

Power Market Update





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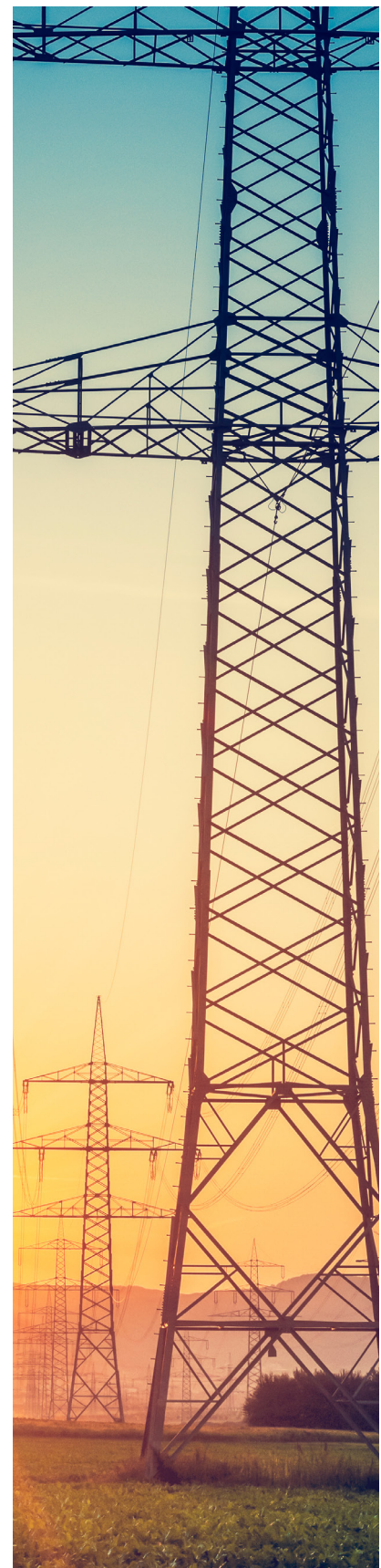
EXECUTIVE SUMMARY

During 2017, the trend for softening of rates in both the general property and power markets continued unabated throughout the first three quarters of the year. A sixth year of four straight quarters of rate reductions seemed likely until the 2017 Atlantic hurricane season produced Harvey, Irma, and Maria (otherwise known as “HIM”) and developed into some of the worst natural catastrophe events in recent memory. Confusion over whether the impact of HIM would constitute a “capital or profit” event followed.

Before any real clarity emerged, Central Mexico was struck by earthquakes, and significant wildfire activity raged on the West Coast of the United States (US), leading to a trading environment that was suddenly very different to that of the first half of the year. The immediate impact of these events was to halt the continuing downward pressure on rate, with insurers pushing the message that rate corrections were required in order to maintain stable trading platforms in expectation of significant losses, and, importantly, reinsurance treaty corrections in early 2018.

In fact, heading into the first quarter of 2018, it became apparent that market expectations were falling amid flat treaty renewals at January 1, 2018, meaning limited cost increases to direct power generation insurers. With the severity of losses from HIM proving unfounded in terms of the effect on power generation clients, and with plentiful levels of insurance capacity remaining in the global marketplace, significant rate increases were avoided. Flat rate is now a viable option, especially where high risk quality can be demonstrated and where minimal natural catastrophe exposure is involved. That being said, clients falling into this bracket with larger asset-bases and higher premium volumes can look to test their incumbent insurers by blending new entrants into global programs, helping to generate small rate reductions, especially with renewals falling into the second half of 2018 where the significant proportion of annual premiums reside.

All of the above taken in to account, clients should remain diligent in how they approach the renewal process. Getting to market early is still highly recommended as this will provide greater opportunity to develop options and cast the net wide. In limited cases we have seen some clients look to renew long-term agreements that were thought to be unobtainable at the start of 2018. Only through thorough planning and strategy well in advance of deadlines can such outcomes be achieved. Additionally, while global capacity remains in excess of USD4.25 billion, some markets have withdrawn from general property due to poor 2017 results. Merger and acquisition (M&A) activity is still highly visible, as demonstrated by the relatively recent agreement between AXA and XL Catlin; a series of events on the scale of HIM could require careful strategy – and a longer term view may pay dividends.





