Gulf of Mexico Windstorm: 
Still the Insoluble Risk Management Problem?
Following Ivan in 2004, Katrina and Rita in 2005 and now Ike in 2008, is Gulf of Mexico Windstorm still the insoluble risk management problem?

* incurred to date

Source: Willis Energy Loss Database (WELD)/Willis (figures include both insured and uninsured losses)
Once again the fallout from a major Gulf of Mexico windstorm is casting a shadow over the energy insurance market. As Hurricane Ike overtakes Hurricane Rita to become the third most expensive event in insurance history, a number of key energy insurers have found to their dismay that their initial loss estimates for this windstorm, particularly for upstream losses, have proved to be less than adequate.

In light of the lessons learned, insurers are restructuring their Gulf of Mexico windstorm offering with a view to achieving long-term profitability for this class. In particular, fresh capacity from Berkshire Hathaway may go some way to redress today’s capacity shortfall. Notwithstanding this, the overall output of this process is unlikely to satisfy the energy industry. A full consensus has yet to emerge as to the best way to offer a product, and in the meantime the market for Gulf of Mexico windstorm risk is still more confused, more volatile and more expensive than ever before. Indeed, in 2009 buyers are facing the prospect of paying increasingly higher prices for the limited insurance cover available whilst at the same time being asked to retain an increasingly significant share of this risk on their own balance sheets.

Encouragingly for buyers, the development of new catastrophe modelling techniques and enhanced alternative risk transfer instruments might soon help underpin existing Gulf of Mexico windstorm capacity. In particular, a parametric windstorm “trigger” that is designed to correlate closely to actual energy industry losses sustained is likely to attract investors from the capital markets. Should such a capital market instrument prove equally attractive to energy market reinsurers, it may serve to underpin the supply of more plentiful and consistent risk transfer capacity for this key risk in the future. An alternative of further mutualisation of this risk within the energy industry is also a possibility.

In the meantime, the energy industry is facing a changed world. The financial market meltdown and the onset of the global economic recession have rapidly cooled 2007’s commodity price surge that we highlighted in our last Review. With crude oil now trading at a third of its 2008 peak, the energy industry is now facing the very different challenge of maintaining profitability in the face of plummeting demand. This development undoubtedly has implications for future capital expenditure plans and existing asset values.

The implications of these developments from an energy insurer perspective are equally serious. For some time, additional premium generated from increased asset values brought about by “superheated” commodity prices have been making up for premium sacrificed in the competitive environment of a softening market. Now as this trend levels off and even starts to decline, insurers must find new ways of making up for income shortfalls caused by this factor and the sharp decreases in investment incomes in 2008. With recapitalisation becoming an increasingly expensive prospect, an increased focus on underwriting profitability is now the inevitable result.

For the moment, any drive for increased underwriting profits may be thwarted by the existing market status quo. With little or no withdrawals from the market at January 2009, stated capacity levels for energy risks have actually increased by approximately 5%. Any insurer initiatives towards a harder market are being partly tempered by the basic laws of supply and demand; as a result, the most favoured programmes have generally escaped the worst effects of the more focused underwriting environment.

A big question mark therefore hangs over 2009. Whilst the market has begun 2009 in a resolute mood, it remains to be seen whether or not competitive pressures will take their toll on this resolve as the year progresses.

As insurers’ drive towards risk differentiation continues, buyers will need every assistance from their broker to navigate their way profitably through a conflicted and apprehensive market.
ENERGY MARKET REVIEW
MARCH 2009

Foreword
Alistair Rivers, Chief Executive, Willis Energy 4

Gulf of Mexico Windstorm: Still the Insoluble Risk Management Problem? 6

Reinsurance 32

Upstream 36

Downstream 50

OIL Update 60

Construction 64

International Liabilities 68

US Excess Liabilities 74
“Underscoring all these issues are further developments in the global economic climate, which makes making too many predictions at the moment something of a fool’s game.”
It's an intimidating challenge to follow the Foreword from last year's Energy Market Review, so accurate was Phil Ellis in predicting a deteriorating financial crisis and an oil price fall; a true achievement as it was scribbled in January 2008!

As the world now finds itself confronted by the most challenging economic circumstances that perhaps any of us can remember, it seems almost obtuse to highlight the relative stability of the energy insurance industry as we move further into 2009.

Although in general terms our markets are beginning to harden, we estimate that overall capacity levels for energy business have actually increased for 2009; this has, for the time being, tempered the extent of any hardening dynamic, despite the macro-economic factors currently at work in the insurance industry: increased capital costs, reduced investment returns and an increased management focus on underwriting for profit rather than for income. Ironically, the impact of the global economic downturn on the energy industry, including less construction activity and reduced business interruption values, is having a somewhat negative effect on insurers' overall premium income levels - at precisely the time when they need these levels to rise.

So why have the existing market players decided to stay in the game? One reason is that energy business has, by and large, remained profitable for most insurers in recent years – particularly for business that is free from natural catastrophe risk.

And therein perhaps lies the perennial issue for the energy market. We have posed the question in the title of this Review that some of us have been asking since 2005 – whether or not Gulf of Mexico windstorm remains “the insoluble risk management problem”.

Certainly if in answering this question the only criterion to be used is the limited offering from the commercial insurance market in 2009, the answer is probably yes. The news of further capacity for this risk from Berkshire Hathaway, provided on a multi-year basis but subject to an annual aggregate cap, may help to alleviate the problem to some extent; what cannot be provided at present is the “sleep easy” un-aggregated protection that the energy industry really needs. Maybe this initiative from Berkshire Hathaway will trigger the other major insurers to declare their hands.

Notwithstanding this, we at Willis are excited by recent developments in the catastrophe modelling and capital market industries that we believe will eventually lead to the provision of such protection, and these are discussed fully in this Review. To achieve this ultimate goal will require the goodwill and co-operation of everyone involved: risk managers, catastrophe modellers, brokers and their capital market specialists, insurers and reinsurers. To date, this co-operation has not always been in evidence; however, the needs of the energy industry now require us all to step up to the plate.

Meanwhile, the market remains beset by a conflict of trends, and it will be interesting to see which will win out. Will expensive reinsurance costs outweigh the effect of increased direct market capacities? Will the focus on underwriting profitability outweigh the threat of declining premium revenues? Will the need to maintain partnerships with key clients outweigh the need to adopt a disciplined “portfolio” approach to energy business? Will insurers hold their nerve or succumb to the pressure to maintain premium income?

2009 will hold the answer to all these questions. But underscoring all these issues are further developments in the global economic climate, which makes making too many predictions at the moment something of a fool's game.

The one certainty is that Willis Energy is committed to supporting our clients in these challenging times through innovation, technology, unrivalled technical expertise and sheer perseverance!

Alistair Rivers
Chief Executive, Willis Energy
Gulf of Mexico Windstorm: Still the insoluble risk management problem?

“The upstream market has once again recognised the return of GOM wind as its number one underwriting headache”
With the Gulf of Mexico windstorm (GOM wind) book in ruins once more, it’s back to the drawing board for upstream insurers as they seek to revise their underwriting strategies for 2009. But just how much demand will there be for the products they will be willing to offer? Is this class of business truly sustainable in the long term? Or will GOM wind still remain the insoluble risk management problem?

World’s 10 most expensive insured losses, 1999-2008

<table>
<thead>
<tr>
<th>Loss</th>
<th>Insured loss (2008 US$bn)</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hurricane Katrina</td>
<td>68.515</td>
<td>2005</td>
</tr>
<tr>
<td>9/11</td>
<td>23.654</td>
<td>2001</td>
</tr>
<tr>
<td>Hurricane Ike</td>
<td>15.000</td>
<td>2008</td>
</tr>
<tr>
<td>Hurricane Ivan</td>
<td>14.115</td>
<td>2004</td>
</tr>
<tr>
<td>Hurricane Wilma</td>
<td>13.339</td>
<td>2005</td>
</tr>
<tr>
<td>Hurricane Rita</td>
<td>10.704</td>
<td>2005</td>
</tr>
<tr>
<td>Hurricane Charley</td>
<td>8.840</td>
<td>2004</td>
</tr>
<tr>
<td>Winter Storm Lothar</td>
<td>7.223</td>
<td>1999</td>
</tr>
<tr>
<td>Winter Storm Kyrill</td>
<td>6.097</td>
<td>2007</td>
</tr>
<tr>
<td>Hurricane Frances</td>
<td>5.650</td>
<td>2004</td>
</tr>
</tbody>
</table>

According to the most reliable market statistics, in inflation-adjusted terms Hurricane Ike is the third largest insured loss in the last ten years, with Gulf of Mexico windstorm losses accounting for seven out of the top ten most costly events.

Source: Swiss Re/Munich Re/Willis (figures produced prior to 31/01/09)

The Gulf of Mexico (GOM) is back in the news with a vengeance. It seems such a short time ago that Ivan, Katrina and Rita were seriously disturbing the sleep patterns of the world’s leading upstream energy insurers; in addition to this terrible trio we now have Ike, the full ramifications of which, from an insurance perspective, are only now becoming clear. Already reeling from a series of serious sub-sea construction losses notified during the summer of 2008, the upstream market has once again recognised the return of GOM wind as its number one underwriting headache.

2006 AND 2007: TOO GOOD TO LAST...

Before the 2008 GOM windstorm season began, the market had perhaps begun to think that the 2005 season had been something of an anomaly. Following the catastrophes of 2005, dire predictions of further heightened hurricane activity for 2006 had insurers on the edge of their seats; a renewed focus on the newly-introduced Lloyd’s RDS model could be discerned, together with the imposition of aggregate limits, increased retentions and sub-limits, not to mention a dramatic increase in rating levels; and the market collectively held its breath as the summer approached, hoping that it had done enough to amend its premium and exposure base so that it could withstand another catastrophic season.

And then, as we all know, nothing happened; nor did anything significant happen in 2007 either. Combined with relatively inactive claims years in other areas, the upstream energy market was able to enjoy two years of spectacular profits as pressure began to build for insurers to abandon strict underwriting stances taken following Katrina and Rita and offer more competitive terms for 2008.

“I believe we are in a period of high activity, within which there has been greater severity because of climate change. Whatever the reason, we are going forward underwriting on the basis that there will be a similar level of activity in the Gulf of Mexico on an annual basis.”

Dominick Hoare, Watkins Syndicate
2008: GUSTAV AND IKE

But the experts at Colorado State University and other specialists kept telling us it couldn’t last, and of course the market, also conscious of the effects of the Atlantic Multidecadal Oscillation (see above), was well aware that another major storm - or series of storms – would significantly impact energy infrastructure in the GOM at some stage. September saw the arrival of Hurricane Gustav; although Gustav proved to be something of a “damp squib” as far as the offshore energy industry was concerned, insurers’ attention soon turned towards Hurricane Ike as it tracked north-east past Cuba and straight towards one of the largest concentrations of offshore energy infrastructure in the world. Although Ike had weakened to a Saffir Simpson Category 2 storm by the time it made landfall, it had produced hurricane winds over a massive 125 mile radius and tropical storm winds over an even larger 255 mile radius. The damage to offshore oil and gas infrastructure was extensive, with 54 platforms destroyed and a further 95 platforms damaged.

Now, as the latest figures from the Willis Energy Loss Database show overall losses emanating from Hurricane Ike eclipsing even those of Hurricane Rita, the majority of a shocked upstream market finds their GOM wind portfolio once again lying in ruins, with their reinsurers also bearing their full share of the pain.

Ike loss figures have deteriorated significantly since November. The effect of all four storms is much more significant for upstream insurers than their downstream counterparts. Furthermore, whilst Ike caused very little by way of upstream BI losses, it produced much larger OEE losses compared to previous storms.

Source: WELD (losses are excess of US$ 1 million and include both insured and uninsured amounts)
WHY THE GOM WIND MARKET IS AT A CROSSROADS

So how is the market going to respond this time around? Following a fraught and prolonged January 1 reinsurance renewal season, we understand that the long term sustainability of the Gulf Wind insurance product has now been seriously questioned by both the reinsurance and direct markets. As a result, major changes in the GOM wind insurance market products are on their way in 2009.

Faced with an even more limited and expensive product, we also understand that some energy companies are also likely to question the viability of continuing to purchase this cover. Given the potential disconnect between supply and demand for GOM wind insurance products, it is little wonder that market pessimists are forecasting the end of GOM wind as a viable insurance class.

Initial indications in early 2009 suggest that these doomsayers may be wrong, and that the traditional insurance market for GOM Wind will continue to carry on in the years ahead, although with demand continuing to outweigh supply.

However, supposing developments in 2009 prove them right? Suppose key market leaders, with little or no orders at the terms offered this year, simply turn on their heels and walk away? Without a viable insurance market for GOM wind, the only alternative for energy companies for the foreseeable future would be for them to absorb the risk themselves - whether they felt able to afford to or not.

This part of the Energy Market Review is dedicated to answering, as best we can, four key questions:

— What have been the major effects of Ike and other recent GOM windstorm losses on the upstream energy portfolio?
— How is the upstream market likely to respond in 2009?
— Will energy companies see these revised risk transfer products as worth buying?
— How can truly sustainable risk transfer solutions for GOM wind be developed?

In conducting our research for this article, we canvassed the opinions of a quorum of highly distinguished insurance and risk management professionals. They are:

— Axel Brohm, Swiss Re
— Paul Dawson, Beazley Syndicate
— Dominick Hoare, Watkins Syndicate
— Greg Holland, Willis Research Network
— George Hutchings, Oil Insurance Limited
— Luke Johnston, Swiss Re
— Jim Lyness, Chevron Corporation

Some of their observations are quoted directly on the following pages. We would like to thank them for their time and their willingness to give us the benefit of their expertise. However, we would point out that, apart from when quoted directly, the views expressed in this article represent Willis’ own conclusions as a result of our research and should be in no way be specifically attributed to any individual member of the panel.

“Although initially we were hopeful that a Cat 2 storm wouldn’t cause much damage, it is clear that Ike was no normal Cat 2 storm and in terms of the number of platforms damaged this is a very sizeable event. We shouldn’t be surprised that we will be paying a substantial claim.”

Paul Dawson, Beazley Syndicate
WHAT HAVE BEEN THE MAJOR EFFECTS OF IRE AND OTHER RECENT GOM WINDSTORM LOSSES ON THE UPSTREAM ENERGY PORTFOLIO?

Effect 1: Consistent Unpredictability


Perhaps the best way to understand the overwhelming impact of GOM wind losses on the upstream energy insurance market is to refer to the chart above, compiled from the Willis Energy Loss Database. Whilst few meaningful GOM losses have been recorded in seven out of the last ten years, it can immediately be seen that the otherwise reasonably even distribution of offshore energy losses has been radically skewed by the three significant spikes of 2004, 2005 and 2008 (caused of course by the “Big Four” hurricanes of the last decade – Ivan, Katrina, Rita and Ike). The ultimate effect of just four events has been to give the upstream energy portfolio a level of volatility perhaps unmatched in any other industry sector - a major concern of the Lloyd’s Franchise Performance Directive.

From a risk management perspective, the implication of these dramatic statistics is clear enough. Conventional wisdom would suggest that infrequent but severe losses such as these should almost always be transferred rather than retained so as to smooth earnings volatility and lower the overall cost of risk. Of course, this depends on two overriding factors: firstly, does the cover on offer actually provide the required protection, and secondly does it do so at a realistic, economic price?

