

Energy Market Review

November 2001 Update



Willis



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With markets in turmoil following the September 11 terrorist outrages we felt that it would be useful to provide a short update to the Energy Market Review published in June 2001, focusing on the main issues in what is a fluid market environment. We have conducted a review of the different sectors of the energy market as they stand today, and this hopefully will give a pointer to the general direction of the market over the next six months or so.

Whatever may or may not happen there is one overriding issue facing the energy market, and that is capacity, or rather, the lack of it. The industry loss record has continued to worsen to such a degree that there must be a question mark in the minds of many capital providers over the viability of the energy insurance sector as a whole, and certainly over the onshore element. At the time of writing, the treaty reinsurance renewal season is just getting under way and, as you will read, the outlook is extremely serious both from a pricing and capacity standpoint. Right now, we estimate that capacity is probably half or less of that reported in the June issue of this Review.

The question therefore being asked by both insurers and clients alike is:

Will there be enough capacity?

This then is our theme, but it is not the only issue, and it is our intention that this Update will provide a summary of the important concerns facing the energy insurance industry today.

Market Overview The energy market in perspective

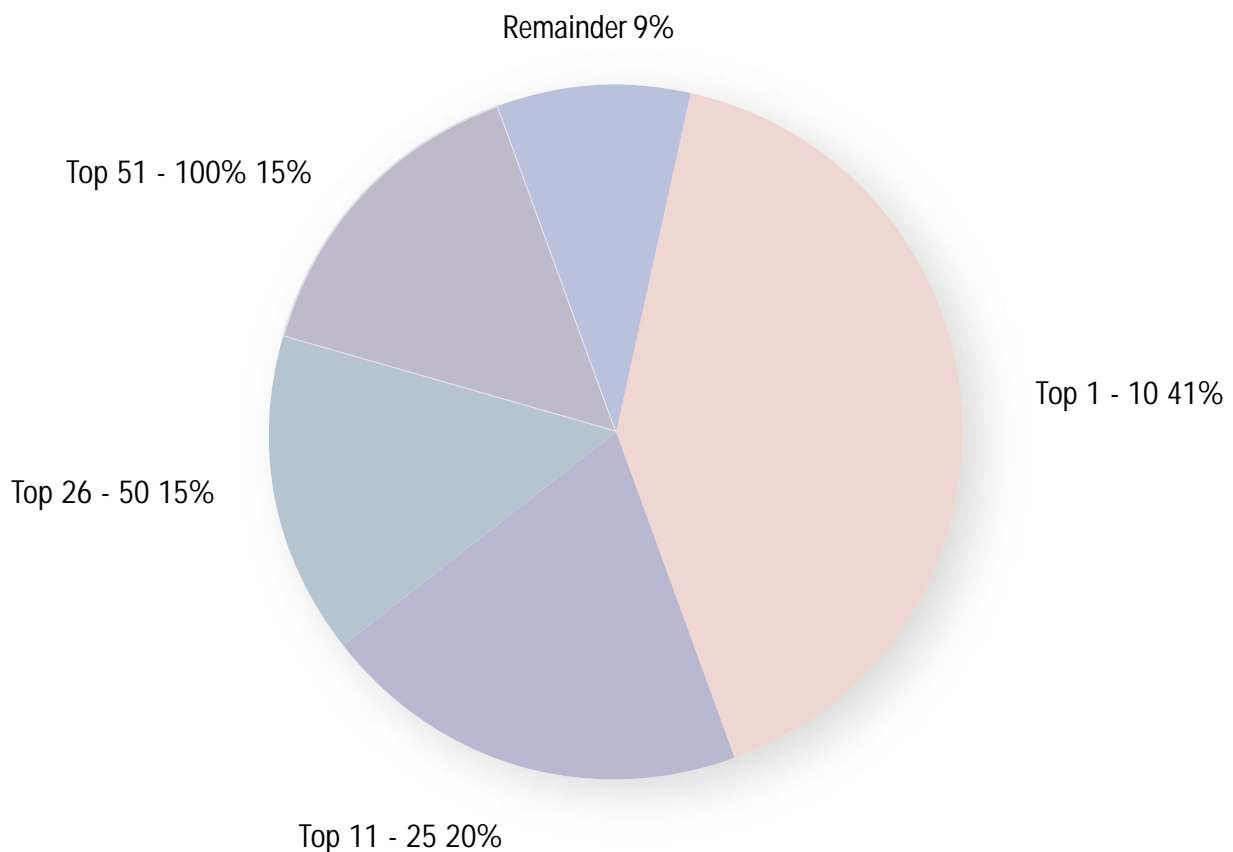
September 11 and the consequence of insurance industry consolidation

Recent insurance industry consolidation has seen the emergence of fewer, larger, entities writing a greater spread of risk across multiple lines. The single line specialist market is becoming a rarity as a stand-alone insurer, and, although the specialists exist, most are now relatively small subsidiaries of much larger multi-national concerns.

One of the consequences of this is that a major catastrophe, even if limited to a single line or industry sector, is likely to impact the capital base of most parent insurance companies (in other words, much of the insurance industry) even though not all their specialist subsidiaries are directly involved in the loss. The reduced capital base will necessitate a review of the profitability of every line of business as the parent looks at how best to trade going forward. In this situation the least profitable lines will be severely cut back, even where efforts are clearly being made to reverse poor performance, and from some classes there will be a complete exit.

The following graphic shows the extent to which a few major groupings now dominate world capacity. It also suggests that further consolidation is highly likely.

Global Net Written Premiums in 2000 by Insurer Rank



Source: Standard & Poors



Energy losses: moving seamlessly from crisis to catastrophe

For the last three years the energy sector as a whole has been in dire trouble. The industry loss ratio has been running in the 200–300% range as premiums continued to decline whilst the frequency and severity of industrial accidents increased.

Throughout 2000 and the beginning of 2001 a number of insurers gave up the unequal struggle. The new year was greeted with hope by the remaining market

as capacity steadily declined and prices rapidly rose. Indeed the first two months of 2001 were exceptionally encouraging for underwriters. But the next seven months radically changed the outlook, with a spate of severe losses between March and September as the following chart demonstrates:

Year	Type	Sub-Category	Cause	Land/Offshore	CAR/OP	Location	Country	Actual Total US\$
2001	Rig	Jackup	Blowout	Offshore	OP	Gulf of Mexico	USA	100,000,000
2001	FPSO	Semi sub	Fire/lightning/explosion	Offshore	OP	Campos Basin	Brazil	500,000,000
2001	Plant	Refinery	Fire/lightning/explosion	Land	OP	Wicklund	Aruba	305,000,000
2001	Plant	Refinery	Fire/lightning/explosion	Land	OP	Humberside	UK	260,000,000
2001	Plant	Refinery	Fire/lightning/explosion	Land	OP	California	USA	99,000,000
2001	Plant	Refinery	Fire/lightning/explosion	Land	OP	Illinois	USA	51,000,000
2001	Plant	Refinery	Fire/lightning/explosion	Land	OP	Free State	South Africa	104,000,000
2001	Plant	Chemical	Fire/lightning/explosion	Land	OP	Merseyside	UK	119,710,000
2001	Plant	Refinery	Fire/lightning/explosion	Land	OP	Illinois	USA	380,000,000
2001	Plant	Petrochem	Fire/lightning/explosion	Land	OP	Toulouse	France	500,000,000*
2001	Plant	Refinery	Fire/lightning/explosion	Land	OP	Louisiana	USA	85,000,000
								2,503,710,000

Source: Willis Energy Loss Database

*As at October, 2001 the total cost of the Toulouse fertilizer plant explosion may well exceed \$1 billion when third party liability is added.

To this can be added a probable \$1 billion of smaller losses to date making a total for the first nine months of the year of nearly \$3.5 billion. With almost a quarter of the year remaining it is a fairly safe bet that losses for the year will eventually exceed \$4 billion, of which at least \$3 billion will be for onshore risks alone – and this is not including third party liability.

When this level of loss is compared to world onshore energy premium currently estimated for this year at between \$1.2 and 1.4 billion there is no chance, despite rapidly increasing rates, of the energy sector getting anywhere close to profitability in 2001. There is also the danger that if rates rise too fast many clients will refuse to pay the price, and seek alternative financing or mutual insurance company solutions elsewhere.

Market Overview continued

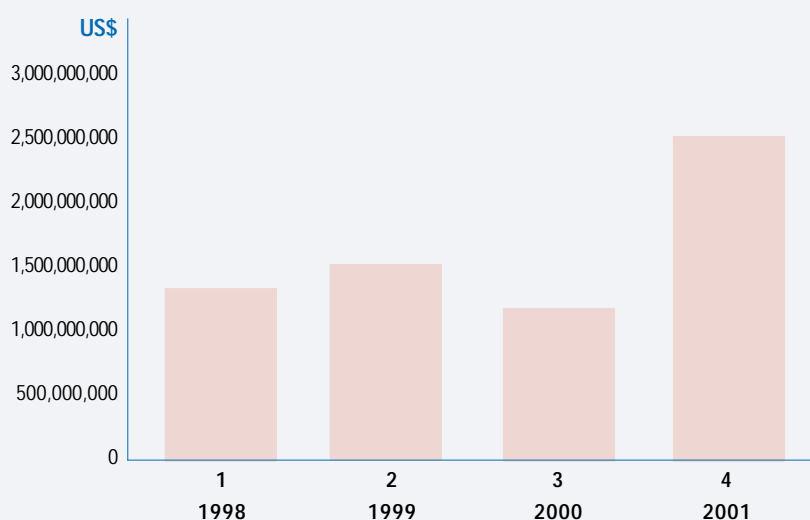
A credible insurance sector?

