitical power has risen and fallen, a pricing and production cartel has formed, wars have been fought over protecting energy interests, terrorism has been financed using illicit gains from captured resources and now the oil commodity markets are in disarray over huge disparities between supply and demand.

There has been nothing stable about the extraction of hydrocarbons from the earth's crust, and that is likely to continue for the foreseeable future for the world's most important commodity. However, the energy industry has survived all these volatile periods for the sole reason that without it humankind as we know it will perish. For those entities and governments that have survived, it has come on the backs of good management and sound financial planning with a little bit of luck on the side.

OIL history

Oil Insurance Limited (OIL) provides stable specialty energy insurance within a mutual framework.

It was formed in 1972 as a result of instability in the commercial market place. The Santa Barbara oil spill and Hurricane Camille events of 1969 dramatically reduced capacity for pollution and windstorm coverage from traditional insurance companies. The energy industry realized that collectively it had more capital than the combined capital of the global insurance market and went about forming OIL to provide consistency of capacity. The company has grown significantly since.

Windstorm loss trauma

Then OIL experienced its own version of volatility when it sustained USD3.3 billion of Gulf of Mexico windstorm (GOM Wind) losses from 2004 - 2008 and issued premium calls in 2005 after Hurricanes Katrina and Rita ripped through the region. It was disruptive for sure, and prompted some fundamental changes in the way OIL provided GOM Wind coverage as noted below.

10 year change summary

The windstorm losses and subsequent premium calls of 2005 put into motion a series of changes to reposition OIL with the membership, many of which are long standing and regard OIL as a cornerstone capacity provider in the Exploration & Production, Refining & Marketing, Pipeline, Chemical, Mining and Power & Utility space.

So what are those changes? We have summarised these in the table opposite.

As a result of these changes it can be argued that OIL has created a more stable platform with a highly effective and predictable premium system for those buyers choosing to mutualise their risks in OIL.

If you wish to learn more about OIL, please contact your local Willis Towers Watson Account Executive or Joe Seeger at:

joe.seeger@WillisTowersWatson.com

OIL 10 year change summary

New Windstorm Program:	OIL has deleveraged the company's exposure to windstorm losses by 92% relative to the USD3.3 billion of losses between 2004 and 2008. The general membership is now limited to USD300 million of annual mutualized windstorm losses. The balance of any annual losses is picked up by those members with windstorm exposures.
Capital credit for future premiums:	OIL now receives capital credit from the Bermuda Insurance Regulator and S&P for premiums due to be paid by our members over the next five years which virtually eliminates the chance of a premium call after significant losses.
Lock-in plan:	Premium obligations for past years can no longer be reallocated as they were in the past when other companies' decisions could negatively affect premium calculations. Now a member knows with certainty 80% of the quantum of next year's premium.
Experience modification:	Specific member premiums are now subject to an experience rating surcharge if individual losses exceed predetermined levels. Premium surcharges are redistributed back to members with low or no losses, resulting in the alignment of interests amongst members.
Shareholder agreement, policy and rating & premium plan rewrite:	OIL's three main contractual documents have been completely rewritten to provide clarity and simplicity for the membership.
Conservative capital and expense management plan:	OIL manages its capital to the 3 year 95th percentile level which has allowed it to grow its limit from USD250 million to USD400 million and issue USD800 million of dividends and premium credits over the past several years.
Claims Department Overhaul:	OIL's claims department was reorganized while introducing consistent disciplines and processes.
OIL Technical Accreditation (OTA):	OIL created an online e-learning platform designed to educate individuals who have a consistent need to be conversant in how OIL works.



George Hutchings holds the position of Senior Vice President & Chief Operating Officer of Oil Insurance Limited for The OIL Group of Companies in Bermuda. George has overall responsibility for the insurance and claims operations of the company. In addition, he is responsible for leading the strategic planning process and championing shareholder initiatives to effect positive change to the business model.

Regional issues

Willis Towers Watson has significant Natural Resources industry expertise across the globe. A selection of our Regional Industry Leaders provide below their insight and expertise with regard to the developments in the industry and the Insurance Markets in their regions.

Africa

Client issues, economic factors and geopolitics

Client issues, economic factors and geopolitics all impact the insurance and risk advisory businesses in Africa. The dramatic drop in the oil price over the last 12 months has had a significant impact on activity in the sector, particularly in frontier territories. Examples include the slowdown in exploration and production activity as clients become more focused on cost control, lowering investment and project delay/cancellation.

The World Bank lowered its forecast for crude oil to USD37 per barrel for 2016. In Africa, many countries' economies and hopes for economic growth are linked to natural resources commodity prices, most notably oil and gas, which does not bode well for these countries, nor the sector.

The effect of the low price of oil has resulted in capital budgets being cut and frontier exploration activity being shelved or cancelled, notable examples of which include deep water exploration projects in both Angola and the DRC. Another country that has been hit particularly hard by the low oil price is Nigeria, where oil has historically accounted for 90% of exports and 60% of government revenue. Being the largest economy in Sub-Saharan Africa, the low oil price has coincided with the election of President Muhammadu Buhari last year after 16 years under the People's Democratic party (PDP). Political and economic reform will accentuate the economic plight in the short term, but it is hoped that in the longer term it will entice much needed foreign investment, which is particularly needed in the domestic power sector.