From the insurance market’s perspective however, not only has it proved to be impossible to forecast the frequency and severity of major windstorms accurately; it has also proved to be impossible to model these exposures to insurers’ satisfaction so that their actual impact on their upstream energy portfolio can be assessed properly in advance.
Insurers and reinsurers are therefore beginning to abandon the use of Saffir Simpson as a basic underwriting guide for the future; the chart below serves to explain why.

**Big Four Vital Statistics Comparison**

<table>
<thead>
<tr>
<th></th>
<th>Ivan</th>
<th>Katrina</th>
<th>Rita</th>
<th>Ike</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saffir Simpson</td>
<td>Cat 4</td>
<td>Cat 5</td>
<td>Cat 4</td>
<td>Cat 2</td>
</tr>
<tr>
<td>Hurricane Severity Index</td>
<td>33</td>
<td>47</td>
<td>42</td>
<td>36</td>
</tr>
<tr>
<td>Integrated Kinetic Energy</td>
<td>4.4</td>
<td>5.1</td>
<td>4.3</td>
<td>5.2</td>
</tr>
<tr>
<td>No. of Platforms Destroyed</td>
<td>7</td>
<td>46</td>
<td>69</td>
<td>54</td>
</tr>
<tr>
<td>No. of Platforms Damaged</td>
<td>24</td>
<td>20</td>
<td>32</td>
<td>95</td>
</tr>
<tr>
<td>Commercial Market Loss</td>
<td>US$ 1,250m</td>
<td>US$ 3,000m</td>
<td>US$ 3,500m</td>
<td>US$ 3,000m</td>
</tr>
</tbody>
</table>

*Source: Watkins Syndicate*

Perhaps both the direct and reinsurance markets will pay more attention to the Integrated Kinetic Energy of a given windstorm rather than simply rely on the Saffir Simpson scale in the future.

The chart shows the characteristics of each individual hurricane; regardless of the key metric used, be it the storms' Saffir Simpson Index, Hurricane Severity Index or Integrated Kinetic Energy, all the statistics point to different dynamics of each storm causing the resultant damage. Perhaps the only consistent factor (other than for Ivan) is the financial impact on the insurance market.

This is particularly the case for Hurricane Ike; only a Category 2 storm when it made landfall, Ike’s Internal Kinetic Energy was even larger than that of Katrina, and therefore produced significant wave action which, together with its huge width, created the potential for as much damage to upstream infrastructure as either Katrina or Rita.

“We the Lloyd’s RDS no longer became a benchmark for the account. Instead it became a key metric of the account - from an underwriting point of view, from a broking point of view, from a reinsurance point of view and from an internal management point of view. A sacrosanct figure.”

Dominick Hoare, Watkins Syndicate
With a few notable exceptions, it appears that most upstream insurers may have relied too heavily on the maximum loss figures produced by the Lloyd’s Realistic Disaster Scenario (RDS) – designed in any case as a benchmark rather than a replacement for underwriting judgement – and as a result, found that they were exposed to a far greater loss from Ike than their management (and indeed their reinsurers) would have expected from a Saffir Simpson Category 2 storm.

Why did the market get the impression that their catastrophe models had let them down? Perhaps it was a little unfair of certain insurers to rely on them so much. For a start, the catastrophe modelling industry itself is only about 18-20 years old, and so, according to one analyst at Willis Catastrophe Management Services, can be “likened to an adolescent about to move into adulthood, with all the associated pains of growth and learning through mistakes”.

Secondly, the modelling industry only has access to sparse data, particularly for infrequent but severe events such as major hurricanes. Because of the limited observational record, the catastrophe modelling industry can’t yet tell us what is going to happen and when - particularly over long periods of time.

“Cat models are only one tool in the box; no modeller will say, put the data in, turn the handle and get the expected loss, go back to the client and charge. It’s not something that needs to be used in isolation, it needs to be used in conjunction with traditional underwriting skills. People who take models in isolation will get into trouble - it’s not providing the answer.”

Luke Johnston, Swiss Re
The above chart has been kindly provided to us by the Watkins Syndicate at Lloyd’s, one of the leading GOM wind insurers. The same volatility that we saw in studying the loss statistics from our database can also be seen from these figures. The effect of the Big Four on this portfolio has been to produce an overall incurred (premiums v. paid and outstanding claims) ratio over five years of over 360%, despite a considerable increase in premium income for this class following the hurricanes of 2005.

Furthermore, such is the magnitude of the insured loss for Ike – estimated by the offshore market to be in the region of US$3 billion as at December 2008 – that this in itself would be sufficient to wipe out the global premium income for the entire upstream sector for that year.

The offshore energy portfolio incurred loss ratio for 2008 is likely to be significantly greater than 100% once the final figures are collated and adjusted.
SO WHY DO UPSTREAM INSURERS STILL ACCEPT GULF WIND BUSINESS?

Impact of Gulf of Mexico Premium Income on Global Upstream Portfolio, 2008

Given the challenges associated with underwriting the GOM wind portfolio, the reader might be forgiven for wondering why, up until now at least, the upstream market has continued to offer this product, albeit on a much more restricted basis than in the past. We would suggest that there are three basic reasons for this:

— GOM wind on its own represents over 25% of the upstream market’s premium income. In general terms, the market has been under pressure from capacity providers in recent years to grow premium income and market share. Withdrawal from the GOM wind market would therefore create major difficulties for insurers that need to at least maintain their dollar share of the upstream portfolio premium income.

— Many multi-national energy companies that purchase insurance have a substantial part of their asset base located in the GOM. In some instances, GOM wind represents a significant proportion of the overall premium allocation of the programme. Withdrawal from the GOM wind market would therefore significantly jeopardise an insurer’s position on these key programmes.

— Once an insurer has made the decision to purchase reinsurance protection for its GOM wind portfolio, the need to recoup that initial outlay usually prevents insurers from withdrawing mid-term.

— If the market failed to offer a GOM wind product and forced buyers to self insure, insurers would be apprehensive that energy companies would then start to consider self insuring other aspects of their risk.

Walking away from the GOM wind book would mean waving goodbye to over 25% of upstream insurers’ premium income, and probably a further 8.75% of GOM non-wind business as well. The remainder of the portfolio, including vital revenue from global energy companies, could also be impacted...

Source: Watkins Syndicate Estimate
HOW IS THE UPSTREAM MARKET LIKELY TO RESPOND IN 2009?

A REINSURANCE-DRIVEN MARKET
As most readers will know, the GOM wind market for upstream energy risks relies heavily on the reinsurance market in order to provide meaningful capacity to energy companies. The direct market has reported a significant erosion of their total GOM wind aggregate limit to their reinsurers. From conversations with our reinsurance colleagues and with direct market insurers in recent weeks, it appears that many of the negotiations surrounding the renewal of various January 1 GOM wind reinsurance programmes have been both protracted and difficult. As this article was being written, all our market soundings indicated that significantly less reinsurance capacity – as little as 70% of last year’s total – is to be made available to the direct market in 2009.

This year, insurers have had to work much harder to demonstrate to their reinsurers why they should offer them support for their 2009 GOM wind offering. Below we itemise some of the key areas of discussion, which for some insurers and their reinsurers are still ongoing:
— Individual direct market underwriting strategies are being studied in detail. Reliance on the direct market’s Lloyd’s RDS exposures to assess the overall risk has reduced; instead, reinsurers are now looking for individual insurers’ exposure aggregate information by GOM block, as well as by class, value and individual location.
— For Quota Share programmes, individual occurrence policy limits are being capped at between 150-250% of Original Net Premium.
— For Excess of Loss programmes, the lowest excess point offered by the reinsurance market has been 10% of the direct insurer’s aggregate. Furthermore, cover is only being offered for claims incurred from one event – cover for more than one event must be purchased separately.
— Reinsurers are looking carefully at all Operators Extra Expense exposure, paying particular attention to how insurers intend offering Extended Re-drilling and Making Wells Safe cover.

These measures represent a dramatic change of approach by reinsurers and for obvious reasons have been highly instrumental in shaping the thoughts of direct insurers in formulating their offering for 2009.

Needless to say, Reinsurers are charging much higher prices for this cover. The Excess of Loss portfolio in particular is becoming increasingly commoditised, with a minimum rate on line on offer of approximately 20%. It is reported that some insurers have held back from purchasing reinsurance in the hope that terms will improve – only time will tell.

“The portfolio has to be reconstructed in a way that for a like-for like event next year the market would actually make money and would hit its target return on capital. Unless it can be proved to the contrary, that we won’t get these events happening with this degree of frequency, this has to be a starting point.”

Dominick Hoare, Watkins Syndicate

“We need to achieve pricing that reflects the fact of the increased frequency of these storms – it’s the return period assumptions that we are re-appraising.”

Paul Dawson, Beazley Syndicate
THE IMPACT OF THE LLOYD’S FRANCHISE PERFORMANCE DIRECTORATE
From our own research in the upstream energy market it is clear that, whilst there is a
general agreement that terms offered for 2009 have to be significantly amended, there is
still not a complete consensus as to exactly what form these changes might take.

However, as indicated earlier the Lloyd’s Franchise Performance Directorate (LFPD) is
also taking a keen interest in individual syndicates’ plans to write GOM wind in 2009. On
January 26 the head of the LFPD Rolfe Tolle and members of the London Market Drilling
Rig Committee invited various energy brokers and energy underwriters to a meeting. At
this meeting Mr Tolle suggested that:
— Lloyd’s needs to have a more accurate grasp of the exposures that GOM wind insurers
have on their books
— The existing RDS methodology needs to change
— All underwriters should now run different tracks following Katrina, Rita and Ike paths
and evaluate their exposure at various distances from those paths
— Additionally, Lloyd’s wishes to centrally monitor individual syndicates’ exposure, and will
now require information in a standard format to be delivered by the Lloyd’s leader (only)
within 30 days of attachment on all GOM wind-exposed risks attaching after 1st January,
particularly with regard to data relating to fixed assets, pipelines and mobile drilling rigs
— Lloyd’s also stressed that knowledge of the Minerals Management Service ID code for
each structure will be crucial for insurers, as well as the water depth versus the air gap
of each structure

WHAT CAN BUYERS EXPECT IN 2009?
Given the recent interest taken by the LFPD in the GOM wind portfolio, it is now
probable that, as far as Lloyd’s insurers are concerned, a market consensus might soon
emerge. From our conversations with key direct market leaders, the following should be
expected to be part of the product offering for 2009:
— Premium rates on policy limit would need to increase substantially.
— Retentions and policy limits would be intrinsically linked to the total asset values
declared to the policy. As a general guide, buyers can expect retentions to be between
2.5% and 5% of TIV (Total Insured Value) of the assets insured, with policy limits
generally restricted to between 12.5 - 25% of TIV depending on the total value of the
buyer’s assets, its spread of risk and its individual risk profile. Given that total 2009
capacity is likely to be approximately 70% of the 2008 figure it is likely that for larger
companies the 12.5-25% range would be likely to be somewhat academic.
— The market will no longer be prepared to offer aspects of the Operators Extra Expenses
(OEE) cover such as Extended Re-drilling, Plugged and Abandonment costs and
Making Wells Safe incurred solely as a result of a GOM wind event on a “broad brush”
basis. (However, if such expenses are incurred as a result of a blowout and not a GOM
wind event, OEE cover will continue to be provided in the normal way). Specifically in
the case of Extended Re-drilling, cover will be provided for scheduled wells only for a
limit per well as declared, which may be linked to the well’s original AFE (Authorization
For Expenditure) cost. A rate will then be applied on the aggregate limit. On this basis
it is expected that buyers would only declare those wells that they are likely to re-drill
in the event of a loss to the policy schedule.

Other factors that will continue to impact the capacity and terms provided will include:
— Whether or not the platform is located in an area where there is a significant
concentration of upstream infrastructure
— Whether the platform is located in deep or shallow water
— The deck height of the platform in relation to the water depth
— The age of the platform
— American Petroleum Institute code
ONE LEADER'S VIEW

In order to provide our readers with an indication of current market thinking, we have reproduced, with their permission, a chart drafted by a leading Lloyd's energy syndicate. Whilst this is by no means reflective of every leader's point of view, it does at least provide an insight into the mindset of one leader determined to achieve profitability for this class.

Figure 1 represents the actual effect of Ike on the GOM wind portfolio, whilst Figure 2 shows how the market's underwriting strategy in this leader's view would have to change in order to generate a profit, given the same loss in 2009.

The Future of Gulf Wind Insurance - One Leader's View

Fig 1. Hurricane Ike

<table>
<thead>
<tr>
<th>Assured Retained</th>
<th>Commercial Market Loss</th>
<th>OIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>US$ 900 Mn</td>
<td>US$ 3,000 Mn</td>
<td>US$ 750 Mn</td>
</tr>
<tr>
<td>Assured Retained</td>
<td>US$ 600 Mn</td>
<td></td>
</tr>
</tbody>
</table>

Income

US$ 900 Mn

Fig 2. 'As If' Hurricane Ike

<table>
<thead>
<tr>
<th>Assured Retained and/or Not Insured</th>
<th>Commercial Market Loss</th>
<th>OIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>US$ 900 Mn</td>
<td>US$ 1,100 Mn</td>
<td>US$ 750 Mn</td>
</tr>
<tr>
<td>Assured Retained</td>
<td>US$ 2,500 Mn</td>
<td></td>
</tr>
</tbody>
</table>

Income

US$ 1,800 Mn

NB: This chart assumes that the market is able to offer the same capacity for GOM wind as was provided in 2008. However, Willis estimates that only 70% of this capacity will be available to buyers in 2009.

When this chart was originally drafted in December 2008, the total Hurricane Ike loss was estimated at US$5.25 billion as shown in Figure 1 above (as we showed earlier, this figure has now increased to nearly US$7 billion). This total was broken down showing:

— US$3 billion total insurance market loss
— US$600 million retained by the buyers as deductibles
— US$900 million retained by the buyers in excess of amounts recovered from the insurance market
— US$750 million absorbed by OIL

The commercial market loss of US$3 billion is set against the US$900 million which the syndicate estimates as the current global market premium income for the energy GOM wind portfolio.
In order to make an underwriting profit from GOM wind, it is understood that this particular syndicate’s target loss ratio is in the region of 60%, taking into account the increased cost of capital and other expenses. In the event of “Ike Mark II” materialising during 2009 (see Figure 2 above), the syndicate calculates that to achieve its target profit, the entire commercial market offering has to be underpinned by much higher deductibles. Specifically:

— The actual amount of policy limit was designed to remain the same (although we now know that there will be approximately 30% less overall capacity in 2009 than there was in 2008). The intention was that in the event of what we might call “Super Ike” — a Category 5 storm with a similar Integrated Kinetic Energy character as Ike, producing overall insured losses, say, in excess of US$ 7 billion – the buyer would still recover a similar amount from the market as for Ike.

— In other words, the same product would be provided, just excess of higher retentions - the total energy industry retention would need to be virtually quadrupled, from US$1.5 billion to US$3.4 billion.

— Because of this increased retention, the commercial market loss in the event of “Ike Mark II” would be restricted to US$1,100 million, just over a third of the market’s Ike loss (as then calculated) - although the intention was that the same amount of policy limit would be available in the event of a larger occurrence.