The energy market is a small insurance sector relative to the general property & casualty market, but with a high profile. Instead of the turnaround in fortunes widely anticipated at the beginning of the year the energy sector has lurched from one crisis to another. Indeed, if the Toulouse loss had happened before September 11 the market would doubtless have been buzzing with rumours about the imminent demise of this class as a credible insurance sector.

Underwriters and brokers would have been talking of little else. The events of September 11 may have pushed energy off the front page, but one can be sure that this class will be towards the top of the list when the capital providers to this sector of the insurance industry look for the answer to the question: "Which class is the most unprofitable?"

Corresponding claims excess of US\$50 million for same period (to end of September) on previous years

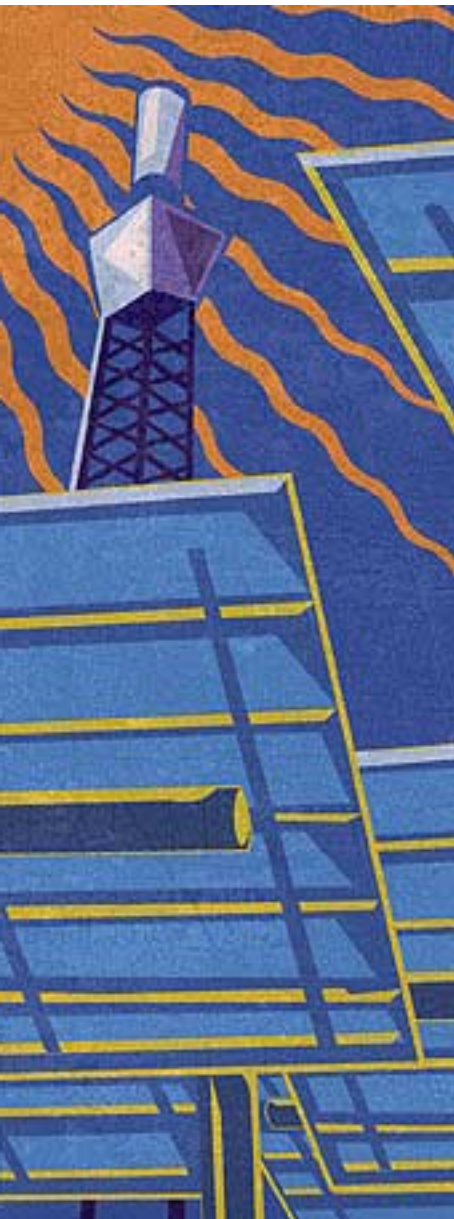
Year	Number	Aggregate total US\$
1998	10	1,300,000,000
1999	19	1,500,000,000
2000	10	1,100,000,000
2001	11	2,500,000,000



Source: Willis Energy Loss database

Market Updates Onshore property

It would be an understatement to say that the pressure is now clearly on for this sector to be seen to perform, but for some insurers it will be too late, either because of parental prioritization in other sectors or prohibitive treaty cost or a combination of the two. Those that remain will be to a great extent tied by restrictions imposed by their treaty reinsurers. From what we are seeing today in the market our predictions for the onshore sector are summarized as follows:



Capacity

- There will be too few players to provide a stable global onshore energy market with adequate capacity in 2002, at least initially.
- We estimate global onshore capacity for US refining and petrochemical risks today to be a maximum of \$1.75 billion (including \$250 million from the industry mutual Oil Insurance Limited, which does not provide coverage for business interruption). For international non-US risks total capacity is somewhat greater, around \$2.2 billion. These totals should be compared with global capacity estimated at approximately \$3.5 billion as recently as June of this year and at nearly \$5 billion at the beginning of 2000.
- As a generally accepted rule of thumb the normal maximum available capacity for any one placement is approximately one third of the worldwide total. On this basis there is currently not enough capacity to cover the estimated maximum losses (EML) of many major refining and petrochemical risks.
- We do not see an improvement in this situation until new capital formations take advantage of the exceptionally high prices caused by this lack of supply. Whilst syndicates and corporate insurers are crying out for extra capital to do just this there is an understandable reluctance on the part of the capital providers to throw good money after bad, at least until it can be clearly demonstrated that the sector is really moving into profit.
- Not just energy specialists but the whole non-marine property sector is in danger of losing the battle for capital to the life departments of the big insurers. Given the volatility of the property insurance market generally, and the energy sector in particular, in a world both politically and economically unstable the actuarial certainties of life assurance can seem highly desirable.
- Whilst there is much talk (and considerable action) surrounding the emergence of new start-up insurance companies, and whilst there will

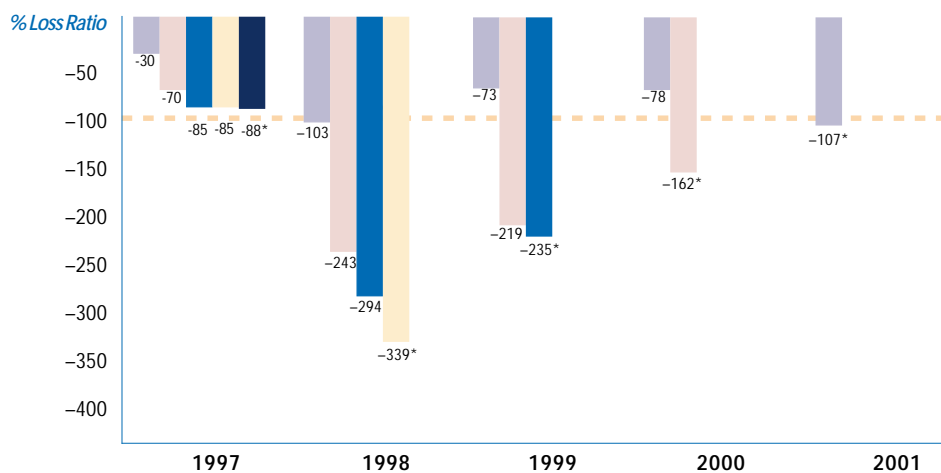
Market Updates *continued*

undoubtedly be some successes, raising capital takes time, particularly in a financial world that seems to have dramatically slowed down since September 11. In Lloyd's, where capital can often be raised more quickly than elsewhere, any increase in capacity in 2002 is likely to be neutralized by underwriters writing smaller lines on higher premiums across a broader book of business. We therefore believe that new capital will have little effect on capacity in the first half of 2002.

– Treaty renewals will be key to the capacity available in the onshore market. Risk excess treaty renewals are now being quoted at such high rates that there is a question mark over whether many onshore underwriters will buy them. If they do not then capacity will be massively reduced. To an extent, though, insurers have pre-empted these long expected draconian renewal terms by significantly reducing their capacity now as a precaution. Hence one of the major reasons for the capacity shortage today.

– Full value (blanket limit) policies are generally no longer available, and loss limits are often much reduced. With such a shortage of capacity there is the possibility that some clients will be unable to buy high enough limits to satisfy their contractual obligations, and may be in danger of breaching their banking covenants. In addition, underwriters are applying great pressure on clients to significantly increase deductibles and self-insured retentions. In this situation there will be a much higher demand than hitherto seen for capital market risk financing solutions, not so much as alternatives to traditional insurance but in addition to it. Finally, the capacity crunch will provide a great opportunity for Oil Insurance Limited, the industry mutual insurance company, to increase its client base.

Onshore Energy Physical Damage: loss ratio development



Source: Lloyd's

NB: Loss ratio is expressed before underwriting expenses

Loss ratio after:

- 1 year
- 2 years
- 3 years
- 4 years
- 5 years

*9 months at October, 2001

Market Updates continued

Cost

- Throughout the first half of 2001 prices had rapidly increased. But the acute shortage of capacity experienced since September 11 has seen a further dramatic rise in rates and premiums, with 100% increases on clean renewals not uncommon, even after applying increased deductibles.
- As we have already seen treaty renewals are likely to accelerate the rate of increase in cost to clients, assuming insurers continue to buy traditional forms of reinsurance protection. It is probable that some will buy and some will not but all who remain in the energy market will carry greatly increased retentions. Underwriters will charge for their capacity in a way unseen for years and possibly decades. Our prediction is that prices will remain exceptionally high for as long as it takes to show that the onshore sector has returned to an acceptable level of profitability. As we stated before new capital formations will undoubtedly appear to take advantage of a lack of capacity at high prices, but this will take time to have a meaningful effect on pricing, and we believe that for the foreseeable future, and certainly over the first six months of 2002 at the very least, the market will remain uncompromisingly hard.

Coverage

Many areas of coverage are currently under review by underwriters, often at the instigation of treaty reinsurers. Wordings, so often in the past an afterthought in the renewal process, are now regularly being reviewed before renewal negotiations begin, and some insurers are seeking to impose their own, non-manuscripted forms. Others are issuing notices of cancellation or non-renewal to allow them the chance to exclude or limit certain coverages.