We are seeing a trend of direct foreign investment into Africa from predominantly China, but also from the US and UK where private equity firms, as well as traditional natural resource companies, are taking advantage of current trading conditions to make strategic investments. This is because the longer term outlook remains positive – Africa

has proven gas reserves of almost 500 trillion cubic feet, with 90% of the continent's annual gas production coming from Nigeria, Libya, Algeria and Egypt.

In addition, while the upstream sector is going through a very difficult period due to the falling oil price, some of our downstream and chemical clients are benefitting from lower feedstock prices and generating higher margins. However, in the short term there is still significant instability in the region, due to conflicts and the results of foreign sanctions. In Libya production has halved since before 2011, and South Sudan is still producing well short of the 240,000 bpd it achieved in 2012.

Strategic future investments

Broadly, activity levels have fallen due to these factors; however, many of our domestic and foreign clients are taking advantage of current trading conditions to make strategic investments for the future as the long term outlook remains positive. While the upstream sector is going through a difficult period due to the falling oil price, many downstream & chemical companies are benefitting from lower feedstock prices and consequential higher margins.

Local markets hardest hit

Perhaps the hardest hit insurance sectors are the local markets and brokers who had ridden high on the investment wave. They are faced with two main issues:

- Firstly, their investment into the region is now not being matched due to low commodity prices which reduce their market opportunity, particularly as when operations are put on hold companies tend to centralise. As a result, local lines business has reduced.
- Secondly, this is compounded by the local markets often lack of expertise which means that unlike global risk advisors their purely transactional services are now surplus to requirements.

Of course, the litigious nature of local compliance partly protects them from this but the drought is often too great.



Two groups of brokers

Those brokers and insurers that have distinctive offerings, genuine expertise in the sector and knowledge of doing business in the region are well positioned to compete in a more challenging trading environment. This is particularly interesting in the broking arena as this environment heightens the pressure. It is generally accepted that brokers divide into two groups:

- Those who can only provide transactional services
- Those who can also provide clients with analytical and risk advisory services to help them better understand their risks, make informed decisions about how to mitigate these and how to manage their associated total costs.

Certain brokers will be able to differentiate their offerings by helping clients reduce their total cost of risk through utilising innovative approaches such as risk analytics and captive consulting. By presenting a more specific risk profile to insurers, leverage can be applied to make significant cost savings and explore alternative risk transfer strategies.

Energy risks heightened in Africa

In line with all of the above it is vital that energy companies understand and manage the full breadth of risk issues facing their enterprise at every stage of their development. The risks that most energy companies face as common practice, even if particularly broad, are further heightened in developing regions such as Africa and may have more

volatile economies and political regimes; this is magnified by the complexity and change associated with insurance legislation and regulatory compliance in the country concerned. Subsequently we believe it is even more vital to align yourself with a broker that offers more than just transactional services and partner with markets that will stand by them in the long term and appreciate the complexity of conducting business on the continent.

Onerous local compliance

This trend of onerous local compliance is gaining momentum, no-where more so than in Africa. Companies should be fully aware of the impact international exposures may have on their business, and ensure they have intelligent and comprehensive insurance programmes that meet international requirements and provide them with the right level of protection. Those clients that do adopt best practices stand in the best stead.

Local variations

Businesses should be aware of and adjust to, local practices and insurance requirements as these can vary dramatically between the different countries in which they operate. Examples include:

- Local tariff premiums or minimum filed rates
- Mandatory local insurance retentions where there is a requirement to retain risk in the local insurance market
- Cash before cover/ other premium payment rules

- Compulsory covers or those aligned with local market practice
- Local capacity (including sharing of limits, aggregation)
- Scope of cover locally (including awareness of tariff wordings)
- Exchange controls

Managing risk and connecting stakeholders

Even for relatively small companies, purchasing international insurance cover involves many diverse stakeholders, including insurers and other local service providers. A well-managed insurance programme streamlines the management of all of these stakeholders, ensuring their efforts are aligned and focused on delivering the right solutions. Businesses can manage their risks efficiently by having a centralised approach, rather than allowing local offices to make standalone insurance purchasing decisions.

Centralised programme benefits

The benefits of a centralised insurance programme are many and can be summarised as follows:

- **Consistency:** best practice is more easily shared through centralised programme management across all the territories a business operates in, allowing for greater control and enabling standardisation of insurance and risk management process.
- **Compliance:** a centralised programme assists with corporate governance and helps ensure compliance with local laws and regulations. Where required, a company's risk adviser should align its network to the local offices of its client's business.
- **Cost-effectiveness:** buying an insurance programme centrally – as opposed to buying cover locally – helps to control cost through the economies of scale and purchasing power of the business.
- **Broader Coverage:** purchasing insurance centrally often means a company can leverage more comprehensive cover. This may also include non-standard covers that it may not be possible to purchase in some countries.

Enhancing effectiveness

Businesses can make managing their insurance programme easier by being aware of the types of information insurers, brokers and regulators may require. More may be needed than just underwriting information in order for insurers to calculate premiums and taxes in different countries, and this may vary depending on the class of insurance.