— In order to maintain a 60% profit ratio in the event of “Ike Mark II”, the GOM wind premium income to the commercial market needs to double, from US$900 million to US$1,800 million.

“Increased retentions are critical, because it’s like us buying reinsurance, you get to the point whereby at a certain frequency of loss we are just swapping dollars. So we’ve actually got to provide a product that provides real relief to our clients when the big loss comes.”

Dominick Hoare, Watkins Syndicate

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Paul Dawson, Beazley Syndicate

“We do believe that the risk is insurable; the question is how do we ensure that we have a fair assessment of the uncertainties around what we can insure, and how that is shared between the insurer and the insured?”

Axel Brohm, Swiss Re
WILL ENERGY COMPANIES SEE THESE REVISED RISK TRANSFER PRODUCTS AS WORTH BUYING?

AN OVER-AMBITIONOUS APPROACH?

From the evidence of the model that we have been discussing, there can be no doubt that considerable changes in the insurance market GOM wind product in 2009 are being contemplated. But just how reasonable and business-savvy are these changes?

The underwriting approach that we have just outlined shows how GOM wind might be underwritten profitably on the assumption that a storm of the magnitude of Hurricane Ike can now be expected every year. Conversely, it could instead be argued that such an event is more likely to be replicated roughly three times in five years rather than every single year (even if insurers were to take the last five years’ exceptional loss activity as the norm, this would only amount to four times in five years). The pressure that would be brought to bear on this underwriting model in the event of a loss-free year in the GOM would therefore be considerable; one could say that it almost requires a major windstorm to impact the market in 2009 to justify it in the long term.

Furthermore, the unprecedented and dramatic increase in retention levels suggests that this model contemplates responding only in the event of a major windstorm such as Ike and would therefore act rather more as a “second loss” rather than a “first loss” insurer for most windstorm events. Whilst this underwriting philosophy is reasonable enough in itself, the overall demand for GOM wind insurance is almost certainly likely to remain for “first loss” cover – especially for smaller-capitalised energy companies.

“Rather than look at the total aggregate exposure that an insured has in the Gulf, and working out a retention based on a proportion of that value, we would rather work out what we think the likely loss value is and fix a retention related to that value”

Paul Dawson, Beazley

Another observation might be that such a model is attempting to provide a blueprint for an immediate return to underwriting profitability by focusing on GOM wind in isolation from the remainder of the upstream portfolio. Following past losses of this nature, upstream insurers have traditionally sought to mitigate their position by taking stock of their entire upstream underwriting philosophy; instead this model assumes that these measures will result in the current level of GOM wind firm orders to the market being sustained. Those energy companies without GOM wind exposed assets, being the majority of the market’s clients, would surely support this approach.

In any event, this model is attempting to combine dramatic increases in retentions with a doubling of overall premium income levels. Is the market right to be confident that market GOM wind premium levels really are going to double if these measures are implemented? Indeed, will there be sufficient demand for the revised product in the future to enable insurers to continue to underwrite this portfolio on a meaningful basis?
In order to highlight the potential drawbacks of this approach for buyers, let’s take two extreme ends of the client spectrum and examine these insurer measures from these perspectives.

**THE MAJOR OIL COMPANY PERSPECTIVE**

On the face of it, the product certainly looks a great deal less appetising than in the past from the perspective of a major energy company. For a start, if the minimum retention demanded by the market were to be say 2.5% of total insured assets, a major energy company with a GOM schedule valued at tens of billions of dollars might see its retention increase by say tenfold in 2009. Given that the maximum capacity for any one buyer is likely to be approximately 70% of what was on offer in 2008, then it can be seen that the value offered by the insurance market is considerably diminished, given that not only is the buyer expected to retain ten times the amount in 2008 but also retain even more exposure in excess of what will be provided by the commercial insurance market. Major companies are therefore likely to be much more selective in deciding which assets really need to be declared to the policy. (In practice, in order not to alienate the buyer, we would expect the market to split a major oil company programme of this nature into individual geographical sectors within the GOM and then treat these separate areas as individual client programmes with separate limits and retentions).

**THE SMALLER E&P COMPANY PERSPECTIVE**

Most insurers that we have spoken to believe that the majority of smaller energy companies in the GOM, without the spread of risk and financial muscle of the major energy companies, have little option but to insure their assets against windstorm given shareholder considerations and the fact that the product has paid out four times in three years. But consider the position of a small E&P company that is the owner of a single platform in the GOM worth, say, US$70 million. Under the underwriting guidelines outlined above, not only would his existing US$1 million deductible double to US$ 2 million, but the policy limit provided would only amount to some US$17.5 million – scarce comfort in the event of a total loss of his only GOM asset. In this instance, the company can demonstrate to its shareholders that it is obliged to absorb 75% of its exposure in any case, so it might consider whether purchasing an expensive insurance product to cover the remaining 25% is really viable.

These examples are of course two extreme ends of the spectrum and it may well be that more flexible solutions will eventually be offered to buyers – at a price - as 2009 progresses. In particular, we have cited the second example to show how applying a strict 25% limit on TIV might apply taken to its logical conclusion, and it is likely in reality that some additional capacity would be available on an excess basis, although at a price.

Most companies that currently purchase GOM wind insurance will of course find themselves somewhere in between the positions of our two extreme examples. What cannot be yet determined is whether the risk/reward ratio of the revised commercial market offering will appeal to enough buyers to enable insurers to continue to underwrite this class on a worthwhile basis.
THE RISK MANAGER’S QUANDARY: WHEN IS THE BEST TIME FOR A MARKET APPROACH?

The price, scope and quality of the cover offered are not the only obstacles confronting buyers of GOM wind in 2009; another problem is the issue of the timing of any market approach.

The 2009 Gulf Wind Dilemma: who will hold their nerve?

This chart is designed to show the dilemma facing both buyers and insurers of GOM wind insurance in 2009, given the gap in time between the conclusion of the first reinsurance treaties at January 1 and the official onset of the hurricane season at the beginning of June.

Should a buyer approach the market early in the year, to guarantee access to capacity, they are likely to find the market to be in a resolute mood. If the risk is sufficiently attractive to insurers, then the buyer can expect to be offered terms at say Price X.

However, it is also possible that the market might refuse to provide capacity for some risks, preferring to reserve their capacity for those buyers offering potentially higher premium income. In this event the buyer can either opt for self-insurance, offer to pay an even higher price than Price X from an opportunistic insurer, or wait until later in the year.

Several buyers may decide that by postponing the decision to purchase they are more likely to obtain more competitive terms from the market, as by then insurers could be faced with a declining order book at their original terms and may need to ensure that their up front reinsurance costs are recouped before the onset of the hurricane season. However, by adopting this strategy the buyer is taking something of a risk: capacity may have already become exhausted, or may be in such short supply that he is forced to accept a price higher than X rather than lower.

A key contributor to the GOM wind premium pool is the drilling rig industry, which at this stage can be viewed as being “cash rich”. A key question in 2009 is therefore whether these buyers will continue to purchase insurance and protect their balance sheet, or elect not to insure but risk jeopardising their potential for further growth by incurring further GOM wind losses in 2009.
SUMMING UP: AN UNSATISFACTORY SITUATION, TO SAY THE LEAST...

Taking all these factors into account, how should we sum up the current situation in the GOM wind market?

Still Confused
As this Review went to print, we understand that smaller GOM wind capacity requirements can be satisfied without needing to access the full range of market leaders. However, where larger amounts of capacity are required, we must report that no common market stance has yet emerged, leaving buyers confronted with a “patchwork quilt” of differing terms and conditions. The dramatic increase in retention levels sought by our cited leader may have widespread support in the following market but is unlikely to be shared by all other market leaders, particularly those more interested in generating additional premium income by offering cover at lower deductibles. From a Lloyd’s perspective, we believe that the influence of the LFPD will be critical; what cannot be determined is the exact extent of that influence. Furthermore, whether any Lloyd’s consensus will extend to the company market is still very much open to question.

Still Restricted
We have seen that the market is going to offer approximately 30% less capacity than in 2008. However, as this Review went to press we understand that Berkshire Hathaway is to provide a five year, fixed premium US$500 million annual aggregate facility on a pooled basis for oil and gas companies operating in the GOM. A choice of limits up to a maximum of US$100 million per occurrence will be available, with a variety of attachment points ranging from US$20 million to US$250 million per occurrence. Whilst this fresh capacity will naturally be welcomed by buyers, it will be interesting to see how they will respond to what is essentially an uncertain recovery; the key may rest on their perception of just how much of their per occurrence limit would be would be able to be reimbursed in the event of an exhaustion of the annual aggregate. GOM wind insurance products are therefore still unable to provide any realistic “sleep easy” factor that most risk managers strive for.

Still Volatile
Risk managers face an increasingly stark choice between securing capacity early or holding out for potentially cheaper terms later in the year, at the risk of paying an even higher price or even not securing any capacity at all.

Still Expensive
The market is clearly looking to offer a product that works for them in the long term, although they only offer short term (12 month) solutions. As well as general rate increases, new rating methodologies for exposures such as re-drilling are going to fundamentally alter risk management budgets.

“If you were a company with only two platforms in the Gulf of Mexico, then shareholders may be a little concerned about no insurance. But if you are a company with hundreds of platforms in the Gulf and more worldwide, shareholders are likely to be more comfortable absorbing risk, particularly if the available insurance is minimal compared to the exposure.”

Jim Lyness, Chevron
HOW CAN TRULY SUSTAINABLE RISK TRANSFER SOLUTIONS FOR GOM WIND BE DEVELOPED?

Although it is still likely that many buyers will accept the more restricted product likely to be on offer from the commercial market in 2009, there is a real danger in the long term of either the market deciding that this class can not be written profitably, or buyers deciding that what is on offer from the commercial market is no longer worth buying.

We believe that a collapse of the GOM windstorm market brought about by either of these eventualities would be a disaster, not only for energy companies devoid of protection for what constitutes a major physical risk to their asset base but also for the global energy insurance market, which for decades has always been willing to provide cover for entirely fortuitous risks such as damage from hurricanes.

Only time will tell whether energy companies will buy at the terms currently being considered by the market, or whether underwriters will feel compelled to retreat from this stance in order to generate sufficient premium income.

The challenge, as Chevron's Jim Lyness succinctly put it to us, is to determine how windstorm risks can be priced on a stable and reliable basis, so that the product remains valuable to both parties. But given what's happened over the last five years, how is this going to be achieved in the long term? If the existing commercial market offering fails to meet the energy industry's needs, we believe that the answer may lie in three possible developments:

— **Increasing energy industry mutualisation of this risk.** The energy industry has an excellent track record in finding alternatives to traditional reinsurance from within the industry itself.

— **Future developments in the catastrophe modelling industry.** If the annual frequency and severity of GOM windstorms for each year can be predicted with greater accuracy, then return periods for future losses might be able to be gauged more accurately by the insurance market.

— **The underpinning of existing commercial market GOM wind capacity by a capital market solution.** If major reinsurance companies were to transfer risk into the capital markets, allowing them to generate GOM wind capacity to the direct market, this in turn might alleviate any supply/demand imbalance for this class.

“If we start chipping away at coverage for what we consider to be the most traditional perils, as I would assume most people would view a hurricane to be, then insurance could be increasingly viewed as having less value overall to a buyer. That could creep into not only windstorm but other areas as well. So I think there is a challenge to the industry, on probably both sides. How do you price an exposure that is important to the buyer and continue on a stable and reliable basis so that it is valuable to both parties? That’s the challenge that we all face.”

Jim Lyness, Chevron
“There is always an option that energy companies could mutualise this risk at a higher level in the future. Self insurance is another option, but once people self insure, I don’t see a lot of them coming back.”

Jim Lyness, Chevron

“At the moment OIL has no plans to separately mutualise GOM wind risk from all our other risks. However, if we were to be convinced in the future that there was sufficient demand for this from our shareholders as well as other non-members, OIL would certainly be prepared to think about forming a stand-alone wind pool and give the matter further consideration.”

George Hutchings, OIL

“With our experience of four major storms in the last five years, OIL now has some relevant data points which could allow us to better understand how to properly construct such a pool in terms of balancing exposure and loss expectancy amongst a diverse set of assets. Given our current market share and recent loss experience, OIL may be better positioned in the market to provide a solution to this truly unique risk.”

George Hutchings, OIL

**DEVELOPMENT 1 - INCREASED MUTUALISATION**

It may well be that, faced with what may be viewed as an unacceptable level of retained exposure, energy companies will look to OIL or other mutuals (including perhaps a government-sponsored entity) for an enhanced mutualised solution for this risk in the future. As many readers will know, OIL currently provides cover for GOM wind for a limit of US$250 million for each shareholder in a separate asset pool, subject to an overall occurrence aggregate for one windstorm of US$750 million.

Given today’s insurance market climate, the US$250 million limit certainly offers valuable additional cover for existing shareholders; however, it will be remembered that following Katrina and Rita, the OIL aggregate limit (which at the time was US$1 billion) was exhausted twice in the same season. Furthermore a full limit loss of US$750 million has already been declared following Hurricane Ike.

There is therefore a reasonable case for considering further mutualisation of the GOM wind risk within the energy industry, and so it would be interesting to monitor OIL’s response in the event of a GOM wind insurance market collapse. At the moment, it is clear that OIL has no plans to either to increase the amount of cover provided to its shareholders for GOM wind risk, nor to consider “ring-fencing” GOM wind risk into a separate pool. Following the 2005 hurricane season, OIL discounted this idea due to a perceived lack of demand from shareholders and instead introduced the two windstorm sectors which, although attracting different premium weightings from the other eight sectors, still remained part of the overall OIL pooled risk.

We now understand that OIL is continually refining the way in which it offers all coverages to its shareholders, and this year it is to undertake a comprehensive review of its current limits and deductibles.

Whether or not any further changes in the mutualisation of GOM wind risk will materialise under the auspices of OIL in the near future will depend not only on the outcome of this review but also on the feedback that is received from its shareholder base.
We have shown how Hurricane Ike exposed the error of relying exclusively on today’s catastrophe models to predict the impact of a given storm on an insurer’s GOM wind portfolio.

The very nature of catastrophe models, and their specific reliance on restricted historical data, means that they will always be a work in progress, “straw men” that are constantly being revised and updated as new data points become available. The fact that the industry has very little data older than 50 years means that until now catastrophe modellers have not been able to determine how changes in climate systems can affect the pattern of different weather features over different parts of the globe.

Major weather events such as GOM hurricanes are simply manifestations of a global climate system that is complex, interconnected and interdependent. The problem that catastrophe modellers have had in the past has been lack of computational efficiency. This has prevented them from taking advantage of recent developments in the understanding of the differing interrelation dynamics of global climate phenomena such as El Niño, La Niña and the Atlantic Multidecadal Oscillation.

New catastrophe models that can incorporate recent developments in our understanding of how global weather phenomena interconnect may help insurers to assess the frequency and severity of GOM hurricanes more accurately in the future.

"The next modelling system will effectively be a million laptops stitched together - the whole process needs to be restarted to create this. The process will take us from predicting what will happen on a climate scale to what will happen on a weather scale,”

Dr Greg Holland, Willis Research Network (as quoted in Insurance Day, December 11 2008)
This is now changing; from conversations that we have had with our colleagues at Willis Catastrophe Management Services, a revolution is now under way in the industry. For the first time, it is estimated that a convergence between the weather models and climate models is becoming possible, mainly because the advances made in computing power are now allowing modellers to bring the two together.