The following are insurers' most significant concerns:

- **Terrorism:** currently generally unavailable for both onshore property renewals and new business, there is some specialized capacity but it will not be sufficient to meet the expected demand in 2002. It is still too early to judge whether the market in general will eventually consider providing terrorism coverage in some territories, though some leading underwriters have intimated that they may be prepared to offer terrorism buy-backs or sub-limits for certain risks in the future.
- **Business interruption/contingent business interruption:** business interruption has for some time been of increasing concern to the onshore market. This is because much of the total cost of the recent spate of losses is comprised of business interruption. There is now a drive by the market to impose separate waiting periods for business interruption where property

Market Updates continued

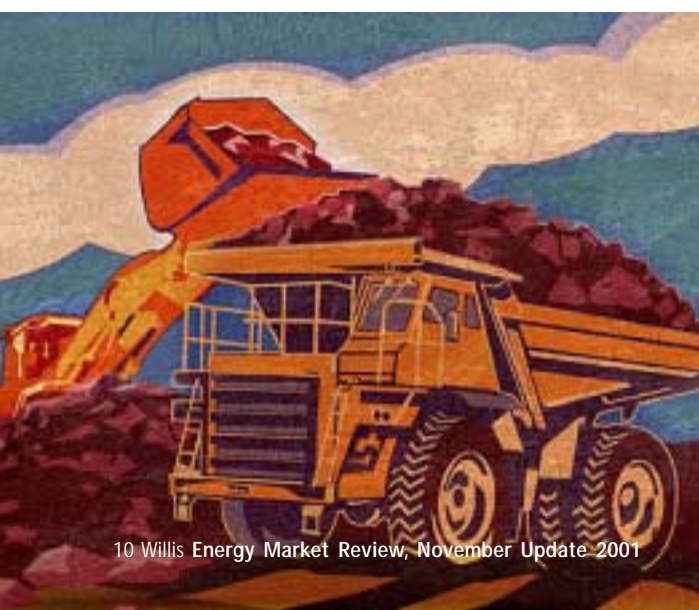
damage and business interruption are currently subject to single combined dollar deductibles. We are also seeing a tightening of the business interruption wording, particularly with respect to the period of indemnity, and concerns have been raised over the reporting of values and location limits. Finally, limitations on contingent business interruption continue to increase, with smaller sub-limits being seen (except where the contingency can be identified, and then at a price) and greatly diminished coverage offered for suppliers of suppliers and customers of customers extensions. We expect these extensions to be generally excluded in future.

- **E-risks:** we expect the elimination of coverage for computer virus, denial of service attacks and similar e-risks, except through specialized policies.
- **Earthquake:** coverage will continue to contract for earthquake in all the major zones worldwide.

- **Coastal windstorm:** there will be a drive to aggregate liability for wind in much the same way as flood and earthquake are often aggregated. There have been failed attempts at this in the past, but we predict that reinsurers will now start to build a more united front in this regard.
- **Reduced limits or scope of coverage:** in addition to some of the concerns in the foregoing paragraphs we will see coverage reduced for the following:
 - Debris removal
 - Demolition/increased cost of construction
 - Ingress/egress
 - Sue and labor
 - Extra/expediting expense
 - Service interruption
 - Biological & chemical pollution
 - Valuable papers, media and records
 - Construction/Advanced loss of profits within operational policies

Fronting

The continued feasibility of controlled master global programs is in doubt. In light of the difficulties individual markets are having in quantifying their ultimate liability for the September 11 events, and particularly the extent of their recoverable reinsurance, fronting carriers are increasingly unwilling to bear the credit risks they see as inherent in these arrangements. We expect to see fewer markets willing to front and significantly higher charges and tougher security requirements from those who do.

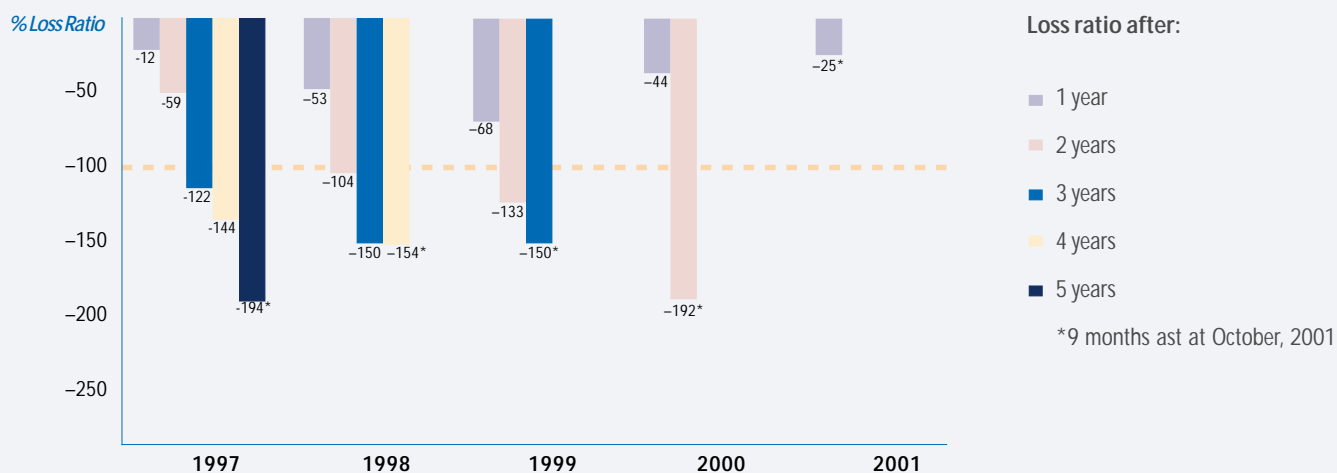


Market Updates Upstream energy

From an upstream – or offshore – perspective the energy market was already suffering before the events of September 11.

Years of over-capacity in the offshore market had led to the lowest pricing and the widest coverage ever. This alone would have put underwriting results into the red but at the same time the oil price rise fueled a drilling boom which in turn spawned a raft of new construction projects. Since control of well and construction have historically been the most claims intensive classes in the upstream energy sector this led to an upturn in loss frequency which itself was exacerbated by a lack of trained drilling crews and by questions over the structural adequacy of equipment brought out of lay up to cope with the demand. All of these factors contributed to an attritional loss record that eclipses anything previously experienced. In addition to attritional losses there were several large construction losses plus the third largest offshore loss in history, being the total loss of the Petrobras P36 semi-submersible.

Offshore Energy Physical Damage: Loss ratio development



Source: Lloyd's

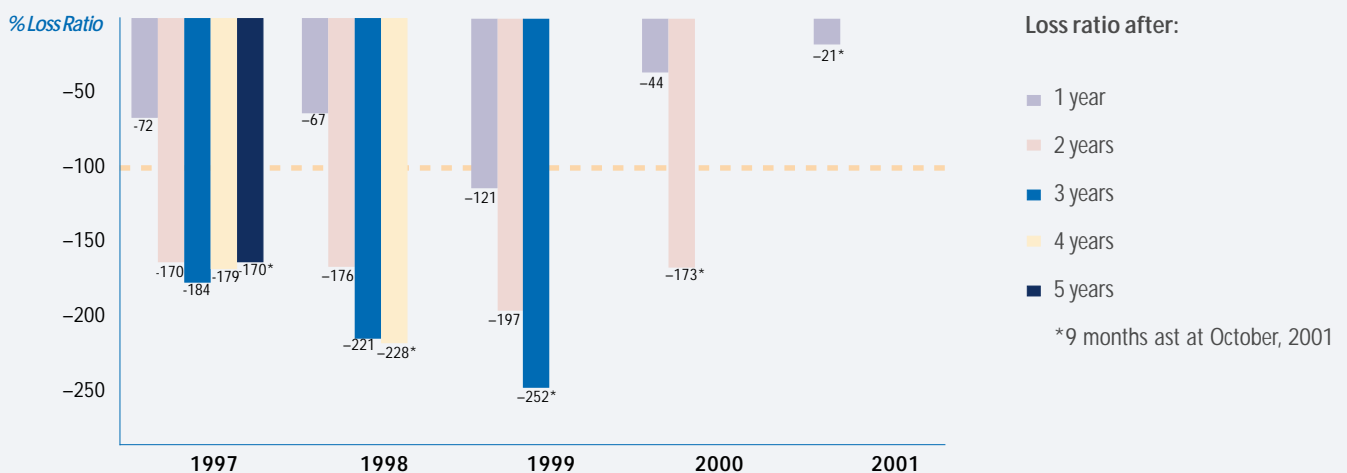
NB: Loss ratio is expressed before underwriting expenses

Market Updates continued

Capacity

- Prior to September 11 capacity had already reduced from a high of approximately \$4.5 billion to around \$3.7 billion in response to the poor results. A further drop was already expected before September 11 at which time we were estimating capacity to be below \$3 billion for 2002.
- Since September 11 the landscape has completely changed and we now expect to see commercial market capacity for 2002 of around \$1.3 billion. Oil Insurance Limited, the energy industry mutual, provides alternative or additional capacity (\$250 million per insured) for its members. We can expect a flood of applications for membership as clients seek both additional capacity and stable, or at least transparent, rating.
- This anticipated reduction in capacity presents a huge challenge to the market, as many risks will require greater capacity than is likely to be available either individually or collectively. Capacity in catastrophe zones such as the Gulf of Mexico will be impacted significantly during the next round of renewals.