Getting it right first time

This maximises global transparency and efficiency, and can be facilitated by:

- Treating problem countries as a priority
- Documenting commonly raised problems
- Working with the broker or risk advisor on how to mitigate them
- Clearly formulating communication channels and eliminating duplication
- Establishing information requirements early in the renewal process
- Incorporating action points relating to global programme administration into the renewal timetable
- Planning ahead

Go global, be flexible!

Businesses should regularly review their international insurances to ensure they meet their needs as they grow, particularly into specific markets or new, untested territories. An international programme should also be flexible enough to adapt to changes in the wider business environment, such as new legislation or amendments to local regulations.

Asia

The Asia Energy Sector continues to expand and diversify, despite the significant headwinds in the global oil and gas commodity sector. China provides the largest proportion of the regional output in the oil and gas sector, so the region remains heavily dependent on the economic performance of this Asian power house.

As the fourth largest oil producer in the world, China is forecast to become the largest crude importer in the world this year despite some uncertainties with its domestic economy. Investment and expansion plans continue to forge ahead with additional avenues of growth being seen through the collaborative approach of the Chinese government Foreign Direct Investment (FDI) initiatives into countries such as Uzbekistan and Kazakhstan.

In South East Asia (SEA) the established producers of Malaysia and Indonesia continue to expand production in fierce battle to become the dominant hub in this part of Asia. Singapore continues to offer a variety of diversified services and the key infrastructure to the oil and gas industry, hence its continued dominance in the region from an expertise, knowledge and logistical perspective. Currently SEA produces 2 million barrels per day; however, as domestic demand continues to rise for these Asia tiger

countries, further developments and investment has been identified. This is despite the negative global Oil and Gas outlook demonstrating many the healthy balance sheets and a long term vision for the region remains consistent. For future plans many Asia oil and gas companies will be monitoring any proposed freeze outputs by the world's largest oil producers and Iranian response to recently softening of sanctions imposed on them for many years.

Despite these ongoing considerations, the construction insurance market generally continues to view oil and gas projects with positive underwriting returns and as there remains an abundance of regional underwriting capacity coupled with finite number of oil and gas projects this has led to a fiercely competitive environment. This has resulted in underwriters offering much wider coverage in conjunction with a lowering of rates and perceived market standard retentions to ensure they maintain relationships with the major oil and gas companies in the region.

Canada

Similar to other regions in the world, Canadian oil and gas companies have been hit hard by plunging commodity prices. What makes the oil and gas market in Canada unique amongst its peers is its lack of access to sufficient markets. If a West Texas Intermediate (WTI) barrel can be sold in the US for USD30, it might only be selling at USD15 a barrel for Canadian clients. Energy companies receive a discount to WTI pricing by virtue of product quality and transportation costs to exit the landlocked resource. This proved to be a substantial challenge near the end of 2015 and into 2016, with many clients cutting back capital expenditure and laying off staff.

For 2016 to date, domestic oil and gas pricing averaged Western Canadian Select at converted USD24.13 /B and AECO-C converted USD2.12 /Mcf verses WTI at USD31.11 /B and NYMEX USD2.08 /Mcf. This 80% pricing differential for Canadian oil provides heightened motivation for tidewater access. Given the lack of viable options, Canadian producers will, for the foreseeable future, be hindered by this discount. Similarly, gas production is at all-time highs in Northern BC and Alberta, with no near term LNG export facilities (as evidenced by Shell's recent decision to delay FID for the Kitimat LNG terminal). Given these export constraints, Canadian producers will be at a disadvantage relative to their global peers.

If we only take into account current construction projects which are underway, Alberta will add 400,000 barrels of new Oil Sands production by 2018. Potential future oil price improvement will be dampened by this steady rise in oil sands production, placing increased pressure on both conventional and oil sands producers. This continued oversupply and lack of market access will hold the discounted prices for Canadian producers.

This pricing differential has dramatically impacted the drilling, new construction and the purchase of business interruption components of insurance placements in 2016. Insurers are trying to hold their premium income against this sinking tide; the answer for insurers has been to try to increase their line size and consolidate where feasible.

Similar to the global Energy insurance market the Canadian Energy insurance market is over-saturated with capacity and underutilized by demand. This is forcing rates down and clients are seeing the benefit. At a time when clients need it most, they are seeing large Business Interruption adjustment return premiums and decreased renewal premiums due to lower exposure bases - on top of lower rates.

This is compounded by RSA domestically increasing their energy appetite to USD400 million and AIG utilizing their USD1 billion line. The overabundance of capacity, coupled with pressure on insurers to hold their bottom lines, has proven to result in many insurers offering increased or even 100% lines.

In addition to current domestic players increasing their capacity, previously unlicensed insurers are entering the Canadian market, two examples being SCOR and Endurance. Oversupply has led to a depressed energy insurance market, which is similar to what is being experienced by oil and gas producers in Canada.

Access to market, oversupply of commodities worldwide, and increased supply of insurance capacity are challenges Canadian energy clients are facing. The oversupply of capacity in the insurance market results in increased competition amongst insurers equating to decreased rates. Many clients are being pressured to save wherever possible and insurance is no exception. Fortunately the insurance market cycle has aligned with the low commodity price cycle in a beneficial way for clients.