So instead of being constrained by having only 50 years of historical data, modellers will be able to start to replicate what could happen over longer time periods, based on these different climate scenarios.

For the first time the climate models are actually starting to resolve and output actual weather features, allowing tropical windstorms to be identified and viewed within the catastrophe models themselves. This enables analysts to virtually take a snapshot of the globe from an output of the model, which in turn provides them with a view of individual hurricanes as they develop in the Gulf of Mexico.

Willis’ expectation is that by combining these independent approaches a much-improved assessment of future hurricane return periods and an unprecedented degree of detail on associated structural features such as rainfall, size and geographic location can be determined.

Perhaps it is only when insurers have the full benefit of these future developments that they will be able to offer truly consistent, sustainable risk transfer products for GOM wind.
DEVELOPMENT 3 - THE UNDERPINNING OF EXISTING COMMERCIAL MARKET GOM WIND CAPACITY BY A CAPITAL MARKET SOLUTION

INTRODUCTION
In recent years each of the major GOM hurricanes has exhibited differing features in terms of track, intensity and footprint. The one thing these events have in common is that the resulting losses in the GOM significantly exceeded expectations and arose in unexpected and diverse forms, for example Ivan: sub-sea pipelines; Katrina/Rita: business interruption, storm surges and floods; Ike: its sheer size, operators’ extra expenses, wells made safe. What these events clearly demonstrate is the complex relationship between the physical characteristics of hurricane events and the resulting GOM energy losses. This relationship was not what had been previously thought and, as we have shown, highlighted existing attempts to model GOM insured hurricane exposures and losses properly as deficient.

THE “RETRO” REINSURANCE MARKET
Insurance companies protect their balance sheets by transferring significant parts of their natural catastrophes exposures to specialist reinsurance companies. Exposures to the “global peak” insured risks such as GOM windstorm tend to accumulate in the reinsurance market which, in turn, finds means by which to reduce its volatility. Typically, this has been achieved by buying retrocessional cover (so-called “retro” or, in other words, reinsurance of reinsurance) from another reinsurance company. A shortcoming of the retro market was that it recycled peak exposures (with an increasing lack of transparency at each turn) with the result that it has experienced heavy losses and consequent reductions in capacity.

INDEX-LINKED SECURITIES
Over the last ten years financial instruments known as “Insurance-Linked Securities” (“ILS”) have been developed. This development has created a large source of new retro capacity, thus facilitating reinsurers (and in turn the direct market) to write business in natural catastrophe exposed regions. ILSs enable catastrophe risk to be packaged-up in forms that can be sold directly to investors in the broad capital markets. These investors are arguably better suited than reinsurance companies to assume the high severity/low frequency risk profile of natural catastrophes. Common forms of ILS include catastrophe bonds, insurance-linked derivatives and other forms of privately negotiated transactions.

ILS investors rely heavily on catastrophe risk models when making investment decisions. The difficulties of modelling GOM exposures has meant that investors have lacked confidence with the consequence that only a limited volume of GOM ILS transactions have been effected, to date. In practice, the ILS market has been focussed on non-marine risk. The objective is therefore to develop new approaches that address this concern and allow the ILS markets to be accessed as a source of GOM risk transfer.

HOW CAN ILS SUPPORT GOM WIND CAPACITY?
As we already mentioned, ILS investors tend to rely heavily on independently verified natural catastrophe models. Although the major risk modelling firms have recently developed GOM wind models, as we have seen market participants remain reluctant to rely too heavily on these models:
— Assessment of values at risk is made difficult by the movement of insured mobile assets and values around the GOM area
— The unique interaction between the physical characteristics of a storm and the damage so caused to offshore installations appears not to have been entirely captured within the models
Given these concerns, a traditional indemnity-based GOM ILS is not feasible. However, there is an alternative approach, a parametric cover, in which loss payments are triggered by the actual measured physical characteristics of a defined loss event. In the case of a hurricane risk this would be elements such as barometric pressure, forward track, winds-speed and radius. Parametric covers are not governed by the normal principles of indemnity that are common in the insurance industry; loss payments are determined solely by the physical characteristics of the actual event. Investors tend to prefer parametric covers, as the risk models implicitly assign probabilities to the physical characteristics of storms.

One such contract was designed by Willis in 2006, which yielded a graduated payout if there was a hurricane of Saffir Simpson Category 3 or higher within a defined geographical box. Willis placed several such covers with various hedge funds in both 2006 and 2007.

The disadvantage of a parametric cover is the so-called basis risk. This is the risk that the buyer of the cover might suffer losses as a result of a hurricane but those losses are not recoverable from investors by virtue of the physical characteristics of the storm having failed to breach the trigger levels. So the more the basis risk can be minimised, the more attractive the ILS becomes as a source of risk transfer capacity to its buyers.

THE DEVELOPMENT OF A GOM HURRICANE INDEX
Following Hurricane Ike, a Category 2 storm at landfall, which nonetheless caused extensive insured losses, it is clear that new parametric triggers need to be found if ILS products are to provide meaningful capacity to the energy reinsurance and insurance markets. Willis has therefore made it a priority to develop a new parametric-based approach that minimises basis risk and thus promotes GOM wind capacity.

The ILS market demands a trigger which is independently verifiable from public data, for example storm characteristics made available by the National Hurricane Center. Various formulae have been produced over the last few years, but none of these have proved to be good predictors of the actual energy losses sustained in the GOM, almost certainly due to the failure of these formulae to take into account the damage caused by abnormally high waves. The problem is therefore that while investors may be happy with the basis of the index, the buyer of the cover (the reinsured) is less likely to be so.

Willis has therefore commissioned the specialist resources of the Willis Research Network to create a formula derivable from National Hurricane Center advisory reports, which include an element for wave damage, and which can be modelled using proprietary hurricane models.

The result of this research is the Willis Hurricane Index (WHI), which is based on a three-variable formula. The three variables recorded during the time a named hurricane spends in a geographical box are:

– The maximum windspeed
– The radius of the hurricane-force winds
– The cyclone translation speed (which influences wave height)
Using historical data, this formula produces a result which is very closely correlated to the offshore losses reported to the Willis Energy Loss Database (WELD). These results are reflected in the chart below; Willis is now working undertaking further natural catastrophe modelling exercises to establish a loss exceedence curve for this index.

The Willis Hurricane Index (WHI)

The chart above shows how previous major hurricanes scored in terms of the new index. It can be seen that although WELD losses were the most obvious correlating factor, it should also be noted that Hurricane Andrew was a Saffir-Simpson Category 5 storm on US landfall, whereas Hurricane Ike – which scored considerably higher on the WHI - was only a Category 2 storm as previously mentioned. What is very noticeable however is the very strong correlation of the Index scores with the actual losses sustained – unlike previous catastrophe bond triggers.

WHAT THIS MAY MEAN FOR THE GOM WIND INSURANCE MARKET

Taking every factor into consideration, we would suggest that this Index may represent a real, theoretically valid breakthrough in the search for a parametric index for the offshore energy industry. The underlying science and independence now appears to be sufficiently rigorous to be utilised in formulating catastrophe bonds and other ILS, whilst the correlation with industry losses suggests that the basis risk will be acceptable to a wide range of energy insurer sponsors.

In practice however, the likelihood is that a product with a trigger based on such an index will only appeal to those sponsors with the financial muscle, market share and spread of risk of the GOM’s peak hurricane exposures to purchase such a product. We would therefore suggest that such sponsors might include the small group of major reinsurers that primarily make up the current GOM windstorm reinsurance market.
Should these companies purchase such a product, however, the effect on the remainder of the existing GOM wind market might be profound.

**A Parametric Risk Transfer Solution for Future GOM Wind Market Capacity**

This diagram shows in simple terms what might happen to GOM wind capacity if such a parametric solution was purchased by leading reinsurers. In such circumstances, reinsurers would be likely to offer substantially larger capacity to the direct market, given their initial outlay and the reassurance that such a solution, based on a credible Willis Hurricane Index trigger, would provide. And with more reinsurance capacity available, logically this would allow the direct market access to more capacity which would in turn significantly increase the eventual capacity offered to the energy industry.
CONCLUSION: CAN THE INSURANCE INDUSTRY FORESTALL ANY FUTURE INCREASE IN THE MUTUALISATION OF GOM WIND RISK?

As we mentioned earlier, it is still possible that buyers will continue to purchase cover for GOM wind from the commercial insurance market in much the same way as they did in 2008.

However, the inherent volatility of this class and the constant adjustments in rating levels, available capacity and self-insured retentions all suggest that, regardless of the eventual outcome in 2009, a longer term solution to the problem of GOM wind may be required for the energy industry than what is currently on offer from the market.

For most energy companies, finding that they have to increase the amount of potential GOM wind risk on their balance sheets is hardly an attractive proposition for their shareholders, especially given the severity of the damage caused during the last five years.

Energy industry demand for effective risk transfer of GOM wind risk is therefore likely to remain as strong as ever. Whether the insurance industry can deliver what is needed - or whether the energy industry will turn once more to further mutualisation – will depend on the collective determination of the insurance industry to “solve the insoluble risk management problem.”

Maybe these exciting developments in the fields of catastrophe modelling and capital market parametric solutions have finally given the industry the wherewithal to do just that.
“In the midst of this storm, the global reinsurance industry has remained substantially unscathed with a capital base that is still largely intact and liquid.”
In January 2008 we said:
— The last 24 months had represented a period of exceptional profitability for the reinsurance industry
— Reinsurers were being squeezed between their primary clients and their own strong recent results
— A general market softening was particularly acute in markets such as US Property
— Meaningful disparities had developed between the major reinsurance hubs
— Reinsurer impairment due to the sub-prime debacle appeared limited
— Capital market enthusiasm for insurance risk was undiminished
— An increasing focus on the management of capital structures was becoming evident in the reinsurance industry

The unprecedented turmoil in global capital markets during the second half of 2008 has ravaged the balance sheets of many financial institutions, consigning previously envied institutions to footnotes in history and forcing others into the arms of government bailouts. In the midst of this storm, the global reinsurance industry has remained substantially unscathed with a capital base that is still largely intact and liquid.

While not currently impaired, reinsurers have recognized that in the current financial market climate, obtaining new post-event capital will be both difficult and expensive. As a result, reinsurers are seeking to optimize returns on their existing capital bases via more constrained risk appetites and elevated risk charges. We have seen the first evidence of this at January 1 2009 renewals with meaningful price increases being taken in capital intensive lines of business, U.S. Nationwide Catastrophe business being the most prominent example.

Primary insurance companies are also facing capital pressures, and as a result, the gradual decline in demand for reinsurance over the preceding few years has started to abate. Now, cedants are exploring buy-downs and other reinsurance mechanisms in order to protect and enhance their capital positions.

In step with this absolute increase in demand for reinsurance capacity, we are also observing a shift in the manner by which cedants select reinsurance partners, as the recent events in global financial markets have prompted a fundamental reassessment of credit risk. With third party credit ratings no longer sacrosanct, insurers are seeking to use portfolio diversification to mitigate their counterparty exposure. One immediate impact of this is an increase in the syndication of risk, which in turn is affording opportunities for reinsurers to obtain shares on programs previously dominated by a limited number of large players.

The changing capital appetite amongst cedants presents the traditional reinsurance industry with an excellent opportunity to win back market share. Nevertheless, the primary market has yet to realize the full scale pricing increases deriving from the deepening global recession, falling yield curves, rising loss ratios, and expected increases in reinsurance pricing levels. In order to regain their previous position, reinsurers will therefore need to balance attempts to realize portfolio management objectives with the real economic constraints faced by their insurer customers. Judged on markets’ performance at 1 January 2009, the industry is meeting this challenge with appropriate product, price and capacity.
Reinsurance Market Renewal Season - in a Nutshell (as reported at January 1, 2009)

**Marine and Offshore Energy**

- Considerable inconsistency across the market, with a wide variation between what individual reinsurers think are the correct terms for renewals. Gulf of Mexico capacity continues to be scarce, with many clients and underwriters putting off decision-making until the New Year.
- Large programs without Gulf of Mexico energy exposure seeing average price increases of 10%, although with much variation.
- Non-Marine liability exposures, such as Transmission and Distribution Lines, now excluded.
- Pro-rata commissions, and occurrence caps reducing, especially where Gulf of Mexico covered.
- Reinsurers are seeking to move away from attritional losses, whether in local domestic programs or in large multi-national placements. Therefore although pressure on capital may be pushing cedants to retain less, the reinsurance market is requiring greater risk retention.

**US Property (Nationwide)**

- Reinsurers are seeking significant rate increases due to increased cost of capital and having less aggregate to deploy.
- The gulf between primary rates and reinsurance pricing is greater than in 2006.
- Expectation that mid-year placements will come to the market early in 2009.

**Europe Property (Catastrophe)**

- Multi-Territory Peak European Wind Programs with capacity over $750 million up by 7.5% to 10% after adjustment for exposure change.
- Reinsurers’ European Wind capacity under pressure due to increased capital cost, Euro Rate of Exchange issues and lack of retrocession capacity.

**Middle East Property**

- Capacity growth through arrival of regional branches / subsidiaries of larger global groups, and locally capitalized start-ups (particularly in the Takaful arena).
- Proportional structures remain resilient, despite widespread capital adequacy – largely a function of limited catastrophe exposure in the region.
- Regional expansion of larger groups anticipated in coming years, with consequent increase in Mergers & Acquisitions activity.

**Asia Property**

- Marked growth in analytics demand from buyers not generally matched by credibility given to available models by reinsurers.
- Initially higher pricing / tougher terms sought by reinsurers, but recognition that capacity largely unimpaired in the region mitigated cycle hardening, for now.

**Latin America Property**

- More and more premium / exposure being concentrated in multi-national groups. Larger capacity programs are under pressure.
- Regional accounts showing a year-over-year price change of between -5% and +5%, depending on experience and exposure movements.
- With large changes in exposures in some covers, very difficult to discern exact year on year price movements. Proportional treaties with no event limits are under pressure.
Australia Property

— Client loyalty and an individual approach to each client has been a common theme. Some discussion around Hours Clauses following multiple-event scenarios in Queensland.

US Casualty

— Conditions in the casualty insurance market continue to lag those in the reinsurance market. Heading into year-end, insurers continued to compete for business with rate decreases of up to 10% manifest in some sectors while reinsurers sought to renew programs with no signs of loss development at expiring to slightly increased terms. Those programs with loss emergence saw rate increases ranging from 10% to 30%. Reinsurers have been quick to point out that their cost of capital has risen significantly year over year.

— Significant amount of new casualty capacity has entered the market looking for reinsurance support. These requests involved expanding the capacity of existing facilities, as well as introducing new “start up” operations. The new capacity is driving primary insurance rates down more than excess business as the new players are better able to compete for shorter limit primary accounts than larger capacity intensive excess players. As has been reported in prior market updates, the market softening remains mainly a pricing issue as terms and conditions continue to hold firm.

— The casualty insurance market will remain challenging until the issues surrounding several of the key casualty players have been resolved. Most carriers are seeing a lessening in casualty rate decreases or even reporting a flattening in some spots. Most are expecting it will take until later in 2009 for a more sustainable firming to take hold.