Energy Control of Well: Loss ratio development



Source: Lloyd's

Market Updates continued

- To date the market reaction in the wake of the September 11 attacks has either been to avoid writing risks extending beyond January 1, 2002 or to scale back line size dramatically. This has been in anticipation of an inability to purchase reinsurance protection at acceptable pricing if at all. If the market's worst fears are realized many underwriters will be left unprotected or under-protected from January 1. It is for this reason that some underwriters have already issued notice of cancellation on their whole energy portfolio.
- Demand for insurance is unlikely to diminish in the near term as new projects continue to push the boundaries of technology and the environment, leading to some capital intensive projects in very deep water. There is also a developing trend toward project financing which often brings a requirement for business interruption cover, and this will add to capacity requirements.
- The issue of premium income limitation at Lloyd's will continue to be frustrating for both underwriters and clients alike. A Catch-22 situation exists where the more rates increase the less the available capacity, and the less the capacity available the more rates increase. This is of particular concern to the upstream energy sector in which Lloyd's has such a much more dominant global position than in the onshore market. One way to mitigate the boom-bust cycle would be to introduce sector weightings for premium income. This would allow underwriters to write relatively more risk in a hard market than in a soft market. Presently the reverse is true, and this is neither good for the capital providers nor for the clients.



Market Updates continued

- We can expect to see many underwriters have difficulty for a while in finding a way to operate with much lower capacities. In these circumstances it is likely that some will exit the business whilst others will take advantage of the opportunities now offered in classes hitherto deemed unprofitable, such as construction and control of well. Once 2002 is underway we predict a slow but steady rise in capacity as confidence returns and new capital becomes available.

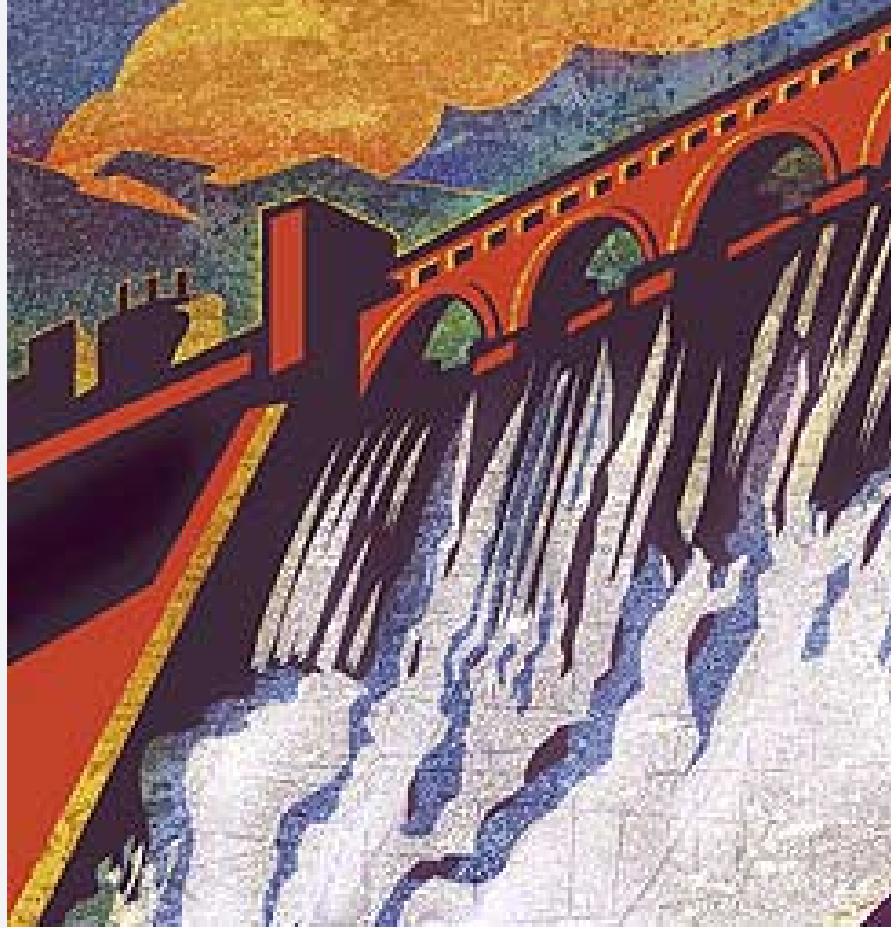
Cost

- The London market can initially be expected to overreact in pricing and terms. Already the US market has taken several accounts at London's expense, and, as we have already said, Oil Insurance Limited can expect a rush of applications for membership
- For some specific classes prices will remain high with little inter-market competition for the business. In particular, control of well and construction have both seen a rapid increase in rates and restrictions in coverage. These classes should now start to attract the opportunists in the market.
- The majority of underwriters though will be more conservative and will wish to write traditional operating risks with higher attachment points than those we have seen to date. The problem is that there is not enough of this business to go round. Consolidation in the oil industry and a long-term trend towards self-insurance by the bigger clients have seen to that. Competitive forces will soon be at work and we believe that the rates now being talked up by the market will not be sustainable for long.

Market Updates continued

Coverage

- Generally the coverage extensions enjoyed during the soft market will be progressively clawed back. Apart from construction which has already been addressed, the main areas for attention are business interruption (particularly contingent) and control of well where a move is afoot to introduce aggregate limits.
- War and terrorist coverage merits special mention for obvious reasons. The entire offshore market gave notice of cancellation (where possible) at the end of September 2001. Subsequently, coverage has invariably been reinstated after applying accepted market rates. This is by no means the end of the story however. Most underwriters' reinsurances are renewing at January 1, 2002 and it remains unclear whether, and if so to what extent, their protections will cover war and terrorism. If it becomes clear during December that capacity is scarce for this coverage we can expect a fresh rash of notices of cancellation. This time reinstatement will be much more difficult to achieve and shortfalls will be witnessed for the first time since the early 1980's.
- Finally, the reinsurance market is making some distressing noises about what precisely constitutes "offshore" coverage. Specifically, certain reinsurers are looking to restrict coverage to risks below the mean high tide. This would, for example, place the control of well market in complete disarray. Treaty reinsurance price rises and increased retentions are one thing, but this sort of restriction would make the original business unworkable.



Market Updates Power generation utilities

Since 1998 the utility sector has experienced almost four years of unprofitable underwriting. The poor loss experience has included both major machinery breakdown and fire losses such as the boiler explosion in Kansas estimated in excess of \$200 million, and the Ford Co-Generation Plant loss at over \$350 million (neither estimate including the contingent business interruption element of the losses). These and other significant losses coupled with a large number of small to medium size claims resulted in the utility sector annual average loss ratio exceeding 170% over the four year period, rising to 225% in the case of some individual insurers. For much of this period the market was unable to raise rates as many clients had taken advantage of soft market conditions by locking into fixed-rate multiple year policies at the bottom of the insurance cycle. The upshot of this was that underwriters were only able to start increasing deductibles and rates from mid 2000 when these policies started to expire.



The reason for the substantial increase in utility sector loss frequency was mainly due to a combination of a reduction in maintenance spend and the continued use of aging plant that often exceeded its design life. Another contributing factor was a growing number of insured business interruption losses. Prior to 1996 most utility companies did not purchase business interruption or replacement power cost cover as the costs of any losses could be passed on to the consumer through the rate mechanism that existed under the regulated regime. As the industry deregulated and the power generation industry split up into smaller private companies which were not allowed to pass on costs in the same way as before, the purchase of business interruption increased, and this resulted in losses following forced outages. The volatility that was being experienced in the newly deregulated power markets in certain areas

led to higher than expected business interruption losses emanating from what were otherwise fairly routine forced outages.

Following three years of losses, insurers took the opportunity to implement changes at program renewals during 2000 in the hope of returning their utility portfolios to profitability. Prior to WTC property damage deductibles were being substantially increased by a factor of two or three on standard generation assets, while time element coverage waiting periods were being raised by 50% to 100% for standard risks. In the case of combustion gas turbine assets the deductible increases were even more substantial, particularly in the case of prototype or unproven equipment. On average, rate increases in 2000 were in the 30% range, but again in the case of combustion gas turbines the increases were substantially higher. Throughout the first three-quarters of 2001 higher increases were being seen as insurers continued to correct their portfolios.

Market Updates *continued*

Capacity remained fairly plentiful for accounts comprising standard assets, but in the case of prototype or unproven combustion gas turbines capacity started to diminish. Several insurers began to move out of the utility sector or decided to insure only portions of the industry. With appropriate deductible and rate increases full value (blanket limit) policies were still achievable as were defined loss limits in the \$750 million to \$1 billion range. Coverage however was beginning to be reduced with contingent business interruption and extra expense being severely restricted through the introduction of reduced sub-limits. Natural catastrophe perils were also experiencing pressure with substantial deductible and premium increases while restricted sub-limits were imposed.

The casualty sector was fairly stable over the corresponding period with some deductible and rate increases being experienced in the primary area due to increased loss frequencies in the working layers. Increases seen in this area were in the 10% to 15% range on average. For casualty, the majority of the utility sector in the US is insured by the industry mutuals, and before September 11 these insurers were able to keep the cost of their products level.