Latin America

The Latin American economy is heavily dependent on commodities and, as in other regions of the world, all governments have been severely affected by low prices. This has forced them to reduce their operating expenses and delay projects due to lack of resources.

Additionally, large corruption scandals in several countries have impacted the projected growth of the region. Brazil, where the energy industry represents 35% of total GDP, is facing the Petrobras scandal, known locally as operação lava jato or "Operation Carwash", and involves senior officials and large contractor executives. This operation has included at least 50 arrests in 11 companies, and has had a direct impact on the national economy; as Petrobras

is the largest company in the country, this issue brings all their investment to a halt while the regulator seizes billions of dollars.

These two factors, together with the devaluation of various currencies, continue to have a direct impact on insurance market premium volume. The insurance markets have made significant investments in the energy sector during the last five years, expecting a longer period of continuing growth. So these issues have created the perfect storm for regional markets that are faced with a glut of capacity available in the global markets, together with new competitors arriving in the region with fresh capacity and low cost structures.

For all the markets except Brazil, Miami continues to be the place where new insurers and reinsurers prefer to start their operations until they have built up their regional presence to expand locally, and we expect to see more players investing in this renovated market.

As a result, large local and global insurers are selling part of their operations or segments of their portfolios, in order to focus on those lines that are more profitable for them. This obviously represents a great opportunity for insurers who want to grow faster by pursuing an acquisition strategy.

The same opportunity exists in the energy industry; large groups are selling part of their non-core assets in order to improve their finances and investment funds. Furthermore, energy companies that are in a better position see this trend as a good non-organic growth opportunity.

It is not clear how long this crisis will last, but for sure expense reduction is the number one priority in both sectors. There is no doubt that, when this challenging period is over the market landscape will be completely different.

Scandinavia

The energy insurance market in Norway is stable and has enjoyed a prolonged period with low claims activity. From a Safety Regulatory point of view, the Norwegian Continental Shelf is very often regarded by insurers as a quality risk. The general downturn in activity in the energy industry has meant Drilling premium and Construction premium has declined considerably, resulting in a shrinking premium base to the local market. Yet we have seen ever more capacity entering the market wanting to come closer to the client and the brokers in the form of Lloyd's capacity through agencies. The Latest entries have been Riskpoint (Amlin) and Hydor (Standard Club), and now the total market offshore energy market capacity which can be accessed locally is estimated to be USD1.45 billion.

For smaller to medium sized Oil & Gas companies the Norwegian market can provide a complete solution and an alternative to the London market.

However there are only three or four true lead insurers who can garner the support locally to complete a placement and as such it is our view that Lloyds and international company market leaders can and do have a big part to play in maintaining a healthy competitive market going forwards.

In Sweden there is currently no active insurance market for Upstream Energy, although local carriers and international carriers represented in Sweden have lately showed an increased appetite for Downstream Energy risks and Onshore Construction projects at very competitive terms and conditions.

Russia

While analysts are modestly optimistic about the long-term future of the national economy, Russia is about to experience quite a severe recession, with the rouble continuing to plunge in the face of the oil price collapse and persistently high inflation. These do little to help the country's budget deficit, which is expected to balloon to some 4% of GDP this year.

Rouble devaluation

Yet negative market effects have so far been largely compensated by the devaluation of the Rouble, which allowed for a higher margin between costs paid in roubles and foreign currency revenues. This imbalance gives serious impetus to more capacity utilization in the industry sector. The economy has also been supported by a nationwide campaign for import substitution, which will most likely be a source of industry resilience to external shocks.

Oil production

On top of that, Russia's oil production has held steady and rose to new record levels. Russia is expected to keep pace with around 530 million tons of crude oil production for the year ahead, stimulated by the government's need to keep the federal government's deficit under control.

Furthermore, Russia has seen its crude exports expanding since early 2015 after six years of constant declines, mostly due to winning the lead in China's crude suppliers list. Multiple new developments, ranging from the shelves of the northern seas to East Siberia, have allowed for a significant production surge, which was also supported by increasing productivity per well at older fields accomplished by more complex completions.



Tax challenges

Surprisingly, this growth has taken place amid not only unfavourable economic circumstances and sanctions, but also under the tax manoeuvre undertaken by the Russian authorities in 2014, when oil prices topped USD100 per barrel - this now constitutes a significant burden on the Russian upstream sector. The Russian parliament is trying to address the issue, including pilot projects to test other tax options (which include switching to a profit-based taxation system for depleted fields, putting the tax manoeuvre on hold, etc.), but there seems to be little consensus on this, mostly in view of concerns about an impending fall in federal budget revenues.

Nevertheless, this situation opens new perspectives to Russian producers, who haven't paid much attention to cost-effectiveness when the prices were high and currency was strong. It is almost certain that current production levels will be sustained within the two or three-year horizon and oil majors will be forced to opt for more cost-effective knowledge-based production, improvements in safety and becoming more selective in terms of hiring drilling contractors.