— Competitive market conditions have been supported, in part, by continuing reserve releases from prior years that have kept earnings high despite a tough investment environment. There are signs that these prior year reserve releases may be beginning to slow as evidenced by many companies reporting half year and third quarter earnings below last year levels.

International Casualty

— EC Environmental Liability Directive continues as a discussion point.

— Professional Indemnity (PI) and Directors & Officers (D&O) exposures under greater scrutiny as a consequence of current financial crisis; some restrictions being introduced.

— Recession decreasing original premiums in lines such as Decennial Liability in France.

— Medical Malpractice in Italy being closely examined, with price changes and restructuring splitting General Third Party and Medical Malpractice covers into separate treaties.
“The current leadership panel will be confronted by some formidable new challenges for 2009. Of particular interest to buyers will be the degree of consensus that the current panel of leaders achieve in responding to these challenges.”
INTRODUCTION: FRESH CHALLENGES FOR AN EXPERIENCED MARKET

While global economic conditions outside the upstream insurance market have perhaps changed beyond recognition during 2008, the reality is that this market remains very much the same entity that we were analysing this time last year, despite Hurricane Ike. It is usual for us in this Review to detail the various comings and goings within the market, to identify those insurers who have withdrawn and any new entrants that perhaps might pose a threat to the positions of the established leaders. This year there simply has been little point in focusing our attention on such matters; the list of established market leaders remains very much the same, as it essentially has done for most of this decade. Following the retirement of Tim Burrows and David Cooper last year, the only movements of any significance this year have been the re-emergence of AIG’s Frank Costa and Chris Walker at WR Berkley and David Message’s appointment at Torus. Given that these underwriters have comprised part of the established panel of leaders in this market for many years, we do not expect their new roles to make a great deal of difference to the overall state of the market, other than providing greater choice of leadership.

The current leadership panel will be confronted by some formidable new challenges for 2009. Of particular interest to buyers will be the degree of consensus that the current panel of leaders achieve in responding to these challenges.

Those who have been involved with upstream business for any length of time will know that twelve months is a long time in the lifespan of any specific market dynamic. The beginning of 2008 suggested another year of gradual market softening for this market, and our chief concern was to emphasize the urgent need for buyers to report increased asset valuations following the unprecedented rises in the price of oil and other commodities.

Since then, the global economic outlook has literally turned on its head and, leaving aside the whole issue of Gulf of Mexico windstorm (discussed elsewhere in this Review), 2008 also ushered in two other major challenges for the upstream market to consider. These were:

— The extent of the new offshore construction losses reported during the summer of 2008, particularly those involving sub-sea pipeline exposures and associated mobilisation/demobilization costs
— The collapse of oil prices around the world, its inevitable effect on new project activity, the consequent levelling off (and potential future decline) of upstream asset values and the overall effect on insurer premium income levels

Before discussing these new trends in detail, we should perhaps summarise the overall market position for operating programmes, with reference to the usual indicators of capacity, losses, rates, retention levels and coverage.
OPERATING PROGRAMMES - BUSINESS AS USUAL....

CAPACITY

Energy Insurer Capacities and Average Rating Levels, 1993-2009 (Excluding Gulf Of Mexico Windstorm)

As we mentioned in our monthly EMR Newsletter of January 2009, estimated commercial market capacity for upstream business is up by approximately 5% in 2009 at just in excess of US$3.5 billion. At first sight, given the unprecedented turmoil in the global capital markets, the ability of first the reinsurance market and then the direct market to continue to be able to maintain their overall ability to provide cover is certainly grounds for comfort for the upstream energy industry. One interesting development has been the decision of certain insurers to write more business on a net retained basis due to increased reinsurance costs and retention levels.

However, the fact that our annual estimate of the average rating level for this class has also increased suggests that overall stated capacity is no longer an accurate way to fully gauge the mood of the market. Whilst it is certainly true that insurers continue to state that they have the ability to put out their maximum line for a given piece of business, the reality is that a whole range of underwriting considerations tend to limit the actual amount of capacity available for a given programme.

The good news for buyers with positive risk profiles is that this means that the capacity secured in 2008 is likely to be available once again in 2009; however, those buyers whose programmes have been impacted by losses or whose programmes are less favourably regarded by the market for any other reason may now find that this may now prove to be more challenging. Furthermore, upstream insurers are acutely aware that any recapitalisation that may be required due to future losses is likely to become increasingly expensive in the years ahead. If we were to make a prediction at this stage, it would be that the market capacity in 2010 is likely to reduce as the real cost of capital takes effect.

Capacity is marginally up - but so, in general terms, are rating levels

Source: Willis
Upstream Operating Underwriting Capacities, 2000-08 (excluding Gulf of Mexico Windstorm)

Overall capacity in this sector has increased for the fourth year running - but any future recapitalisation will no longer be an easy process.

Source: Willis

LOSSES - A STABLE SCENARIO IF GOM WIND IS EXCLUDED

Major Upstream Operating losses, 2008 (excluding Gulf of Mexico)

<table>
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<th>Type</th>
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<th>OEE Actual US$</th>
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If one leaves aside the issues of GOM wind and offshore construction, the upstream sector has produced a relatively benign loss record to date in 2008. Our chart above shows only two losses in excess of US$100m recorded in the Willis Energy Loss Database to date - a record certain on its own to continue insurers’ run of profitable underwriting years for this class of business. However, we are also aware of a major Australian loss not yet recorded on our database, featuring a significant Contingent Business Interruption element, which has had a particularly profound impact on the fledgling Singapore market.
Although most upstream insurers can see the attraction of solely writing an “International” (i.e. non-U.S.) operating portfolio, in practice the majority of the major upstream insurers are heavily involved in both the GOM wind and the offshore construction portfolios. We have explained elsewhere in this Review how insurers who wish to participate in the global programmes of multi-national energy companies have little alternative but to underwrite their Gulf of Mexico assets; the same could also be said in general terms for their offshore construction portfolio.

**Upstream Energy losses, 2001-2008**  
(excluding windstorm)

The chart above, which excludes windstorm losses, shows how the supposedly benign years of 2006 and 2007 have now produced loss totals in excess of what we estimate to be the corresponding total global premium income for upstream energy for 2008. As the chart also shows, a significant quantum of these losses for 2005-08 relate to construction business. Whilst allowances should be made for the fact that actual insured losses (especially for operating business) are likely to be somewhat less than these totals, given the alarming decrease in insurers’ investment income during the last twelve months, a case can be made that upstream insurers now have genuine cause for concern about their portfolio - even if the GOM wind factor is discounted.

**The supposedly benign years of 2006 and 2007 have actually incurred the most losses in this decade if GOM wind is excluded.**

Source: WELD
RATES - WHY ANY MARKET HARDENING IN 2009 IS LIKELY TO BE GRADUAL RATHER THAN DRAMATIC

Lloyd’s Premium and Claims (paid and outstanding) Statistics for Upstream Energy Business as Reported at Q4, 2005 and 2008

Lloyd’s upstream underwriters have substantially more premium income in 2008 with which to offset their Ike losses than they did for Katrina and Rita in 2005

(NB Upstream Energy = Lloyd’s audit codes ET and EW)

A gradual rather than pronounced market hardening has therefore become evident at the beginning of 2009 for non-GOM upstream operating business. However, it would be very simplistic to suggest that blanket rate increases of say 10% have been imposed across the board; the extent of any rating increase for recent renewals has been extremely varied, with small reductions achieved for a limited number of programmes and rises as much as 20%+ for others. In our last Energy Market Review we described how insurers were now seeking to differentiate in favour of quality business; given the consistency of the leadership panel for this class that we referred to earlier, it is perhaps no surprise that this trend has now become even more marked. However only time will tell whether this can be sustained, as brokers will always try to latch onto the market lowest common denominator and treat it as the norm.

Source: Lloyd’s
RETENTIONS AND COVERAGE

Other than for offshore construction, there has been very little change in either the level of deductibles imposed or indeed the coverage provided by this market. We remarked last year that, despite the increases in values that were being reported, retention levels had remained static; now the reverse may be true, as potentially lower values will be submitted to the market following the recent oil price collapse. Meanwhile coverage remains essentially the same as last year; insurers continue to talk of revising standard policy forms but, with the exception of any amendments to the Welcar offshore construction form (see our comments later in this Review) nothing has yet emerged by way of an alternative.

“STAND ALONE” OPERATORS EXTRA EXPENSE:
THE END OF PER FOOT DRILLED?

In our last Energy Market Review we commented on how increased drilling costs had increased the potential for higher control of well losses. This has certainly been borne out by the losses sustained as a result of Hurricane Ike and other OEE incidents this year around the globe and the measures being considered by the market towards providing GOM wind re-drilling/making wells safe cover based on the cost of re-drilling the well rather than on the traditional per foot drilled basis.

However, an evolution is now taking place in the stand alone OEE market. Rating methodologies for this class are changing; whilst for several years now, insurers have been focusing their minds on the issue of increasing well Authorizations for Expenditure (AFEs – see chart above) they have continued to utilize Addendum 44 as their main rating tool. However, in 2008 rating wells based on their AFE and other characteristics has become more the norm. It must be said that this reasoning has some logic to it; why should insurers focus entirely on the depth of the well in rating this exposure when a significant part of the claim will relate to the actual cost of re-drilling it?
With re-drilling costs varying widely, rating by well depth is no longer necessarily an accurate reflection of the risk. For example, if we take three wells with depths of 5,000, 15,000 and 25,000 feet respectively, the market may be used to receiving increasing amounts of premium for each well. However if the AFEs of each well are the same – say US$50 million each – then if the OEE policy is rated on a per foot drilled basis it may be that the insurers may be receiving too little premium for the 5,000 foot well and maybe too much for the 25,000 foot well.

This factor is having a significant impact on insurers’ thinking, with leaders requesting much more detailed underwriting information for wells requiring stand-alone OEE cover, especially regarding:

— Well temperature
— Well pressure
— Well operator record and profile
— Well contractor record and profile
— Well location

For commercial reasons, it may be that having taken these factors into consideration, insurers may still translate the premium required into a per foot drilled amount –so long as they feel they are receiving the right premium for the risk involved.

From a buyer’s perspective, the danger of this new underwriting approach is that the less educated sectors of the market might start to expect the “highest common denominator” as the norm and, unlike the OEE market leaders, be unable to appreciate the differentiating factors of each well.

This being said, the rate per foot drilled methodology still holds for OEE cover supplied where packaged with substantial physical damage assets.

**OFFSHORE CONSTRUCTION**

**September 2008 recap**

In our Willis EMR Newsletter of September 2008 we devoted our leading article to a thorough analysis of the loss deterioration of the offshore construction portfolio during July and August and the possible reasons for such a large increase in the severity, if not frequency, of such losses. Our main conclusions from this article can be summarised as follows:

— The overheated contractor market and 2008’s commodity price increases were primarily responsible for the inflated mobilisation/demobilisation costs which had been such a feature of recent claims

— In many instances, there had been no control over the inflationary nature of mobilisation/demobilisation costs, nor had sufficient premium been allocated to take these costs into account

— The deletion of the QA/QC provisions of the Welcar form led, in the market’s view, to less focus being applied to contractor standards, procedures and guidelines

— There would be considerable potential for further losses to be declared as programmes have continued to be underwritten on this basis throughout 2007 and most of 2008

— As well as increasing rates and deductibles, insurers were considering a range of measures to respond to the situation, including the scheduling of mobilisation-demobilisation and rig spread costs as separate Schedule B items, increased deductibles to apply to such coverage, and the review of rating plans in respect of subsea construction (specifically pipeline operations).
Since we last commented in September 2008 the situation regarding offshore construction losses has deteriorated still further. The chart above shows that even during the last eight weeks approximately US$500 million of further offshore construction losses have been reported to our database.

The chart below shows every offshore construction loss recorded so far in 2008 by the Willis Energy Loss database. Following our September 2008 EMR Newsletter article, it is perhaps not surprising that of the 28 losses recorded, no fewer than 18 relate to pipeline damage.

### Offshore Construction losses excess of US$1 million, 2008

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<th>Type</th>
<th>Cause</th>
<th>Country</th>
<th>Total Actual US$</th>
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Source: WELD
THE MARKET RESPONSE

Since we last reported in September, how has the market reacted to the problem of offshore construction? In our previous article, we outlined a possible range of measures that insurers could take; we can now report that we are starting to see some consensus among market leaders. However, several leaders now increasingly prefer to participate in this class on an excess basis, whilst others seem happy to continue write this class on a quota share basis at higher rating levels excess of working deductibles, in order to maximise premium income against capacity utilisation.

Perhaps the most consistent and prominent leader for offshore construction to date has been Sam Harrison at O’Farrell, although it is unlikely in the short term that we will again witness a situation where one leader claims the mantle of overall leader, as Tim Burrows once did. This is due to the fact that a number of other recognised leaders, that regularly lead this class on a quota share basis, are also capable of attracting a significant market following. These include Amlin, Catlin, Hiscox, Munich Re and Watkins.

One major change on which there is definitely more market consensus than usual is the imposition of an aggregate limit for all mobilisation and de-mobilisation expenses. Whilst this is a significant departure from what has been provided in the past, an aggregate limit would eliminate the problem that insurers have been subjected to from recent losses, whereby the claim for mobilisation/demobilisation costs bears no relation to what was contemplated by insurers at the inception of the policy (however, insurers will almost certainly be able/willing to provide a further excess policy limit at a cost).

Furthermore, it now seems very likely that the routine deletion of the QA/QC provisions of the Welcar policy form will be reviewed on a case by case basis. Indeed our conversations with insurers suggest that, following the recent spate of losses, no operator or contractor can now take it for granted that they will be considered to have a positive risk profile to the market without sufficient evidence.

Regardless of the underwriting measures imposed by the market, the global economic downturn is almost certain to ensure that future project activity, for so long on the increase, is going to fall away sharply in the months (and possibly years) ahead. Only time will tell if the changes that insurers are now making to their product will result in the maintenance of premium income at levels that can sustain profitability in the long term.
Possible Offshore CAR underwriting responses
September 2008: which are still being considered?

Yes
— Pro-rate the overall mobilisation/de-mobilisation costs over major project items
— Split out the mobilisation/de-mobilisation costs for the whole project, and include separately as Schedule B amounts
— Schedule day rates for full “Marine Spread” at inception to be used as a basis for any future claims adjustments
— Significantly increase the applicable deductible once the installation vessel has departed from site
— Split out the contractor installation costs for the project as a whole and include as a separate Schedule B item (distinct from individual item values)
— Impose an overall aggregate limit for mobilisation/de-mobilisation costs for all losses/incidents throughout the lifetime of the project

Negotiable
— Ensure that the QA/QC provisions of the Welcar form are made mandatory
— Impose tighter scope of works for Warranty Surveyors

No
— Exclude mobilisation/de-mobilisation costs as a business risk rather than an insurable risk
— Impose co-insurance between the Operator and the Contractor in respect of the increased deductible once the vessel has left the project site
— Impose Buckle Detector Warranties
— Require sight of full contract between operator and installation contractor
— Require sight of contract provisions relating to the release of vessel from site
— Application of an overall policy limit for some major sub-sea projects
— Exclude cover for pipeline buckles resulting from faulty workmanship

The market considered a variety of responses following the spate of loss advices received during the summer. Whilst several are still being actively considered by the market, others have fallen somewhat by the wayside.
REVALUATIONS: WHAT GOES UP CAN ALSO GO DOWN...