Since then the market has suffered a severe contraction in capacity and there are signs that rate increases will be even higher than earlier in the year. The biggest impact so far has been in the property and business interruption arena. These changes are being driven by a lack of treaty reinsurance capacity for many insurers who

have blown through their reinsurance programs as a consequence of the terrorist attacks. There have been some reported cases of insurers filing notice to cancel accounts mid-term, and on many more notice of non-renewal has been filed to give insurers the chance to reassess the extent of cover being provided, such as sabotage and terrorism. The general consensus in the market is that utility property rates are likely to increase on average by up to 100% and in some cases possibly even more. In the case of casualty it is expected that reinsurers will look for increases in pricing as they seek to spread the World Trade Center property losses across other lines. Casualty insurers have intimated that they are experiencing difficulty in their treaty renewals and expect to see some impact in renewal terms for their insureds.

Capacity constraints are being seen across the board with only a few exceptions and are likely to continue as insurers begin to renew their reinsurance programs in the coming weeks. With a few exceptions insurers have stated that the capacity available for utility risks has reduced substantially from that available prior to WTC. Notable exceptions are the industry mutuals who were relatively unscathed by the WTC event (the only major known loss being damage to distribution and transmission assets in the immediate area of the WTC disaster) and FM Global who continue to be able to provide substantial capacity for the right risks. However, these insurers expect to see changes in their reinsurance programs at renewal and are likely to pass on increased costs to clients.

Market Updates continued

Quality of risk will be a big issue going forward and those risks that are perceived to be of poor quality will prove difficult to place for substantial limits. Broadly speaking poor quality can be construed to include risks with poor loss records, risks with very heavy exposures to natural perils, and risks that have equipment which is deemed prototype or unproven technology.

It is anticipated that insurers will continue to look to increase deductibles, particularly for risks considered poor. Coupled with this will be a further restriction in coverage conditions, and many of the coverage extensions provided in the soft market will disappear. Further restrictions on sub-limits can be expected and where coverage extensions are granted the cover will need to be underwritten with supporting documentation provided to insurers. Before September 11 there was a move to restrict machinery breakdown cover by limiting the design coverage provided, and this can be expected to continue as risks renew.

In the past many of the policy wordings utilized on utility programs were manuscripted, but going forward we expect to see insurers imposing their own more limited policy forms, especially in the area of business interruption where

underwriters will insist that contingent exposures are loss-limited or broken down into named suppliers and customers. Blanket unnamed suppliers and customers extensions are unlikely to be available. Underwriters are likely to require supporting work sheets for reported business interruption values and interim updates may be required, whilst business interruption coverage as a whole may be subject to the imposition of coinsurance provisions.

Many insurers expect sabotage and terrorism to be excluded in their treaty reinsurance renewals and it is highly likely that this cover will either be excluded from property policies, or heavily loss-limited. It is also possible that the US Government will introduce a facility to insure the sabotage and terrorism risk similar to Pool Re in the UK. Other governments around the world would then follow suit.

The core driver for change will come from the reinsurance industry. This will impact both the cost and coverage afforded to clients as insurers pass their own reinsurers' restrictions and increased costs through to the client. Given the technical exposures inherent in utility risks a lead time of at least 90 days and a carefully considered renewal strategy is strongly recommended when renewing property insurance in this very difficult market sector.

Market Updates Treaty reinsurance

2001 is proving to be the year of great change: several meaningful losses, higher premiums, and narrower terms and conditions. Although reinsurance terms were perceived to be tough for 2001 a considerable hardening in 2002 was anticipated prior to September 11, with retentions and prices being increased once more. The main issues for reinsurers are past results (claims), the need to increase premiums in the direct market, long-term policies and the imminent collapse of reinsurance capacity to support the massive line structures that many direct underwriters have been relying on. In addition there are major concerns over coverage for run-off, general terms and conditions and, indeed, the consequent structure of the energy reinsurance market itself. All of these considerations are under further review by a reinsurance market ravaged by the events of September 11.

The energy reinsurance market

- For the purposes of this section of our Update the energy reinsurance market comprises portfolios which cover offshore business and may include onshore units where such units are written as part of a direct package, along with the liabilities and contingent coverages attaching to that business. The reinsurers are principally from the marine market, and the coverage tends to be specific energy excess of loss protection covering most lines. The peak exposures are protected by broader limited general or whole account protections, usually on a 12 month "losses occurring during" (LOD) basis (see paragraph below).
- Standalone onshore accounts tend to be protected within specialist onshore accounts or as part of general property portfolios. These accounts are normally reinsured within the non-marine property and casualty reinsurance market.
- The Petrobras P-36 loss is well documented and will clearly have a considerable impact on the offshore reinsurance market. Prior to Toulouse the refinery and petrochemical losses have had a small impact on offshore energy reinsurers, but many of these are not yet fully developed or finalized.
- Reinsurers have seen improved terms in both 2000 and 2001, although some multi-year contracts are still running and have not yet been subject to upwards re-rating. These increases have been further enhanced by the higher than expected premium rises on direct accounts, resulting in large increases in subject matter incomes and consequent large adjustments for 2001. These, in turn, give rise to commensurate increases in reinstatement expenses post any loss.

Market Updates continued



LOD and the looming energy market crisis

- "Losses occurring during" (LOD) means that reinsurers will provide cover for any losses which occur during the period of the reinsurance contract. They will not cover losses that occur on direct policies written during the term of the reinsurance contract but occurring after expiry of the treaty. This is quite different to the alternative approach where reinsurance is written on a "risks attaching" basis. Here, reinsurers will provide cover after the expiry of the reinsurance contract for losses occurring at any time during the period of the direct policy, so long as that policy was written ("attached") during the period of the reinsurance contract. Reinsurers in the energy market have become increasingly reluctant to provide this latter form of coverage, hence direct insurers' greater reliance on LOD coverage.
- Many direct insurers have until now based their underwriting on huge line structures supported by massive reinsurance programs. In the past, capacity was plentiful enough for direct underwriters not to be too concerned about whether the unexpired portion of the direct policies they had written would continue to be covered at renewal of their reinsurance programs, their main worry being cost alone. With reinsurance capacity now being greatly reduced it is a certainty that some underwriters will be left with totally inadequate reinsurance protection at January 1, 2002,

particularly as many have large lines on multi-year direct policies. This is why a number of direct underwriters have already issued blanket notice of cancellation on their whole energy book; the problem for them is that many of the policies they have written are non-cancellable.

- Any further reduction in reinsurance capacity or imposition of reinsurance exclusions will increase the pressures on direct underwriters. Orthodox facultative reinsurance capacity is severely limited and very expensive, so insurers are likely to be forced into either seeking alternative risk transfer solutions (which may contain penal repayment strictures in the event of a loss) or, secondly, into combining various narrow but expensive "pillars" (specific reinsurances for a single line of coverage or peril) in the hope that this will provide coverage that is broad enough for any complicated, multi-peril loss that may happen. The third alternative is to retain, voluntarily or otherwise, large exposures and simply hope that the loss does not occur. Given the major increases in direct rating, larger retentions may be more manageable than in the past. However, if there are further major energy losses in 2002 on original policies attaching in 2001 then it is likely that there will be a severe impact on the balance sheets of a number of insurers and reinsurers, as a result of which some direct insurers may be forced to exit the energy market, and capacity will be yet further reduced.

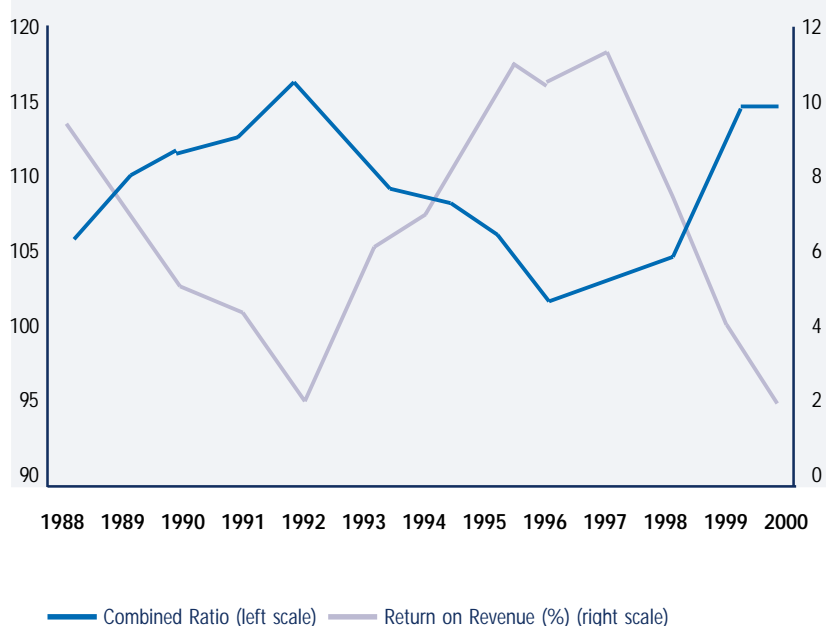
Market Updates continued

Coverage

Apart from potentially dwindling reinsurance capacity, a key issue is whether the market is going to issue or reissue exclusion clauses to address the current difficulties. At present, the reinsurance market is reeling from recent events and is not in a position to be definitive on these matters, hence the cautious nature of the following comments:

- **Political Risks** - it seems probable that these will be excluded. At present this exclusion is likely to be restricted to Contract Frustration, but may be extended to Confiscation, Nationalization, Expropriation and Deprivation.
- **Terrorism** - may be excluded for fixed platforms, as they are perceived to provide an attractive target to terrorists. We hope that reinsurers will offer coverage for terrorism, if their clients, the insurers, continue to cover terrorism, but at this stage it is not clear if this will be the case. The argument between what constitutes terrorism and war remains unresolved.
- **Refineries** - these may be excluded to return the market to the traditional boundaries of the onshore and offshore markets. This divide may split the market, as many reinsurers currently feel that now is not the time to deny themselves some payback for 2001 losses. Others are under pressure from their management, capital providers and, in many cases, retrocessionnaires to ensure that marine underwriters only produce marine or offshore losses. This issue has potential to polarize the market and may further exacerbate the capacity crunch as insurers opt for a specific buying policy.
- **"Two-risk" warranty** - in certain circumstances whole account marine market reinsurers may impose a "Two-risk" warranty for onshore exposures. A "Two-risk" warranty means that coverage for onshore risks will be given only if two or more onshore risks suffer loss in the same occurrence. This puts the individual onshore risk exposures back into the property risk reinsurance market, limiting marine reinsurers' onshore exposures to catastrophe and clash coverage.