Equipment reliability

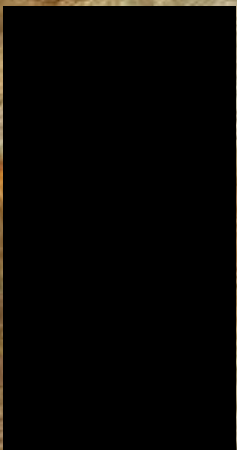
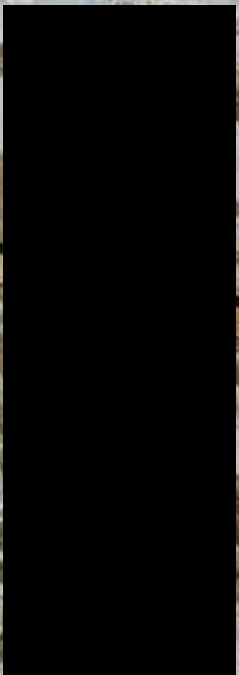
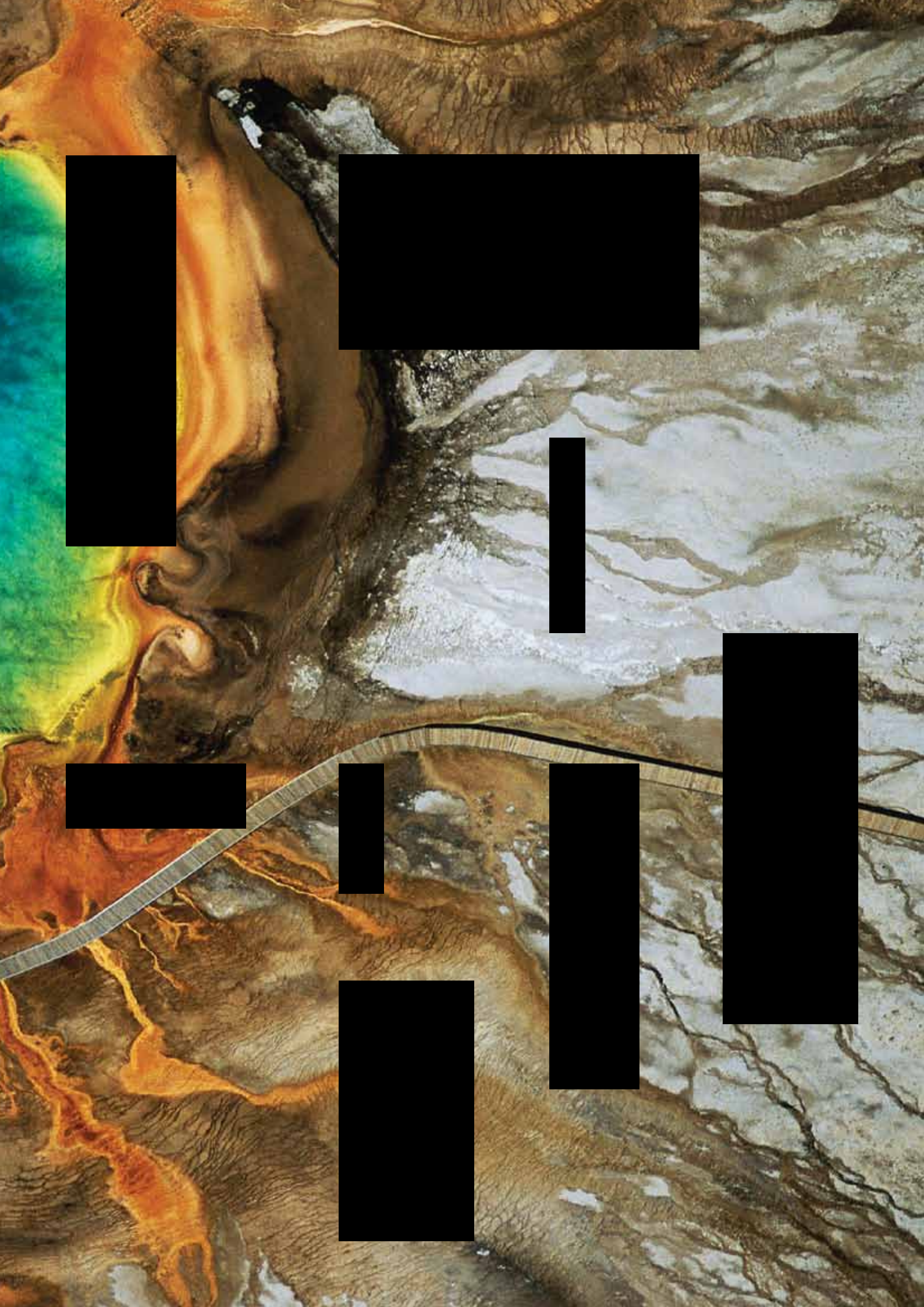
Of course, budget-driven decisions will become a source of concern as Russian equipment reliability needs to be maintained, whilst the problem of significant wear and tear of fixed assets at the old fields is still to be resolved. Nevertheless, companies will most likely tend to structure and optimize their coverage to manage and reduce costs, profiting both from soft market conditions and enhancing quality of risks. Moreover, a decrease in risk exposure (USD-wise on sums insured and limits) and premium income in hard currency should stimulate markets to be more aggressive in terms of rating if they want to keep stake in the Russian business which is completely benign from the loss statistic perspective.