West Texas Crude Oil Price 2002-2009

Oil prices have dramatically receded from their peak in 2008—and could fall even further this year...

Source: Cushing

MB Steel Hot Rolled Coil (STXAHRC) Prices, 2002-2009

Steel prices have almost doubled since we published our last Energy Market Review in January 2008—but since the middle of 2008 this trend has bottomed out.

Source: Datastream Database

Annual Average Day Rates for Semi-Submersibles, 2002-08

Semi-submersible day rates are still at an all-time high, although the rate of increase as levelled off during the last two years.

Source: ODS Petrodata
The charts on the previous page show how the upsurge in commodity prices that we featured in our 2008 Energy Market Review has come to a sudden, unexpected and dramatic end in the latter half of 2008. The story of the collapse in the oil price needs no comment from us; however its effects have been compounded by the levelling off of both the price of steel and the price of day rates for semi-submersible drilling barges – a process which we believe is likely to lead to actual price reductions as 2009 progresses.

As the global economic downturn gathers pace, we expect this levelling off process to result in an actual reduction in several commodity prices. Logic suggests that this in turn will lead to further revisions in the schedules of buyers’ asset valuations – this time in a downward direction. Although the solution to this intense fluctuation in insured values may be the imposition of a margin clause that effectively smooths these peaks and troughs, there is as yet little sign of such a clause being introduced by the market, nor indeed any indication that this would be acceptable to buyers.

So in attempting to capitalise on a gradual hardening of market conditions, insurers may increasingly find that their efforts will be once more undermined by global economic dynamics. Indeed, even allowing for the fact that some programmes have not been re-valued in the light of 2007’s commodity price increases, we would suggest that any increase in rating levels currently being contemplated by the market are likely to be offset at least in part by the inevitable reductions in major programme schedules. This may result in static – or even in some cases decreased - premium income levels, despite a hardening market. This effect may be further exacerbated by a reduction in clients’ 2009 overall insurance purchase, specifically with regard to business interruption and electing increased retentions with a view to reducing their premium spend. However, the flip side of this is that this action is likely to have a positive effect on future claims statistics from an insurer perspective.

CONCLUSION: UNDERWRITING FOR PROFIT - OR MAXIMISING PREMIUM INCOME?
Faced with these difficulties, upstream insurers have a choice of two very different underwriting strategies for 2009. Following an unprofitable year in 2008, they can either focus on underwriting for profit at all costs, at the risk of seeing their premium income targets melt away; or alternatively maximise the opportunity to generate increased premium income by focusing their attention on the most profitable area of the portfolio, being operating programmes from regions not exposed to significant natural catastrophe risk.

For the moment, it is quite clear that underwriting for profit is the overriding objective. However, the potentially draining effect of the changes in the global economy may shortly start to affect premium income levels. Faced with a significant premium income shortfall, upstream insurers may have little alternative as the year progress but to compete more vigorously for the choicest natural catastrophe-free programmes.
"It is not so much the cost of reinsurance that has affected the downstream market; it is more a case of less of it being purchased"
In January 2008 we said:
— The rise of regional underwriting had continued, with the Middle East market in particular gathering momentum
— The loss record in this sector had remained relatively benign, especially for International business
— More capacity had added to competitive pressures
— London and Europe were bidding more effectively for US domiciled business
— Various underwriting measures were being considered to compete more effectively for the choicest programmes
— Risk quality and accuracy of valuations were driving rating reductions more than individual loss records
— Retentions remained firm, but were being undermined by increased values
— Synergies with the construction market were becoming more apparent

The Downstream Market Conundrum

<table>
<thead>
<tr>
<th>Harder?</th>
<th>Softer?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardening reinsurance markets and nat cat prices</td>
<td>2009 reinsurance already purchased for majority of market</td>
</tr>
<tr>
<td>Decreasing investment income returns</td>
<td>Relatively benign International downstream loss record</td>
</tr>
<tr>
<td>Effect of mining and other process industry losses</td>
<td>Insurers differentiate in favour of quality business</td>
</tr>
<tr>
<td>Insurers bound by minimum corporate requirements</td>
<td>Capacity already generally plentiful - new entrants arriving, no withdrawals</td>
</tr>
<tr>
<td>Significant withdrawals at January 1, 2009</td>
<td></td>
</tr>
</tbody>
</table>

In this diagram that we published in December 2008 we showed how the downstream market was caught between two trends. A lack of withdrawals and an increase in stated capacity levels has put a brake on the hardening process, although the purchase of reinsurance at January 1 is having less effect on keeping prices low. Rating trends are therefore still generally heading in an upward direction.

CAPACITY UP - BUT SO ARE NET RETAINED LINES

When we last reviewed the condition of the downstream market in our December 2008 EMR Newsletter, we reported that the market was experiencing a conflict of trends that was making any accurate predictions for 2009 somewhat challenging. Many of those trends still remain today; however as we reported in January, official stated capacity for downstream has actually increased slightly this year, which has removed, for the moment, the threat of significant market withdrawals that we thought might materialise at the end of 2008.
Whilst we understand that some Lloyd’s syndicates in particular are planning to scale back their involvement in this sector, the arrival of David Hawksby and his team at Validus Underwriting Risk Services, the emergence of Torus under the leadership of David Hope and an additional US$50 million from Ace have more than made up for any shortfall. We also understand that various Eastern European insurers are planning to augment their existing business by expanding into new territories.

We also detect a move by other regional insurers to expand their portfolio to different areas of the world. In particular, we have noted Middle Eastern insurers becoming more interested in European and Asia Pacific risks, and Asia Pacific insurers looking to write more Middle Eastern business.

Although we would like to report some new, younger faces among the familiar panel of leading downstream insurers, we still await the emergence of the next generation of leaders for this class. Indeed, we understand that some insurers (especially those whose primary headquarters are based outside the UK) that would like to participate more robustly in this sector have not been able to do so because of a lack of available resources from within the underwriting community. Following the recruitment of respected broker Tom Macfarlane to boost AIG’s London downstream operation, perhaps we can expect more hires from the broking community in the future to augment existing underwriting talent.

Although total stated capacity has increased again in 2008, realistic capacity continues to be constrained by % line sizes and increased reinsurance retentions.
In the meantime, whilst the fact that the market has not contracted has prevented any significant market hardening, the fact remains that in practice individual insurer participations are limited by two restricting factors:

— The actual percentage line maximums of individual insurers; for example, one insurer might be able to write 7.5% of a US$1.35 billion policy limit, but this would not necessarily mean that this line would be able to be increased to 10% if this limit was reduced to US$1 billion

— The market appetite for the risk in question; as insurers pay increasing attention to individual risk profiles, only the most attractive programmes will attract insurers’ full stated capacity

Our downstream market capacity chart therefore shows that the maximum “realistic” capacity for any given programme has remained at the same level (approximately US$2 billion) in 2009 as for 2008. This is the maximum capacity that can be achieved using both quota share and excess markets; as in previous years, further capacity can always be provided from large non-energy specialist excess markets – but usually at a price.

**CHANGES IN REINSURANCE MARKET DYNAMICS**

As explained elsewhere in this Review, overall reinsurance costs have increased across the board at January 1 as the need to recoup falling investment incomes increasingly drives the hardening process across a variety of lines of business. However, it is not so much the cost of reinsurance that has affected the downstream market; it is more a case of less of it being purchased. In particular, there is a marked lack of quota share capacity available, which has meant that the direct market is now retaining significantly more risk.

The implication of this is simply that the market is now increasingly focused both on underwriting for profit and also individual risk qualities. This means that insurers are looking for a greater spread of risk, as without so much reinsurance protection they are going to need to generate sufficient premium income to cover them for the handful of major losses that they can expect in any underwriting year. This in turn produces renewed market appetite for both programmes featuring positive risk profiles, and those that promise increased premium income in the future (and even more so if both factors are combined). However, the corollary of this is that insurers’ appetite for programmes that are less attractive – especially those that have recently produced losses – will in turn recede sharply, and in certain instances punitive rises in rates can now be expected.
### INTERNATIONAL DOWNSTREAM LOSS RECORD IMPACTED BY USA AND MINING LOSSES


#### Non U.S.

<table>
<thead>
<tr>
<th>Cause</th>
<th>Location</th>
<th>Country</th>
<th>PD/LIAB Actual US$</th>
<th>BI Actual US$</th>
<th>Total Actual US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire/lightning/explosion</td>
<td>Western Australia</td>
<td>Australia</td>
<td>30,000,000</td>
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<td>180,000,000</td>
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<td>Finland</td>
<td>6,832,000</td>
<td>52,113,000</td>
<td>58,945,000</td>
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<tr>
<td>Collapse</td>
<td>Domoedovo</td>
<td>Russia</td>
<td>31,000,000</td>
<td></td>
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<tr>
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<td>Austria</td>
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<td>21,421,200</td>
<td>26,776,500</td>
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<td>Design/workmanship</td>
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<td>4,400,000</td>
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<td>UK</td>
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<td>16,129,000</td>
<td>25,807,000</td>
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**Database Total (all losses)** 1,121,442,119

#### U.S.

<table>
<thead>
<tr>
<th>Cause</th>
<th>Location</th>
<th>Country</th>
<th>PD/LIAB Actual US$</th>
<th>BI Actual US$</th>
<th>Total Actual US$</th>
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</thead>
<tbody>
<tr>
<td>Windstorm</td>
<td>Texas</td>
<td>USA</td>
<td>650,000,000</td>
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<tr>
<td>Fire/lightning/explosion</td>
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<td>400,000,000</td>
<td>156,000,000</td>
<td>556,000,000</td>
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<td>87,000,000</td>
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<td>USA</td>
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<td>60,000,000</td>
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<tr>
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<tr>
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<td>USA</td>
<td>35,000,000</td>
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<td>35,000,000</td>
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<tr>
<td>Windstorm</td>
<td>Texas</td>
<td>USA</td>
<td>25,000,000</td>
<td></td>
<td>25,000,000</td>
</tr>
</tbody>
</table>

**Database Total (all losses)** 2,425,550,000

Source: WELD

The downstream loss record for 2008 amply demonstrates why U.S. and Rest of the World business are generally treated as separate underwriting classes by the market.
### Major Mining Losses, 2008

<table>
<thead>
<tr>
<th>Country</th>
<th>Cause</th>
<th>Incurred/estimated (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Flood</td>
<td>602,000,000</td>
</tr>
<tr>
<td>Australia</td>
<td>Flood</td>
<td>515,000,000</td>
</tr>
<tr>
<td>Australia</td>
<td>Flood</td>
<td>450,000,000</td>
</tr>
<tr>
<td>Peru</td>
<td>Machinery Breakdown</td>
<td>400,000,000</td>
</tr>
<tr>
<td>Australia</td>
<td>Pipeline Explosion/CBI</td>
<td>395,000,000</td>
</tr>
<tr>
<td>South Africa</td>
<td>Explosion</td>
<td>300,000,000</td>
</tr>
<tr>
<td>South Africa</td>
<td>Explosion</td>
<td>167,000,000</td>
</tr>
<tr>
<td>Chile</td>
<td>Fire</td>
<td>150,000,000</td>
</tr>
<tr>
<td>South Africa</td>
<td>Flood</td>
<td>150,000,000</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Explosion</td>
<td>140,000,000</td>
</tr>
<tr>
<td>Tanzania</td>
<td>Flood</td>
<td>100,000,000</td>
</tr>
<tr>
<td>USA</td>
<td>CBI</td>
<td>100,000,000</td>
</tr>
<tr>
<td>Sweden</td>
<td>Fire</td>
<td>77,000,000</td>
</tr>
<tr>
<td>South Africa</td>
<td>Fire</td>
<td>60,000,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>3,606,000,000</strong></td>
</tr>
</tbody>
</table>

Source: Willis

Any downstream underwriters who include mining as part of their portfolio will have a different set of underwriting considerations than those who primarily write an exclusively oil and gas-related book.

**U.S.**

As explained earlier in this Review, Downstream losses emanating from Hurricane Ike have now reached a total of US$1.3 billion, a much larger figure than was originally estimated. Furthermore, our chart also shows two major non-windstorm related refinery losses, which have also had an impact on market trading conditions.

To date, any market hardening in the wake of these losses has been gradual in nature, and while insurers will be focusing on driving prices higher in the wake of the Hurricane Ike losses in particular, the reality is that capacity levels in the U.S. downstream market have remained relatively stable, with no major withdrawals at the start of the year. “Realistic” capacity for U.S. business remains at approximately US$1.5 billion, with programmes requiring a policy limit of US$750 million or below subject to rather more competitive pressure.

So whilst buyers can expect the market initially to be in a resolute mood in 2009, in the absence of any further losses and in view of the stable capacity situation, we would expect a competitive dynamic to return to this market at some stage this year. As always, the most detailed submissions will generally be the best received by the market, especially those that prove the buyer has focused on risk reduction and/or risk mitigation.

Given that underwriting profitability will be a critical priority in 2009, the dilemma that the U.S. market will face this year is a simple one:

- If insurers’ focus is to keep loss ratios down, the danger would be that insufficient premium might be generated to make underwriting this class worthwhile
- If instead insurers opt for a strategy designed to maximise premium income, the danger is that insurers would be exposed to too many losses to ensure overall profitability
In any event, U.S. downstream insurers certainly feel that they have managed their portfolio more effectively in 2008 than their upstream counterparts. One Houston–based insurer recently put it to us like this: “In golfing terms, I would liken the downstream market to a fade, and the upstream market a hook. As Lee Trevino used to say, you can talk to a fade, but them hooks just don’t listen.”

INTERNATIONAL

As we explained in our last update in our December 2008 EMR Newsletter, the loss record for the international downstream sector has remained relatively benign. However, although several insurers, especially those underwriting on a regional basis, have been able to emerge relatively unscathed from the effects of Hurricane Ike and the plethora of mining losses recorded during 2008, other downstream insurers have been less fortunate. In particular there have been a handful of downstream insurers who have had a significant involvement in the mining portfolio who have had to adopt a different underwriting approach to other members of the market. The difficulty that they now face is that they risk being overlooked for the choicest programmes because of the increased appetite for this business that we described earlier. We understand that at least one of these insurers may be reacting to this challenge by adopting a more centralised approach to the way they underwrite this portfolio around the world, to enable them to maximise premium generating opportunities. We also understand that those insurers that have been affected the most by this issue may be considering treating the oil and gas element of their portfolio as a separate entity in the future.

MARKET HARDENS FROM RELATIVELY HIGH “SOFT MARKET” RATING LEVELS

Energy Insurer Capacities and Average Rating Levels, 1993–2009
(excluding Gulf of Mexico windstorm)

Our chart shows how although average rates had been softening for the last three years or so, they were still higher last year than they were before the market fundamentally changed following 9/11. This might just suggest that the gradual hardening dynamic that we are currently experiencing may ease later in this year, if past experience is anything to go on. In previous years we have seen that, whilst in January market discipline remains strong, the pressure to ensure that sufficient premium is generated to maintain underwriting strategies can be such that by April more competition is generated in the market. This trend can be somewhat more pronounced when insurers realise that overall capacity has not reduced between January and April.