Reinsurance Industry Combined Ratio versus Return on Revenue



Source: Standard and Poors

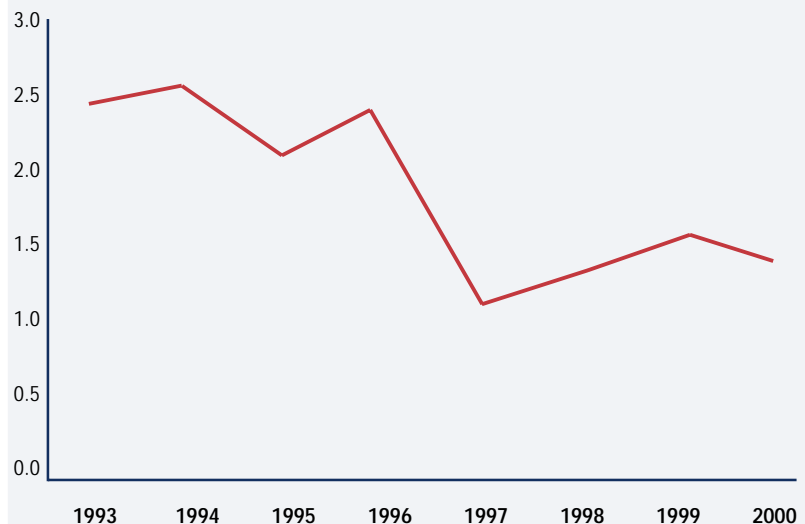
Market Updates continued

- "Pillar" coverage - where insurers are unable to purchase adequate whole account protection another solution may be to buy reinsurance on a "pillar" basis split by peril/geography/product. In a hard market reinsurers become increasingly catastrophe orientated, and will insist that insurers buy more specific protections (or "pillars") up to a percentage of their maximum line before the whole account protection attaches. As we have seen, this may be 100% for onshore risks.
- Multi-year contracts - these will no longer be available. Renewals will be for a maximum of 12 months only.

Outlook

The levels of information provided by reassureds nowadays should be transparent enough for full coverage at an applicable premium to be applied. Past claims cannot be settled with exclusion clauses, but reinsurers should be looking to capitalize on the opportunities offered by a direct energy market which is now underwriting its business on sensible terms and conditions and at realistic premiums. It seems likely that most reinsurers will seek to place themselves at a higher level and for more money, whilst keeping a close watch on their aggregate exposures.

Net Technical Reserves to Adjusted Shareholders' Funds for Reinsurance Industry



Source: Standard and Poors

Market Updates International liability

Whilst attention is focused on the chronic lack of capacity in the onshore and offshore property sectors the outlook in the London and international liability markets is set for a period of significant turmoil as we move into what could well be the hardest market we have seen for many years. The signs were evident before the tragic events of September 11 with capacity shrinking and prices rising although at a relatively controlled rate.

Liability insurers now appear to be resolved to limit their exposures and increase pricing at a significantly faster rate. At the same time sections of the market are halting or reducing their underwriting as premium income limits are reached as a consequence both of rising premiums and the reduced number of primary insurers in the market. Others have been calling a halt while they assess the consequence of the attacks and the subsequent explosion in Toulouse.

Understanding the basis on which liability reinsurance treaties will be renewed is key to understanding the challenges in the market in 2002. Without doubt the liability market is facing very significant increases in reinsurance premiums and restrictions in cover and capacity. Insurers may in consequence choose not to buy some layers of protection. It seems very likely that a number of leading liability markets will be substantially cutting the capacity they offer. The situation however remains fluid with few if any detailed treaty negotiations yet begun at the time of writing.

The result of all this is that between now and the end of the year there will be a severe squeeze on capacity and a slow-down in the process of getting renewals and new business quoted.

Going into 2002 and beyond what will the buyers of liability insurance be facing and what action can be taken in mitigation?

Overall market capacity will be down. In June 2001 we estimated the total capacity of the international liability market as being in excess of \$2 billion. This could fall by 25% or more, though for some of the more difficult industry sectors we estimate that capacity may fall by as much as 50%. On the face of it this still provides ample capacity to meet the needs of most insureds, but this ignores the increasing speed with which capacity is shrinking in certain industry sectors. To take just two examples, capacity was already severely reduced for pharmaceutical and rail industry business where the majority of the market will no longer write these classes.

Market Updates continued

Another significant factor is the substantial reduction in the number of recognised leading underwriters over the past 12 months from 15 to less than 10. This effective reduction in competition has allowed the remaining markets to be highly discriminating in both the risks they write and the terms on which cover will be provided, and this is a process which is likely to continue.

The existing trend to eliminate cover extensions such as financial loss and professional indemnity will accelerate. We are now seeing evidence of attempts by some insurers to eliminate terrorism cover. We have successfully resisted this so far but at the cost of having fewer potential markets for the clients affected. This is of particular concern because there is no alternative source of cover available for liability risks. We will be monitoring this very closely and will seek to develop solutions if it becomes necessary.

As a direct response to the terrorist attacks and consequent military action in Afghanistan we understand that the reinsurance market (and therefore the direct market) may be considering the widespread imposition of terrorism exclusions on liability policies. As with much else at the time of writing, much is unclear. The exposure in most cases is indirect and at least outside the United States the risk of liability being imposed may be remote. However this is a potentially significant development that will concern many of our clients.

In the light of earlier failures in the insurance market and the stresses on the market created by the terrorist action a number of our clients will want to increase

the proportion of AA or better rated security on their programmes. The blue chip insurers and reinsurers will undoubtedly be seeking to achieve a price for the quality of their paper, something which on the whole they have been unable to do up until this point.

A clear message is emerging from the all the confusion. Obtaining the cover required in 2002 is going to be difficult and, for many industry sectors, expensive relative to recent years. Planning and careful preparation will to be needed to achieve the best results. It will be vitally important to try to position the risk as one with which the market want to maintain a relationship. As always relationships matter and effort applied to maintaining or building long-term market relationships will be rewarded.

The provision of high quality market presentations has always been considered important by Willis. There will be considerable benefits in backing this up with face to face presentations to the market by clients. It goes without saying that the presentations must have a good story to tell. Why is this risk better than the average for the industry sector? What is invested in risk management? What impact is it having? How will the company respond if there is a loss to control and mitigate its impact?

In our view the liability market next year will not be one in which to run costed competitive exercises. We see far greater benefit to the client in selecting the broker you believe understands your organisation best and can help you develop relationships with the market and apply innovative solutions to some challenging problems.

Because of budgetary constraints it is likely that many of our clients will need to take some hard decisions both in relation to self-insured retentions and limits. We expect to see some cutting back in the purchasing of higher layers, although a careful assessment of the risk exposure is important in a world where suddenly the unimaginable exposure becomes a reality.

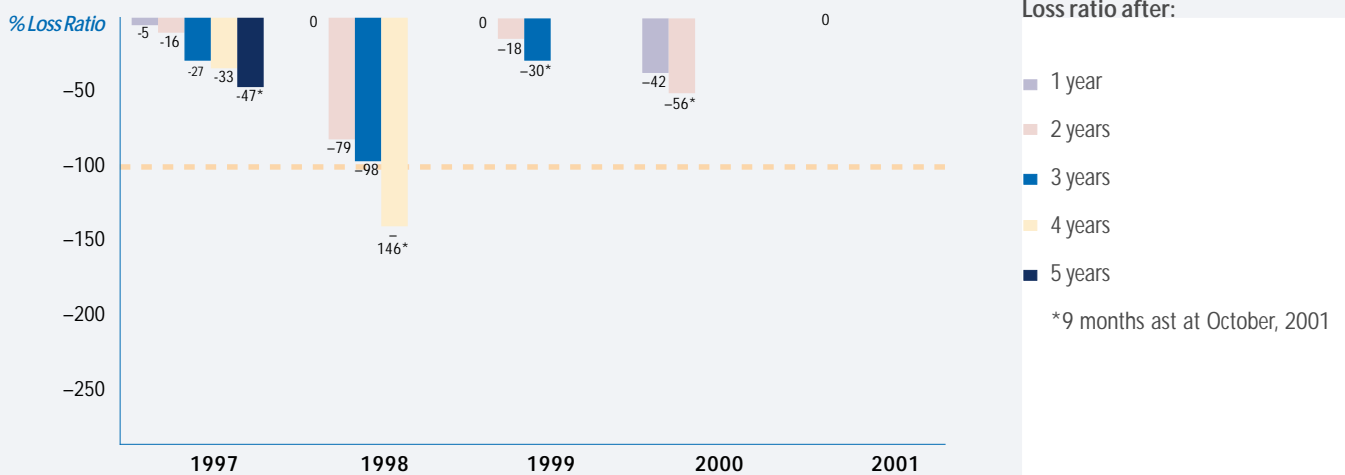
Market Updates US casualty



Capacity

Worldwide excess liability capacity for energy/petrochemical/utility risks has shrunk substantially, down from more than \$2 billion just over a year ago. While the theoretical limits are down by as much as 20% or more, our assessment of willing capacity is that it may have reduced by as much as 50%.