International market benefits

On the other hand, systematic development of insurance industry in the country has raised awareness among risk managers about benefits that international insurance market can bring through risk mitigating resource and best industry practices. Even with a gloomy economic outlook, the insurance sector might come on top if it manages to adjust to new clients' demands and be able to offer clear and efficient solutions.



Part four
Alternative risk
transfer



The energy industry: alternative risk transfer solutions revisited

Introduction – the challenge to the energy industry

Insurers and risk management professionals have been talking about so-called 'Alternative Risk Transfer' (ART) since the 1990s. Over the years this vaguely-defined term has variously been applied to a wide range of risk management products. During this period some of the more outlandish approaches have been abandoned and their more 'creative' interpretations of risk and accounting confined to history. However, ART lives on and we examine in this article how risks facing the oil and gas sector may now benefit from the solutions that extend beyond the 'plain vanilla'.

What, if anything, has changed?

In recent years the volume of capital in the traditional reinsurance market has remained somewhat stable, whereas the volume of alternative capital continues to grow and may now represent as much as 15% of the global total. This influx of new capital has resulted from uncertainty in some asset classes and the low interest rate environment, which has created an appetite amongst sophisticated investors to look into alternative investments. The increase in new capital is significant in itself, but it is also instrumental in creating leverage in the offerings of traditional insurers and reinsurers. Insurers in both Europe and the US have responded with investments in ART focussed teams and a willingness to offer more flexible and bespoke, solutions to the risk issues of corporate buyers.

New capital is not the only driver of change in this market. The far greater availability and sophistication of data creates opportunities for innovative (re)insurers to price and underwrite new types of risk business.

Energy industry challenges

In parallel to these changes in the risk capital environment, the Energy market is similarly going through a period of transition so energy companies need to make commensurate changes if they are to survive. Not only is the nature of both supply of and demand for energy

changing, but also the environment in which those two drivers exist - not least the focus on carbon emissions, resilience from climate change and the wider adoption of renewables.

Today the Energy sector is confronting challenges from a variety of diverse influences, including global economic stagnation and a seemingly intractable weakness in the oil market.

At the same time, risk managers in the sector are increasingly confronting emerging risks that are traditionally difficult, or perceived as impossible, to insure. These include non-damage business interruption, environmental, climate, reputational and cyber risks, the impacts of which can amount to many billions of dollars of cost.