Whether this will materialise this year remains open to question, but those insurers who have been less impacted by last year’s U.S. and mining losses may decide that some of the most desirable international downstream programmes may be worth pursuing with more enthusiasm later in the year.
For the moment however, we can report that downstream programmes are generally paying rises. However, this class is becoming somewhat more de-commoditised; whilst it is important to identify the general market trend, the reality of the situation for individual programmes can be compounded by several different underwriting factors, including:

— **Location:** the programme may originate from loss impacted territories such as North America, in which case it will attract considerably less attractive terms than a similar programme from other parts of the world, especially the Middle East or Asia Pacific regions, where there are strong and competitive local markets. (We understand that some of these insurers are defending existing portfolios by offering more competitive terms for some renewal business.)

— **Policy Limit:** If the entire programme can be placed by exclusively utilising regional markets, this will also drive the overall price down – especially if changes to rating levels are masked by changes in policy limits. Once the majority of the global market capacity is required, the buyer is immediately in a less favourable position.

— **Risk Quality:** in our December 2008 EMR Newsletter we reported that the market was increasingly differentiating between those programmes that failed to meet their minimum underwriting criteria and those buyers with which they were building strong relationships through site meetings, engineering dialogue and data updates and the like. This continues to be the case today.

— **Risk Desirability:** given that the market is relying less on protection from their reinsurers, we have shown that insurers’ attention is becoming increasingly focused on those programmes offering premium generating opportunities, either because they do so in their own right or because they can be linked to a larger business group. In general terms, those programmes that suggest they have the potential to generate such enhanced revenue (both now and in the future) will be treated more favourably by the market.

— **Loss Record:** if the programme satisfies any or all of the above criteria, then the impact of a poor loss record on renewal terms may not be quite so punitive than it might have been in the past. However if there is no market appetite for the programme, and the buyer is short of options, then he can now expect to be even more heavily penalised than in previous markets.

**BI Valuations Fluctuate as Retentions and Coverage Remain Stable**

The abrupt change in the global economy over the last twelve months has already been described earlier in this Review. As a result of the collapse of the price of oil in particular, there is considerable confusion among both buyers and insurers as to what the correct measure of indemnity for business interruption values should now be.

Let us take a mythical example of an energy company that has a 24 month indemnity on a Business Interruption policy and that has a loss on the last day of the policy. If the risk manager has had to declare his business interruption figures at the inception of the policy, this requires him to predict, accurately, figures that will reflect his business interruption loss some 36 months in advance. Such predictive ability is surely beyond the talents of even the best crystal ball gazer!

It is therefore clear that the market must produce an alternative to the current practice of simply declaring business interruption values at the inception of the policy if buyers are to be indemnified properly in these times of volatile commodity prices. The basis of indemnity must become more flexible; we would suggest that some sort of system involving the payment of a minimum and deposit premium which could then be adjustable at expiry might be appropriate for most programmes.

However, two immediate difficulties spring to mind:

— The first is that in the event of significant price inflation, higher limits may be required than the schedule of insurers on the programme may be able to provide. Just how, and at what stage, would any excess placement be applicable, especially if any upward revisions in value are presented after the expiry of the programme?

— The second is simply this: given that a significant number of buyers have yet to offer any revaluations for their programmes on account of 2007’s commodity price hike, they are unlikely to supply revaluations on a more regular basis in the future.
There is no doubt that the market, having been thoroughly alerted to this problem during the last two years or so, will be erring on the side of caution in ensuring that they are receiving sufficient premium for the exposures they are assuming. In these challenging circumstances, those buyers that have developed the kind of strong relationships that we referred to in our December article are likely to find themselves in a more favourable position when negotiating renewal terms than those who have not. In any event, it is now clear that programme renewals have become a much more detailed process for buyers, brokers and insurers than in the past; in our opinion it is never too early to instigate a renewal strategy that truly delivers the kind of detailed underwriting information now required by the market.

In the meantime we can report that retentions and the nature of the coverage provided have generally remained static, as perhaps can be expected given the continuation and consistency of underwriting leadership in this class over the last few years. As in the case of the upstream market, whilst this is good news for those buyers who have declared increased valuations to their programmes following 2007’s commodity price hike, it is less so for those who have not. Perhaps the main reason why deductibles have not moved is that insurers still feel that the significant increases achieved by the market following 9/11 have still been sufficient to enable them to write this class without picking up the truly attritional losses that they did in the past.

**IMPACT OF REDUCED CONSTRUCTION ACTIVITY**

The significant growth in the amount of downstream construction activity during the latter half of this decade was described in our January 2008 Energy Market Review. Given the dramatic changes in the global economic climate, the extent of future activity is inevitably going to decline sharply. There will undoubtedly be some short term benefit for downstream insurers in that a large number of these projects will become operational in the near future, which naturally has implications for additional operating premium income.

However, in the long term this declining trend has worrying implications for the market. No longer will the market be able to look to new sources of premium income and spread of risk from brand new plant - just at a time when insurers are increasingly underwriting this portfolio on a net retained basis.

So how will the market react to this development? Perhaps one consequence might be an increased polarisation between what the market considers to be favourable programmes and those that it does not, given that the only way to generate fresh income under these conditions might be to compete more vigorously for the most attractive risks. Under these circumstances, the criteria that we mentioned earlier of location, policy limit, risk quality, risk desirability and positive loss records will become even more critical in the years ahead.

**CONCLUSION: TOWARDS INCREASINGLY STRONGER PARTNERSHIPS WITH KEY INSURERS?**

As we frequently point out in this Review, avoiding volatility and smoothing overall risk costs is a fundamental risk management objective that remains constant throughout economic downturns, hard and soft underwriting climates and catastrophic and non-catastrophic loss years. As the market polarisation between favoured and not so favoured programmes becomes more acute every year, it is clear that there is now a case for abandoning a “most competitive terms at all costs” mentality and instead opt for a “partnership” strategy that enables the buyer to be protected from the worst excesses of hardening market conditions.
We have shown how in today’s hardening climate, the most favoured partnership programmes have felt very little negative impact from their insurers; indeed actual reductions have been able to be negotiated for some of these programmes, especially those that allow for significant local market participation.

So perhaps all buyers should ask themselves whether the time is right to take a similar long term view, in order to smooth insurance price volatility. Should the lowest available price negotiated at renewal or at tender be eschewed in favour of the development of a long term relationship with a select group of major (but less competitive) insurers? Would protection from the worst excesses of a hard market constitute a worthwhile trade-off for the abandonment of the most competitive terms available? There can be no doubt that the leading insurers in this class would like buyers to think so.

Or is the reality something rather less palatable: in the event of a rapid market hardening such as in 2001-02, will these partnerships count for nothing and will such programmes be treated in the same way as the remainder of the portfolio? Furthermore, does not a buyer have a duty to its shareholders to always obtain the best price possible for the product?

Our own view is that, while building underwriting partnerships generally makes very good sense in the long term, in reality short term practical considerations often tend to mitigate against such an approach. But if in the next few years global economic conditions deteriorate still further - with insurer recapitalisations becoming increasingly expensive and market conditions becoming still harder as a result – it will undoubtedly be those buyers who have sought such partnerships who will stand the best chance of a smooth ride in an increasingly unstable global economy.

**Lloyd’s Downstream Property Incurred Ratios, 1993-2008 (as at Q4 2008)**

Although some other members of the downstream market have been impacted by mining and other process industry losses during 2008, the fact remains that from a Lloyd’s perspective, the downstream portfolio still looked to be a relatively healthy position compared to its upstream counterpart in 2008.

Source: Lloyd’s
"Oil, in the same way as the rest of the energy insurance market, has been impacted by the 2008 Gulf of Mexico windstorm season"
HURRICANE LOSSES

In the twelve months since our last review OIL, in the same way as the rest of the energy insurance market, has been impacted by the 2008 Gulf of Mexico windstorm season. In particular, the OIL multi-insured aggregate limit of US$750 million has been imposed in respect of losses from Hurricane Ike.

As at 31st December 2008 the total loss amounts reported by OIL Shareholders, prior to the application of OIL’s Aggregation Limit, were as follows:

HURRICANE KATRINA: US$2.165 BILLION
As already communicated to Shareholders, it is anticipated that the ultimate adjustment of the Hurricane Katrina losses will result in a recovery of ≤50% with interim requests for payment being scaled to 40%.

HURRICANE RITA: US$1.491 BILLION
Similarly with regard to Hurricane Rita, the most recent information available indicates a projected ultimate recovery of ≤70% with interim recoveries being scaled proportionately to 55%.

HURRICANE IKE: US$895 MILLION
Early projections of Hurricane Ike losses indicate a recovery of ≤84%. Interim requests for payments will be scaled to 60% until further notice.

The maximum amount OIL will pay for each of these events is limited by the imposition of the Aggregation Limit to US$1 billion for each of Hurricanes Katrina and Rita and to US$750 million for Hurricane Ike.

The ultimate settlements will depend on the final adjustment of all the losses, a process which is expected to take quite some time.

At the end of Q3 2008:
— Total shareholders funds stood at US$1,777.8 million down US$1,098.9 million after an underwriting loss of US$359.3 million and loss of investment income of US$704.7 million
— Total assets stood at US$6,003.8 million
— Total liabilities at US$4,226.0 million
— Gross premiums written were US$741.7 million, a decrease of a US$212.7 million from the 9 months ending 30th September 2007
SHAREHOLDER/ BOARD ACTION 2008

MARCH
— Shareholders approved three resolutions to:
  — Remove low deductible language
  — Implement a technical correction to Top-Up pool agreement
  — Delegate authority to management to cancel/suspend coverage for non-payment of premium
— Board approved a 5% premium reduction for Q2 2008

JULY
— Board reduced 2008 premium by an additional 7.5% for Q4 2008
— Board agreed to accelerate 2005 hurricane claims settlements
— Board deleted reference to Chapman line in Atlantic Named Windstorm Sector (ANWS) Onshore definitions

DECEMBER
— Board approved a change to the Sector Weightings effective January 1 2009 based on updated losses
— This resulted in Sector Weightings for ANWS Sectors (combined) increasing by 26.4% and 8 business sectors (combined) decreasing by 10.9%

OTHER MAJOR DEVELOPMENTS
— Standard & Poor's/Bermuda Monetary Authority approved capital credit for OIL’s Theoretical Withdrawal Premium (TWP)
— OIL will present a simplified rating and premium plan to its membership in March 2009, designed to improve simplicity, increase transparency and maintain equity by offering a fairer method of allocating premium and losses

OIL Membership Composition, 2008

The OIL membership base is now more reflective of its oil and gas company heritage than it was a few years ago

Source: OIL
“Both overall and insured total losses in 2008 were significantly higher than during the two preceding years”
In January 2008 we said:

– There was significantly increased capacity for 2008, which was reducing the market’s reliance on existing leading insurers
– Local and regional markets were increasingly showing an appetite for small to medium sized risks
– Coverage and deductibles remained stable
– Rates would continue to soften during 2008

**RECENT DEVELOPMENTS**

There have been no major natural catastrophes affecting the construction insurance market since the disasters of the Hurricane Katrina season in 2005, although both overall and insured total losses in 2008 were significantly higher than during the two preceding years.

The global construction market has continued to respond to the high levels of demand and risk transfer requirements of its global client base, from very basic construction projects to some of the world’s most challenging developments. The market remains receptive to risk transfer product solutions regardless of how unusual the project may be.

Substantial market appetite exists for quality business encompassing a high degree of risk management and risk control and the market clearly continues to respond better to a client who takes a very proactive approach in spite of the global economic downturn.

Contractors’ books remain extremely full, vendors and suppliers are stretched and overall project values continue to be very high, so we have seen several examples of projects testing overall global capacity.

The construction insurance market has now evolved into a truly global industry and enhanced competition can be found in almost every marketing centre around the world. Authorisation limits for the regional offices of many carriers have been lifted and so this has resulted in many of the local offices being able to underwrite risks without referral into their headquarters, which has in turn fuelled competition even further.

**GLOBAL FINANCIAL CRISIS PROMPTS MARKET HARDENING**

Since July 2008, the world financial crisis has begun to impact on the construction insurance market. History leads us to expect that the insurance market would normally brace itself for the injection of a steady stream of new capital as global stock markets decline. However, there is little or no evidence of this at present and, as with just about every other industry, the so called “credit crunch” is affecting the insurance market as well.

Generally the construction market remains stable and the absence of any major natural losses has helped prevent any dramatic upsurges in rating levels. Whilst during the last twelve months we have continued to see a softening of terms, we have now started to see clear indications that some degree of market hardening will be experienced throughout 2009.
It is also widely recognised that while the global construction capacity has expanded in recent years to a level never reached in the past, 2009’s capacity will be focused on increasingly diminished global construction expenditure levels. It is therefore conceivable that this will create a greater degree of competition and so force markets to keep to more competitive pricing levels.

The global economic recession will undoubtedly have an impact on the capital that funds insurers’ capacity and this reduction will ultimately reduce available global insurance capacity and force premium prices upwards. Several of the construction market’s major capacity providers have just negotiated their own reinsurance treaty renewals and the underlying feedback that we have received so far is that markets will be under pressure to at least maintain (but more likely increase) existing rating levels. The market is likely to continue to focus on consistency in deductible levels regardless of where pricing modules move and the construction market remains receptive to the negotiation of broad form coverages.

OUTLOOK
Consideration should be given to the fact that insurance underwriting is not the only source of income generation for the market. In recent years insurers have made a healthy return on successfully reinvesting premium income so if returns from the investment markets are down, this may have detrimental consequences for the eventual insurance consumer. It is reasonable to assume that the insurance industry will be unable to generate the same levels of returns which effectively support their books.

Coupled with what many insurers regard as a soft market with compressed (cheap) premiums, depressed investment markets may mean that, if claims statistics continue to decline, rating modules which are currently competitive may be forced to push rates upwards.

The growing regional market centres in areas such as the Middle East and Asia Pacific are actively competing with the larger more established markets of London and Europe. It is therefore absolutely fundamental that a detailed marketing strategy is planned in sufficient time prior to a project’s attachment or renewal date. This enables the broker to understand and evaluate not only which markets are to be seen but also where they are to be seen in order to obtain the optimum response.

So far, the construction insurance market has been able to offer its clients full and cost efficient risk transfer solutions but it is widely expected that, given the economic turnaround, this situation will not continue beyond 2009.
The overall market leadership panel has remained consistent over the last three to five years, although significant mid-market capacity started to emerge in 2007 and this trend has continued in 2008.

Certain construction industry sectors remain highly specialised, for example the civil engineering sector and (especially) the tunnelling industry. Insurers underwriting such risks remain particularly focused on obtaining a full understanding of a client’s approach towards risk management.

**Estimated Onshore Construction Capacity for Energy Business, 2003-09**

We currently estimate the total construction capacity of markets with an S&P credit rating of A- or above to be between US$2.25 - 2.5 billion on an Estimated Maximum Loss (EML) or Probable Maximum Loss (PML) basis, although some of this is specific to certain industry sectors and several markets do not underwrite some of the heavier industry classes.

**SUMMARY**

In summary, the construction market has enjoyed a sustained period of good underwriting results. It has continued to grow and healthy competition remains for leadership positions on prestigious placements. Insurers will look to tighten their pricing modules throughout 2009 but the volume of business will ultimately reduce which may well mean a degree of greater competition.