Offshore Energy Liability Claims Made: Loss ratio development



Source: Lloyd's

NB: Loss ratio is expressed before underwriting expenses

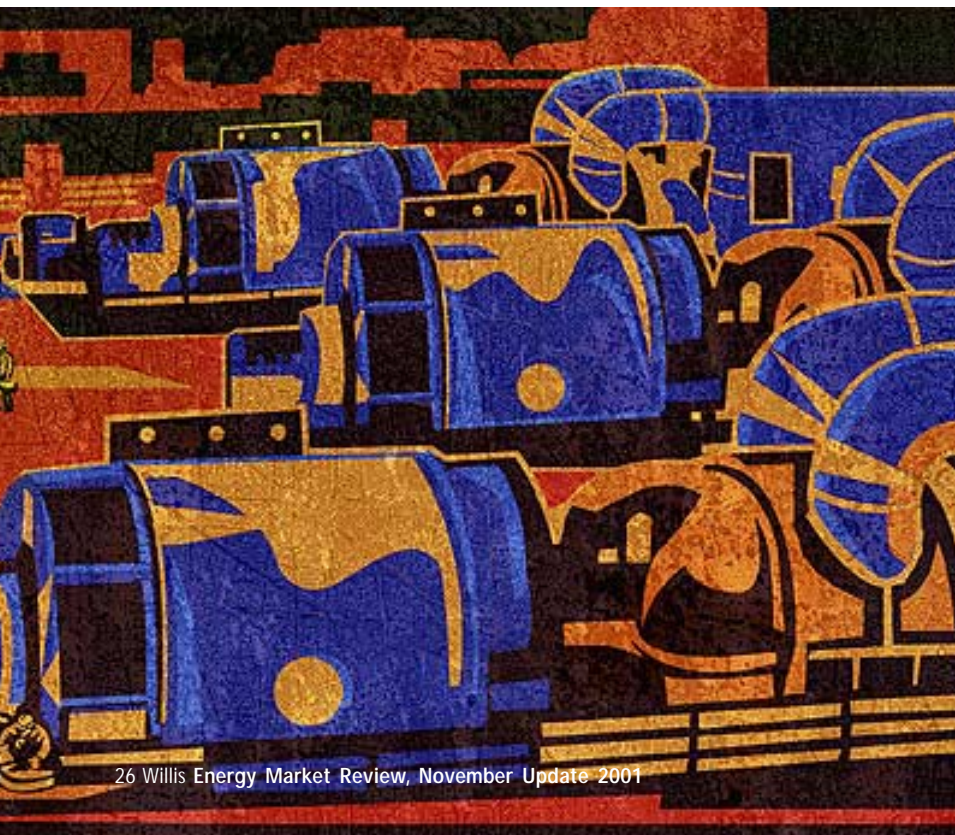
Market Updates *continued*

Highlights

- Drastic reduction in "willing" excess liability capacity in the first \$50 million excess.
- Significant increases in workers compensation renewal premiums.
- Much greater lead times required to prepare for the pre-renewal crush.
- A much greater level of detail required in renewal underwriting submissions.
- Dramatic premium increases for both primary and excess placements range anywhere from 20% to 100%+.
- Contraction and/or loss of capacity for specific energy reinsurers and global reinsurers who have written energy risks.
- Absolute terrorism exclusions become the norm for most lines.

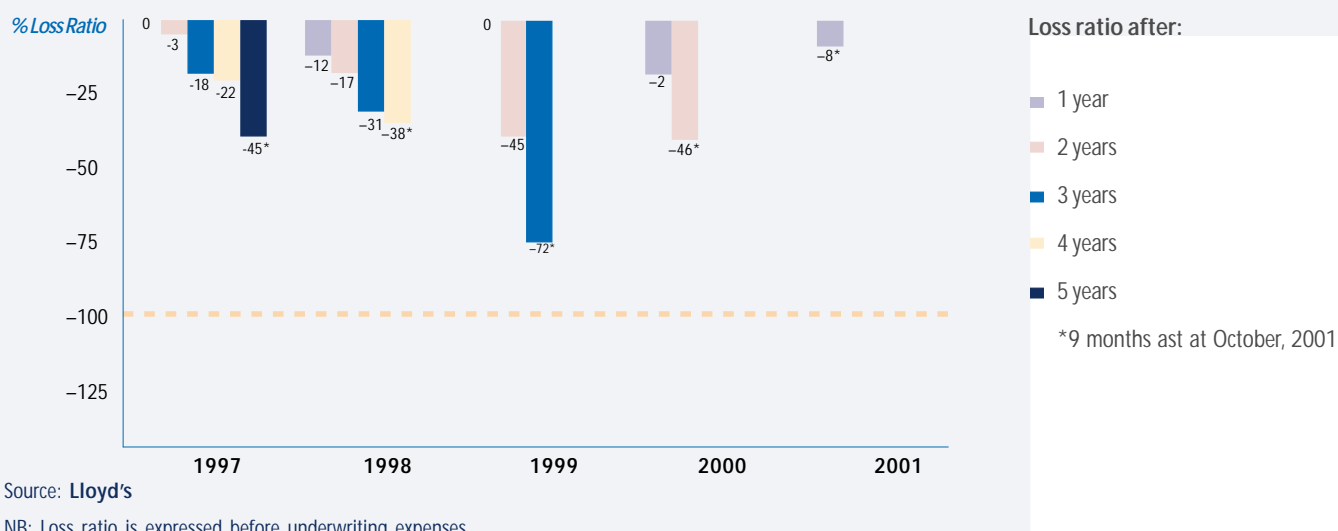
Primary

The loss of reinsurance support in the wake of the September 11 attacks, and the escalating losses arising out of workers compensation, are making the second half of 2001 very challenging for primary casualty renewals. This hardening is dramatic, unseen in such magnitude since the mid-1980's. Much longer lead times are required by underwriters to achieve a properly focused renewal, and clients should expect requirements for a greater amount of underwriting information and increased scrutiny of their financials and loss management programs. For smaller guaranteed cost and low deductible programs increases have been substantial, and for larger cash flow programs insurers are requiring higher attachment points on aggregate stops, greater amounts of collateral, and reductions in coverage. Multiyear transactions are generally not available, and workers' compensation renewals are showing significant increases.



Market Updates continued

Onshore Energy Liability All Other: Loss ratio development



Excess

In the rapidly hardening market the premium increases now being experienced for buyers of excess liability programs are making the increases of only a year ago seem mild in comparison. As with primary casualty, clients must be in the marketplace for their renewals with as much lead time as possible and armed with complete and highly detailed underwriting submissions. Unfortunately, even the best laid plans may be frustrated by underwriters' refusal to quote terms for renewal business more than thirty days prior to expiration. This exacerbates the already difficult plight of buyers who are facing increased

attachment points and skyrocketing premiums, along with loss of market, capacity, and coverage. The ever reducing number of insurers in the domestic marketplace prepared to underwrite energy risks in the lower excess area means that clients are being afforded fewer options. In addition, markets which had willingly offered \$50 million and more in capacity during the 1990s have drastically cut these amounts by half and even more. Higher excess capacity still exists, but clients must correctly determine the optimal excess attachment points and layer sizes to create a workable program.

Crisis in the Professional Liability Market

The market for Errors & Omissions and Directors & Officers liability business is extremely difficult. The events of September 11 have focused the minds of professional liability underwriters and created an underwriting reaction that was arguably being planned earlier in the year. Before the terrorist outrages, however, the market was still behaving competitively. Underwriters were not prepared to confront their clients over the necessity to increase rates, the net result being some appalling underwriting results.

Lloyd's underwriters decided some years ago that they could write D&O insurance for high tech sector clients who were looking to make initial public offerings. In doing this they competed with domestic US carriers, some of whom withdrew from the class two to three years ago. Lloyd's underwriters continued as loss ratios rose to 200-300% for 1997 and 1998 (and possibly 1999). These ratios are set to worsen as the losses develop.

This situation was clearly unsustainable, and as a result one of the acknowledged D&O market leaders, Janson Green (under its new QBE ownership) has decided to exit the class entirely. Major facilities at Lloyd's that were put together for the benefit of Lloyd's brokers and their clients have collapsed (although some facilities still exist), and one underwriting agency that had been a major professional liability lead and supporter of D&O business was sold to a competitor for £1.