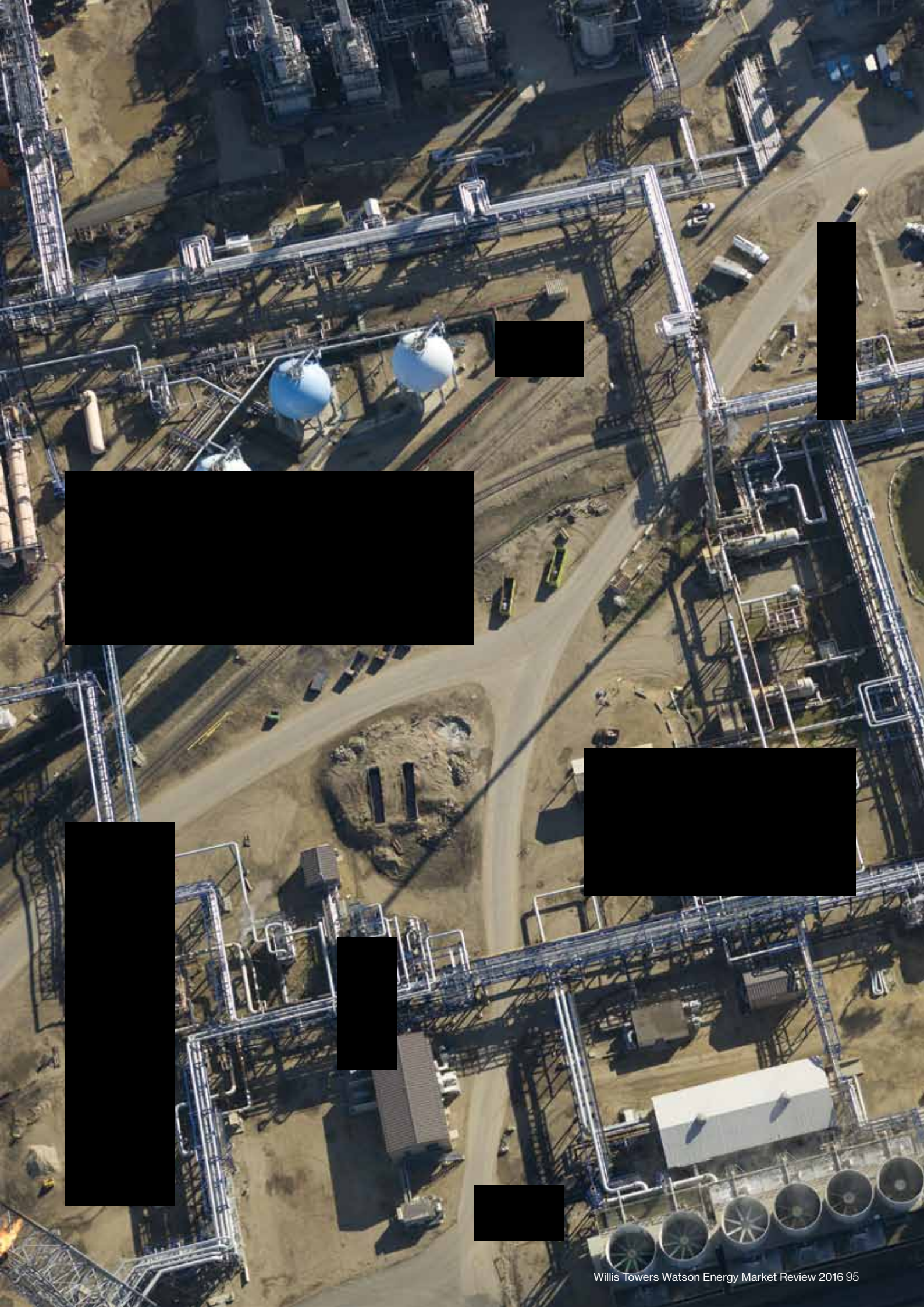
Today's ART solutions

Today's ART market is flexible and far-reaching- providing many 'types' of solution according to the buyer's specific risk management objectives and financial circumstances.

Integration of the traditional and the innovative

Key to the growth in the deployment of ART solutions is the ability to integrate traditional re/insurance products and capital market techniques with forms of self-funding, flexible multi-year, multi-line and multi-trigger products.

The ability to draw upon this broad palette is enhanced by the availability of deep pools of data which were previously unavailable or effectively so within reasonable time and cost constraints. For example, open-source satellite-derived imagery enables the pricing and settlement of contracts in real time which would, only a short while ago, have been inconceivable.



New sources of risk bearing-capital

Another key driver enhancing the practical availability of ART products in today's market is the influx of new sources of risk-bearing capital, that are available – even aggressively so – to address the risk of the energy sector.

The early 1990s witnessed the introduction of so-called Catastrophe ("Cat") Bonds, more generically referred to as Insurance-Linked Securities. These highly tailored instruments enabled buyers of protection to access bespoke capital 'directly' from investors who were able to evaluate natural catastrophe risks such as windstorm or earthquake. At that time, the sophistication of modelling of such risk had, for the first time, reached a point to enable non-expert risk takers to participate in an objective and price-transparent fashion. The providers of the models were – and still are - specialist third parties accessing the most up-to-date perils data and science to evaluate the expected loss to the contract. On the other side of the deal, such products enabled investors for the first time to participate directly in insurance 'event' risk – without either the need to register as an authorised re/insurer or to invest in the general stock of such companies that were.

Since that time, the base of capital that has become available has grown exponentially in absolute size and broadened in origin. At the outset of the ILS market, investors were confined to a small number of far-sighted institutions (typically pension and specialist funds) with the aptitude and appetite to dip their toe in the water of a new asset class. Investments were individually modest, all deals rated and little, if any, reference was made to the process of indemnity. In other words, contracts were typically settled against an index or a modelled version of the risk. The structure of such cat bonds was deliberately set so that pay-outs were indeed at the catastrophe end of occurrence probability – somewhere in the region of 1 in 75-100 years or greater. This remote probability of expected loss enabled the securities to be issued with an investment grade rating or better, this being an essential requisite of the investor community at that stage.

Moving into traditional territory as appetite broadens

During the last couple of decades, investors of alternative capital in the re/insurance market have certainly found their stride and made in-roads into the space occupied by traditional insurers and reinsurers. In particular, their appetite has broadened in terms of the type of underlying risk they are prepared to invest in and the forms in which these contracts are drawn. Notably there is some willingness to accept traditional indemnity style (or ultimate net loss) contracts whose pay-outs are the same as traditional insurance or reinsurance contracts.

What makes for a great index?

However parametric, or index-based, contracts remain a more suitable basis for the efficient participation of alternative risk investors, particularly in respect of the risks of corporate (as opposed to insurance company) buyers. The design of the index itself is open to infinite possibilities so long as there is data available upon which to structure and price the contract and upon which to settle claims. This flexibility allows buyers to develop bespoke coverage to reflect their own specific circumstances.

There are a few prerequisites for good index design and for their underlying data:

- The data must be independent; it needs to be measured and recorded by a third party that is trusted by both buyer and seller.
- There can be no subjectivity or lack of transparency in the way in which the data points are measured or compiled.
- The data should not be subject to historic (or indeed future) discontinuities that cannot reasonably be accounted for.
- The index data must continue to be reported in the same way (and generally by the same agency) during the foreseeable duration of the contract.

Correlation to actual underlying losses essential

In general terms, an index based contract is only a good alternative to traditional indemnity style contracts if the index itself provides a good proxy for the actual underlying losses. In general terms this requires that a strong correlation in statistics terms can be shown between the historic performance of the index and the losses sustained by the buyer.

There are two main reasons why this may not be the case:

- If the measurements for the index data are taken at a time or place which does not accord well with the activity and location of the risk(s) in question.
- A simple single parameter index (say wind speed or rainfall) may not be sufficient to capture all the components of risk that impacts the insured assets or the revenues/costs of the buyer.