The insurance market has been criticised for moving at times with a vast degree of unpredictability. It is quite often reactive to a situation rather than proactive, and is sometimes referred to as an industry in a permanent state of flux. However, it remains a market totally focused on providing its client base with comprehensive risk transfer solutions across all industry classes.
"There has been much talking up of the market by insurers who are hoping to see an end to the soft market"
This section describes the conditions in the liabilities market for companies domiciled/with corporate headquarters located outside the USA

In January 2008 we said:
— Most programmes were benefitting from further cuts in rating levels
— There was clear evidence of a re-allocation of capacity to regional underwriting operations
— Overall market capacity was buoyant
— The market was set to remain soft through 2008, with no real pressure for change
— It was a good time to evaluate environmental exposures and analyse and compare the cover available from the specialist market

RECENT DEVELOPMENTS

“Predicting the future is easy. It's trying to figure out what's going on now that's hard”

When we last reviewed the energy sector liability market, benign conditions had prevailed for a considerable period; indeed, buyers with high quality risks had benefited from year on year rate reductions of as much as 40% over a four year period.

At the beginning of 2008, commodity prices were heading for the stratosphere. Upward pressure on premiums was generally avoided by a focus on throughput rather than sales when negotiating with markets. This ensured that premiums were a fair reflection of activity and maximised the benefits of the soft market conditions.

The market expectation was that towards the end of 2008 reductions would be harder to achieve and that the sector could indeed switch into hard market mode in early 2009. There has been much talking up of the market by insurers who are hoping to see an end to the soft market, although this has been undermined to some extent by new capacity coming on stream.

Be that as it may, there is now growing evidence of somewhat firmer conditions, if not an orthodox hard market. How that story will develop thorough 2009 is difficult to see clearly in the midst of the cataclysmic developments in the financial markets; who, a year ago, would have predicted the events at AIG and the near collapse of the banking system?

The initial driver of our expectation of a change in market sentiment was the squeeze on insurers’ margins produced by the compound effect of falling rates and a rise in attritional losses. The financial crisis has twisted the screw sharply with a significant fall in the value of insurer’s reserves, albeit from a historically high level. Interest rates have fallen sharply and investment returns are diminishing; insurers are being forced to focus on making an underwriting profit as investment income falls and reserves contract.
However, there are still forces at work which are opposing any dramatic upward movement of prices. Hard markets require reduced capacity; whilst there have been some minor withdrawals, the news in January 2009 was actually of new players and increased capacity. For example, Torus and Ironshore have commenced underwriting liability business in 2009 with a capacity of up to US$75 million in each case. Their appetite for energy business is yet to be fully tested but we anticipate that they will provide useful additional capacity.

Liability reinsurance treaty prices, whilst being relatively firm, have not actually increased, which has also reduced the upward pressure on direct prices. However, there is some evidence that increasing cost of capital will drive costs upward in the medium term.

The impact of the global recession on insurance buyers is naturally relevant to the demand for insurance, with most organisations focussing hard on costs. However, we are yet to see evidence of buyers reducing the purchase of liability insurance, and indeed it may be that stretched balance sheets will actually reduce the appetite for retaining risk. Despite this it is clear that if insurance costs start to rise significantly there will be significant buyer resistance.

In contrast to the property market, there has been little or no loss experience at a level likely to affect market sentiment. However the final report on the Buncefield oil storage incident was published on the 11 December 2008, exactly three years after what has been described as the largest explosion in Europe since the Second World War. This has focused minds on this type of exposure, which is present in most refinery and petrochemical operations as well as stand alone storage locations. The facts are summarised in more detail on page 73.

**MARKET SECURITY**

Market security is a key concern of insurance buyers. The insurance market has, at least to this point, escaped the worst effects of the banking crisis; this is of course with the notable exception of AIG and XL Capital. The position of AIG is significant in assessing overall developments in the liability market. They have significant capacity at both primary and excess level as well as an extensive network, and have been a very competitive market in many parts of the world.

Having gained the support of the US government and with the stated aim of retaining their core insurance business, AIG has acted aggressively to protect its existing portfolio. Our experience is that initially insurance buyers may have had considerable concerns in relation to the involvement of AIG with regard to their long tail exposures. However that level of concern appears to be now much reduced, particularly if the alternative were to involve an increase in cost. AIG has in consequence been successful in maintaining their relationships with many buyers.
CAPACITY
This market is still one in which available capacity is actively seeking premium income, a dynamic that holds true for most industry sectors. Our 2008 review anticipated a tailing off of capacity in 2009; however, this has not proved to be the case with new players joining the market at excess levels as we mentioned earlier.

Total Theoretical Liability Capacity, 2000-09

Our chart illustrates our estimate of total theoretical liability capacity. The continued health of the liability market is demonstrated with plenty of opportunity to create competition.

In practical terms, the capacity available for industry sectors with heavier exposures will be less than the theoretical maximum, but this will still be substantial. For example limits of US$1,000 million plus are achievable for onshore petrochemical exposures, with capacity for such risks attaching above US$ 500 million probably being provided on a Bermudan Integrated Occurrence form.

Clearly if the potential buyer has significant concerns about the long-term stability of certain insurers, the level of effective capacity could be significantly lower. This would reduce competition for the risk and therefore introduce upward pressure on pricing.

COUNTER PARTY RISK
Counter party risk will remain as a key factor across all sections of the financial services sector. In designing liability programme placement strategies, the positioning and total exposure to each insurer should be considered. Strategies may include limiting exposure to any one insurer to a maximum amount, spreading capacity from an individual insurer vertically through the programme or raising the rating bar; in practice, a combination of these actions may be applied. Each case needs individual analysis and assessment of the impact on cost capacity and cover.
PRICING
High quality risks with good records may still achieve better terms than expiring, but any reduction is unlikely to exceed 5%. Otherwise rate reductions are becoming scarce commodities, with most recent renewals being completed on the basis of expiring rates. Furthermore, increases of perhaps 5% are not uncommon where the claims experience or other risk factors provide a justification. Overall the market can perhaps be best characterised as flat.

However, there are still considerable geographical variations in the market; aggressive competition for liability business remains a feature of many local insurers. It therefore remains possible to mitigate any market hardening by carefully planned approaches to the global market.

In past hardening markets, such regional variations have reduced as underwriting control is pulled back to the centre of the global insurers’ operations. We have to say that as yet there is little current evidence of this happening; indeed a feature of the current market is a continuing process of insurers moving distribution closer to the customer.

NO MAJOR CHANGES ANTICIPATED
These opposing forces that are being brought to bear on the insurance market make predicting development through 2009 and beyond difficult. Until capital is withdrawn, it is difficult to see any dramatic change in the current picture. In the shorter term, the opportunity to redeploy capital to the property market where rates are rising more strongly may have a marginal effect on liability pricing.

An important issue in the energy and commodities sector is the reduction in throughput arising from the effects of recession; insurers may well resist the prospect of reduced premium levels in absolute terms brought about by reduced economic activity. Clearly this could result in effective rate increases of a more significant nature than the range discussed above, even if absolute cost falls.

In summary a cautious view, based on current conditions, would be to allow for rate increases of 5% to 10% when assessing insurance budgets in 2009.

PLACING ISSUES
Insurers remain focussed on ensuring that they understand the risks they write and can justify their underwriting decisions. The importance of good quality information, particularly in relation to risk management, cannot be over emphasised; for example, storage risks are likely to receive particular attention in the light of the Buncefield explosion. Investment in building and maintaining relationships with key insurers will be repaid in the form of easier negotiations in a market that is firmer if not yet hardening.

It is clear that an increasing number of insurers and insurance buyers are putting both tax and regulatory compliance at the top of their agenda. Rigorous compliance can be difficult to achieve on complex multinational programmes; however, it is made more difficult by a lack of consistency of approach to handling the issue across the market.

It is important to consider the implications when the programme is designed and the premium allocation strategy developed. It is also critical to ensure that there is an agreed approach on the specific programme with the parties involved. For example, it is vital to ensure that on a multinational programme local policies are issued correctly in all territories where this is required. Even where non-admitted placements are permitted there may be penalty rates of tax applied (as in Canada).
We anticipate that those insurers who have invested in systems and know how to efficiently handle regulatory and tax issues will increasingly have a competitive edge in a world which is increasingly be intolerant of non-compliance.

**THE BUNCEFIELD INCIDENT 11 DECEMBER 2005**
The UK Government appointed board issued their final report 3 years to the day after the devastating explosion at the Buncefield oil storage and transfer depot in Hemel Hempstead England.

**The facts**
The explosion took place at 6.01 AM on the 11 December 2005. A substantial fire ensued. A large proportion of the site, including 23 storage tanks were destroyed. The fire burned for 5 days; 1,000 fire-fighters from across the country were involved in bringing the fire under control.

The cause of the explosion was established as the ignition of a vapour cloud following the escape of 300 tonnes of petrol. The escape was a result of the failure of overfilling protection systems during an overnight delivery via a pipeline.

**The consequence**
Forty three people were injured but fortunately there were no fatalities.

Very significant offsite damage and business interruption losses were caused to businesses in the locality by the blast. The surrounding industrial estate housed 630 businesses and employed 16500 people.

There are continuing concerns in relation to on and offsite pollution as a result of product and fire fighting foam migrating into groundwater.

The report estimates the total economic cost of the incident at £1 billion. Compensation claims alone may exceed £600m.

A number of the parties involved with the site are being prosecuted following a separate criminal investigation by the Environment agency and the Health and Safety Executive.

**Conclusions**
This event has caused insurers to focus more sharply on the exposures presented by this type of site. Site design location and risk management will clearly be key underwriting factors in the future.

An issue which is the subject of a further technical study is the violence of the explosion; existing vapour cloud explosion models would not have predicted the overpressures which actually occurred. It follows that the extent of damage was not predictable. Clearly the potential for an incident on this scale needs to be considered very carefully when assessing adequate limits of indemnity and the margin for error that needs to be allowed.
US EXCESS LIABILITIES

“Pricing conditions with regard to excess liability insurance for energy risks may begin to deteriorate in 2009”
This section describes the conditions in the excess liabilities market for companies domiciled in/with corporate headquarters located in the USA.

In January 2008 we said:
— Favorable trading conditions from the buyers point of view would continue into 2008, with modest rating reductions setting the benchmark
— No major changes were anticipated for 2008, also there was some evidence of a disconnect between direct rates and reinsurance treaty costs
— An abundance of capacity was available in the range of US$1.2 billion
— Regional underwriting might strengthen the softening process
— Insurers were remaining focused on exposures and risk quality

**FAVORABLE MARKET CONDITIONS FOR BUYERS MAY GRADUALLY DETERIORATE IN 2009**

Pricing conditions with regard to excess liability insurance for energy risks (including petrochemical and chemical risks) may begin to deteriorate in 2009. However, given the confluence of factors that is likely to fuel this change, it is possible that it won’t be until the latter part of 2009 that its effects begin to become evident in the market.

**MODEST RATE REDUCTIONS SET THE BENCHMARK**

Toward the end of 2008, renewal premiums for this class typically ranged from flat to less 10%. Programs with clean loss records that did not require significant market capacity and that could create competition among insurers fared the best in this range. Conversely, programs that did not have a clean loss record and/or that required more market capacity fared worse and may even have paid a rise. With regard to policy form/coverages, generally 2008 did not bring significant restrictions or broadening of coverage and changes in wordings are still being scrutinized by insurers.

**CHANGES ANTICIPATED IN 2009**

As mentioned above, a confluence of factors is likely to create change at some point in 2009. These include (but are not limited to) the following:
— An increase in catastrophe losses in 2008, which resulted in deteriorating underwriting results. In the US this included hurricanes Gustav and Ike, one of the most deadly tornado seasons in more than ten years and significant wildfires as well as extensive flooding. Outside the US, loss events that impacted this market included an earthquake in China’s Sichuan province with an estimated insured loss of US$300 million, European storms which cost around US$1.5 billion and Cyclone Nargis in Myanmar. Given this loss record, 2008 is widely considered the second or third worst catastrophic loss year on record.
— Increasing overall statutory combined ratios in excess of 100%.
— Declines in policyholders’ surplus.
— A collapse of liquidity.
— The disappearance of excess capital.
— Catastrophic investment losses for many.
— Increased cost of casualty reinsurance. At the end of 2008, US Excess of Loss Reinsurers sought to renew programs with no signs of loss development at expiring to slightly increased terms, say 0-5%. However, those reinsurance programs with loss emergence saw rate increases ranging from 10% to 30%. One of the reasons for the turn in the market cited by reinsurers is that their cost of capital has risen significantly year on year.
One might expect that, since some of these factors are not directly related to this market, rating levels for this class should not be affected - or at least should be less affected. However, given the magnitude of the dollar amounts involved, these events/conditions will most likely transcend product lines and result in increased Excess Liability premiums.

In light of the above, we are expecting premiums to range from flat to say +12%. This may occur in the first half of 2009 but it is more likely to involve a more gradual process for more programs in the second half of the year or in early 2010 for the following reasons (though one or more natural or other catastrophes could accelerate the process):

— There is still over-capacity for most classes of energy business (and business in general) with new markets that either have or will come on line in 2009 (including Argo, Ironshore/CV Starr and Torus).

— A deepening global recession may to some extent suppress demand for insurance. While managing without insurance is not an option for most companies, many buyers will look for ways to reduce their insurance bills, including possibly increasing their retentions and the use/additional use of captives and other alternative risk financing mechanisms.

— Insurers that have been hit hard with catastrophic investment losses may need to keep premiums competitive in order to increase or at least preserve market share. When they lead programs, these insurers can create a premium knock-on effect up the Excess Liability “tower” which can keep premiums lower then they might otherwise have been. However, at some point excess insurers may refuse to follow these leaders if and when their premiums become in their view unreasonably low.

These factors may keep pricing levels for some programs lower for a little longer then one might expect. However, given the economic realities affecting most insurers, eventually these realities will take precedence. So while we still believe premiums will begin to firm - and in some instances increase - in 2009, the turn in the market may be a bit more gradual then one might expect, and may even be postponed until late 2009/early 2010.

**UNDERWRITING ISSUES**

Areas that some insurers continue to monitor include the following:

— MTBE claim activity
— Benzene claim activity
— Global warming
— Exposures in hurricane prone areas and resultant pollution losses that can occur
— Polyethylene Terephthalate (PET) & Bisphenol A (BPA) - Material for food and beverage (plastic) bottling, etc.
— Nanotechnology
— Teflon and other non-stick surfaces
— Perfluorooctanoate/PFOA (C-8) - A processing aid in the manufacture of fluoropolymers to produce items such as non-stick surfaces on cookware, protective finishes on carpets, clothing, and the weather-resistant barrier sheeting used on homes under the exterior siding
— Isocyanurate - Forms rigid foam and is useful in the building and construction industries as well as mining
— Perchloroethylene (Perc) - A chemical used in the dry cleaning process
— Fire Retardants - Hexabromocyclododecane and polybrominated diphenyl ethers
— Naturally occurring radioactive materials on drilling equipment/piping etc.
— Di (2-Ethylhexyl) Phthalate (DEHP) - A plasticiser which is used to make PVC soft and pliable, used in medical devices etc.
Following Ivan in 2004, Katrina and Rita in 2005 and now Ike in 2008, is Gulf of Mexico Windstorm still the insoluble risk management problem?

* incurred to date

Source: Willis Energy Loss Database (WELD)/Willis (figures include both insured and uninsured losses)

WELD ENERGY LOSSES 1990 – 2008 VERSUS GLOBAL ENERGY PREMIUM INCOME

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