In a fairly restrictive class of business these results are disastrous. As an inevitable consequence of this the fear of losing jobs means that there is a lack of

underwriters prepared to make underwriting decisions, and this is most frustrating for clients. Another major issue is that corporate capital providers are closely comparing the price increases being charged by professional indemnity underwriters with increases being achieved in other insurance sectors, and there is a fear that the substantial rate increases now being charged by professional indemnity underwriters may not be enough to retain their interest in the class: after all, why should investors put their capital behind an account which is attracting rate increases of up to 100% when war, aviation and some property premiums are going up by 300%? Added to this is the problem that a number of major syndicates are writing net lines only for the rest of the year owing to a lack of reinsurance capacity. The market is holding its breath as it awaits the outcome of the treaty reinsurance renewal season and, despite significant price increases, reinsurers are likely to be very selective in whom they are willing to support.



An interview with Oil Insurance Limited

Faced with a capacity crisis in the commercial energy market and the prospect of being unable to purchase adequate limits at an acceptable price, many clients are turning to OIL, the energy industry mutual insurance company. We asked Jack Wesley, President and CEO, and Doug Kline, Senior Vice President and Chief Operating Officer, for their views.

How much activity are you seeing right now?

We are seeing a great acceleration in the growth of both the number of prospects and of new Members. As we stand today we have 59 Members insuring upwards of \$1.2 trillion of gross assets with us, and we expect that another 6 Members will join between now and the end of the year.

Where is this increased activity coming from?

From all sectors of the energy industry, though there is significant interest from both regulated and non-regulated power generation companies. No less than 8 Members from this sector have recently joined us.

OIL does not insure business interruption. Is this putting off many would-be members?

Despite the demand for BI coverage the flow of inquiries and new Members is undiminished. We did try earlier in the year to put together a facility for conventional BI coverage, though without success. This does however remain as an important agenda item.

Are you looking to increase your capacity?

The short answer to the question is no. Our Members currently benefit from a limit of \$250 million each. This is possibly as much as 25% of the maximum realistic capacity available in the worldwide energy market today, and like many other topics this is an ongoing agenda item.

The \$250 million per member limit is subject to an aggregate limitation of \$1 billion where a loss involves a number of OIL members. Have you any plans to change this cap?

There is no movement for amending the limit, and the Directors are not recommending any change, but this is an "evergreen" topic that will be discussed at the December Board meeting.

An interview with Oil Insurance Limited continued

How is the recent spate of energy losses likely to affect rates?

We have had our fair share of losses and they will undoubtedly affect our rates which are all formula based. The new rates for 2002 are being calculated now. We have however given out estimates to our Members, and increases in the region of 50% would not be inconsistent with these estimates.

From a capital management standpoint what will be the effect of the recent fall in stock markets and lower returns on investment?

We have to look at our investment portfolios and the losses incurred on them, but clearly there will be an adverse effect on any extraordinary dividend payments and premium subsidy. It is too early to say whether this will affect our capacity in the longer term.

What is your position on coverage for terrorism?

Terrorism is still covered as per the OIL policy wording, and any change would require the agreement of 75% of the Shareholders. Although we must take into consideration what the rest of the world market is doing it is ultimately up to the Shareholders to decide. As we say to them: "It's your company - what do you want to do?"

Within the last year OIL has broadened its appeal by including power generation utilities within its scope of membership. Have you any plans to broaden the scope of membership further?

Chemical companies now qualify for membership, even if they are non-petrochemical chemical concerns, and that includes pharmaceuticals. We don't draw a line here: so long as you are in chemicals, you are welcome to make an application. That said, it is of fundamental importance to us that prospects understand exactly what they are getting into, and precisely what mutuality means. We take great trouble to ensure that happens, and due diligence is very high on our agenda.



People and Places : News in Brief

As one would expect in a market in such turmoil experienced underwriters in the energy sector are in great demand. As insurers change their underwriting philosophy to take advantage of the hard market conditions, or to consolidate their position in the wider insurance market, we have seen plenty of movement of energy underwriters between insurers. Here is a sample of some of the most significant recent changes:

- Under the leadership of **John Charman** a new reinsurer, **Axis**, is being set up in Bermuda. We expect much of the old Ace Global Markets team to join
- Further new capital commitment is being announced, particularly in **Bermuda**, with White Mountains, AIG/Chubb/Goldman Sachs, and Aon Zurich being significant developments. However, it is unclear whether these ventures will have a direct impact on energy market capacity.
- **Evan Greenberg** (ex-AIG) is joining the ACE Group of Companies in Bermuda as Vice Chairman, ACE Limited, and CEO of ACE Tempest Re
- **Munich-American RiskPartners** has imposed a ceiling of 10% participation on any one risk
- **Gerling** has ceased underwriting US energy business
- **Paul Clarke** has left Allianz to join Scor in London
- **Generali** has imposed a moratorium on underwriting energy business for the time being
- **Laurent Hoquet** has joined Partner Re in Paris as onshore energy underwriter and **Maurus Iseli** has been appointed offshore underwriter
- **Philippe Pinquier** has left Partner Re in Paris
- **Emmanuel Brulé** is leaving Scor to join AIG in Paris
- **Didier Robin** has rejoined the energy team at Scor in Paris. **Henry Gaden** and **Michel Krenzer**, both ex-Sorema, have also joined the team in Paris and London respectively
- **CCR** in Paris has pulled out of the offshore market and will concentrate its capacity in the international (ex-US) onshore sector
- **Dominique Dehouck** has joined Axa Corporate Solutions to head up their ART focus in Paris

People and Places : News in Brief continued

- **New Re** in Geneva has stopped writing facultative business
- **Swiss Re New Markets** has abandoned its separate branding and will now be trading under the Swiss Re brand. They have imposed a limitation of 12.5% participation on any one risk
- **Andrea Corbino** left GE Frankona Re in Munich and has joined the Swiss Re energy team in Zurich
- **Swiss Re Germany** (formerly Bavarian Re) in Munich are moving away from single territory business and will now be concentrating their energy effort on multi-national onshore risks
- **John Hards** of International Oil Insurers has announced his forthcoming retirement
- **Jane Hayes** has been appointed global practice leader for oil and petrochemicals at Zurich Global Energy
- **Chris Barber** has joined Zurich Global Energy in London as an onshore underwriter
- **Dan Guida**, who headed up Zurich Global Energy in New York, has left the company
- **Clive Goddard** has left Zurich Global Energy in London
- **Zurich Global Energy** announced that it was ceasing to write offshore CAR pending a review of how it would offer this as a product, and to whom. They will also no longer write OIL wrap-arounds, at least for onshore risks
- **Roger Gregory** (ex-AIG) has followed **Simon Marshall** (ex-Willis) to join the Zurich Global Energy engineering team
- **Converium** is the new name of Zurich Re. After September 11 the flotation of Converium was postponed, but it is already operating as a totally separate entity from Zurich Financial Services
- **AIG** has created a new facility under **Terry Bennett** to underwrite small, low down, bands of coverage
- The new AIG backed syndicate **Ascot Underwriting** will commence business on January 1, 2002 with capacity of US\$40mm for offshore and US\$25mm for onshore. **Andrew Brooks** and **Mark Donald** will run the energy portfolio

People and Places : News in Brief continued

- **Copenhagen Re** has announced its decision to stop writing marine and property facultative risks
- **Gard Services**, the MGA underwriting on behalf of If P&C in Oslo, has suspended its onshore energy underwriting. Gard will continue to provide capacity on upstream business and package policies, though this is also under review. However, the recent merger of Sampo into the If... group of companies gives optimism for the future
- **Steve Hawkins** left Newmarket Syndicate and joined the Catlin Syndicate
- **Oliver Crabtree** left Hiscox and joined the Watkins Syndicate as liability underwriter. **Julius Wilson** will be joining him as his deputy from BRM (previously CGNU)
- **Oman National Insurance Company SAOC** is now in liquidation
- **NCCI** has ceased underwriting energy risks
- In August the Directors of **Cotesworth & Co Ltd** announced that they were suspending underwriting of their two managed syndicates, Marine Syndicate 535 and Non-Marine Syndicate 1688, with immediate effect
- **Kevin Hannington** is leaving GE Frankona Re to rejoin the broking community
- **Bob Gefers** (ex-Newmarket Syndicate) is joining Aon in Houston
- **Richard Fricker** has left the ACE Syndicate. **Luan Nott** has taken over the underwriting of upstream energy business
- **Ray Miller** has joined ACE Global Markets as onshore energy underwriter
- **Tryg Baltica** has ceased writing offshore energy and **John Hopper** has left the company
- **Gargrave Syndicate** are currently not writing offshore CAR but expect to resume with effect from January 1, 2002
- **Watkins** announced a scaling back in maximum percentage lines to 10% on control of well risks and 5% on offshore CAR

People and Places : News in Brief continued

- **Markel** (formerly Hope Syndicate) has issued notices of cancellation, wherever allowed by the individual policy, on their whole energy book with effect from January 1, 2002
- **Liberty Mutual** has announced plans to increase capacity significantly in 2002 for its **Syndicate 190** at Lloyd's
- **Mark Bodkin** and **Simon Hazell** left Liberty Mutual in London
- **Mike Robertson** has left the Robertson Consortium and is rumoured to be joining Liberty International
- **Neil Allcroft** (ex-RSA) has recently left Marsh and is rumoured to be looking to make a return to underwriting
- **Les Rock** is rumoured to be setting up a new syndicate at Lloyd's.





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