It is, of course, possible to design highly complex multi-parameter indices so that these fit the actual loss profile more accurately, but, although an overly complex index design may have scientific merit or mathematical credibility, it may not be sufficiently easy to explain to buyer or seller.

Consideration of the basis risk

This so-called basis risk must be considered in the design of any index-based contract. It must, wherever possible, be estimated and discussed between buyer and seller to ensure absolute transparency. However, this potential for mismatch between actual loss and contract pay-out is certainly not confined to parametric structures. Conventional contracts of insurance and reinsurance also contain terms and conditions (exclusions, warranties, excesses, waiting periods and the like) which can severely constrain the payment obligations of the insurer. Some would argue that these conditions of non-payment are far more penal and prone to subjective interpretation than the very simple operation of an index.

Speed and simplicity of contract settlement

Although basis risk is a potential disadvantage of contracts which respond to an index as opposed to the actual losses sustained by the buyer, the use of a parametric index confers certain functional and economic advantages over the more conventional indemnity-style contract - in particular, the speed and simplicity of contract settlement (pay-out or otherwise) after the event or at the end of the contract period. So long as the underlying index data are available without delay (and it is typically the case that index data are published in real time), then there is no reason why the settlement amount cannot be agreed immediately and payment made within a number of days. Two weeks would be a typical timeframe in which to reach such an agreement.

This speed and simplicity of payment, especially after a severe event, can easily compensate for any differences that might be observed between an index-based contract and the conventional indemnity process which can, in the most complex cases, take months or even years to finalise. A stitch in time can indeed save nine.

An illustration from Australia

It is the case that alternative, including and especially index-based, contracts provide the potential for contractual risk transfer where simply none would otherwise be available from conventional insurance providers.

Take, for example, the recent case of a major onshore infrastructure construction project in Australia. At the stage of completing its project finance, the lenders to the project became aware that completion time could be significantly delayed and overall expense greatly increased in the event of a severe land-falling tropical cyclones occurring at or near the project location - the site was located in a cyclone exposed area..

No need for physical damage loss – massive cyclone exposure still remained

The problem was not that damage (and consequent business interruption) might be a causal factor, as this was properly covered by the project's normal insurances; the issue, in this case, was that such damage might not occur and hence the traditional coverage would not pay a claim. Should a tropical cyclone be forecast to approach the project site, health and safety obligations meant that the many thousands of employees would have to be evacuated to a place of safety irrespective of any damage that may, or may not, occur. Such was the remoteness of the project location that the time and logistics of such an evacuation could cause substantial additional expenses - as well as a costly delay in the resumption of normal activities.

Parametric structure ideal for pre-funded specific contingency facility

As no insurance was available to cover the expenses associated with a forecast event that might or might not occur, the project lenders determined that a specific contingency facility – additional to the existing borrowing requirements of the project – should be pre-funded. In this case a parametric structure provided exactly what was needed: to the satisfaction of the lenders and at far less cost than the cash-reserve alternative. Furthermore the product was structured as a multi-year contract to track the intended timeframe of the construction and commissioning phase of the project.

The proof of the pudding

The solution that was ultimately implemented was elegantly simple and highly effective, as judged by its performance following a triggering event in its first year. It followed the format of a so-called 'Cat-in-a-Box' product; in this case, a circle not a box. Working with the project's senior management, the boundaries of a zone (the circle) were defined. A pay-out formula was devised whereby any tropical cyclone entering the coordinates of the circle automatically entitled the buyer to a fixed pay-out for every hour that the storm remained within the circle at tropical cyclone strength. As storm tracks and intensity are recorded and formally reported by the local meteorological bureau, a credible and rapid basis of settling the contract was possible.

Similar index-based solutions may be structured for diverse and otherwise intractable risk management challenges more or less anywhere in the world. This could include, for example, the cost of evacuating off-shore platforms in the event of real or forecast windstorm activity, the cost uncertainty associated with the construction and maintenance of offshore facilities in high wind or wave conditions or the variability of power output from renewable energy plants that rely on the availability of wind, water and solar. Index based solutions are not a replacement for traditional insurance, but can often provide solutions for risks where traditional insurance is either not available, non-responsive or only available at economically unfeasible cost.

Conclusion: ART and the sophisticated buyer

While index-based solutions are one form of ART, the term encompasses a much broader range of solutions. These can be employed to provide more efficient structuring for traditionally insurable risks, to access deeper pools of risk capital or to provide capacity for otherwise uninsurable exposures - such as supply chain vulnerability, cyber, pandemic and brand/reputational risk.

ART solutions merge the best of capital market techniques with traditional insurance, risk sharing and risk retention structures, all underpinned by sophisticated analytics, to enable companies to select the most efficient form of risk financing for their specific risk profile, risk exposures, risk appetite and cost of capital. Captive Solutions, Portfolio Solutions and Structured Solutions all form part of the ART palette of options that companies can consider to more efficiently manage risk.

ART is increasingly considered "mainstream" amongst the more "risk management savvy" corporates and there is evidence of a positive correlation between a company's general sophistication and the adoption of ART solutions as part of their overall risk management strategy.



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