INTERNATIONAL PROPERTY MARKET CONDITIONS

There has been no significant change in the circa USD4.25 billion of international capacity available in the global marketplace since the beginning of 2018; the only notable withdrawal of capacity has been Aspen Re Singapore. At the start of 2018, we saw a limited effect on rate where Internal Underwriting Management were pushing for increases relating to the 2017 Atlantic hurricane season. This, however, was hard to justify in regions unaffected by these events, and brokers have been able to circumnavigate this push – and have even driven modest rate reductions. Clients have also looked to target value as well as outright rate reduction by developing appetites for alternative products such as deductible buys downs, forced outage, and financial products within their traditional property insurance programs. We expect this trend to continue throughout 2018 as more of these products gain traction in the recognized insurance hubs, and as insurers look to find ways to hit budget heading in to the second half of the year.

REGIONAL PROPERTY OUTLOOK

Capacity is largely comprised from regional underwriting hubs. There are several major insurers who have a presence in each of these hubs and, as such, are considered to be global property insurers. The list of global property insurers comprise **AIG, Allianz, Chubb, Liberty International Underwriters (LIU), Mapfre Global Risks, Munich Re CIP, Munich Re Fac, SCOR, Swiss RE CORSO, Swiss Re Fac, Zurich, and XL Catlin**. We define these insurers as global property insurers based on their ability to deploy capacity and issue paper on a global basis.

There are many other insurers in each of the regional underwriting hubs with whom we trade, and with whom we have highly valued trading relationships.

ASIA

In Asia, 2017 was a year of contrasts, with highlights and challenges for brokers, insurers, and clients alike. Despite most insurers being affected by a number of eventful losses totaling approximately USD200 million, rate reductions of between 15% – 25% were achievable. The 2017 Atlantic hurricane season signaled a well-documented change in the market. By mid-November almost all international global insurers began resisting rate reductions and long-term agreements (LTA), with the agreements to be referred to head offices. Rate reductions have trickled to a mere 5% without any LTA for those placements which are mainly reinsurance driven.

Treaties renewal for Asian-based global energy/power insurers with treaties arranged globally were met with a minimum increase of between 5% and 7.5%. On loss-free accounts, some insurers have pursued small rates increases; and in countries with high natural catastrophe

exposures, such as the Philippines, rates increases are expected on clean accounts. However, with ample capacity and no market departures, it is still achievable to obtain a flat renewal for clean loss accounts. Although certain global insurers have lapsed their lines, orders are being replaced by tier two markets or Middle Eastern markets. Multi-year deals are a thing of the past on standalone accounts and most renewals are placed on an annual basis.

Asian coal-powered power plants may face some challenges in the future. The drive for a low-carbon economy, and the Paris climate agreement to a two-degree target, has prompted several insurers to make official statements, including **Allianz, Zurich, Swiss Re, Scor Re, and AXA**. It is still to be seen if such moves will have any significant impact on terms on operational power plants, however, changes should be expected.

BERMUDA

The Bermuda marketplace has seen an increase in M&A activity over the past 12 months, which has resulted in an increase in both appetite and personnel movement amongst the Bermuda markets. While all markets experienced losses as a result of the 2017 Atlantic hurricane season, either on the reinsurance side or their direct and facultative operations, none were outside of the expected ranges. The below is a summary of the changes in the Bermuda insurance marketplace and we continue to have capacity available on an account-by-account basis from **Chubb Bermuda**, **Hamilton Re**, and **Neon**.

Fairfax Financial completed its acquisition of **Allied World Assurance (AWAC)** on July 6, 2017. AWAC's treaty renewal now offers up to USD25 million in all risk and catastrophe (CAT) capacity for energy risks.

With the acquisition of **Ariel Re** by **Argo**, the insurer has added property to complement the other lines of business offered in Bermuda. Argo insurance (using **Lloyd's Ariel Re** syndicate 1910) can offer up to USD50 million on any one risk depending on individual account occupancy and exposure.

Liberty Mutual completed the acquisition of **Ironshore** in the second quarter of 2017. Ironshore continues to offer capacity for our power and utility clients, and announced that its energy writing capabilities have increased to USD50 million, bringing it in line with its property offering. It is also noteworthy that for builder's risk, Ironshore has up to USD250 million of capacity available and is able to deploy this on power and utility projects.

Oil Casualty Insurance, Ltd (OCIL) continues to offer USD50 million and has also entered an agreement with **Ironshore** whereby Ironshore can offer up to USD5 million of OCIL

capacity as a complementary line to the Ironshore Bermuda capacity offered. This is a separate arrangement to anything offered directly by OCIL, and will not affect renewal lines written by OCIL.

EUROPE

Since the end of the first quarter in 2018, European insurance markets have strongly pushed for rate increases, especially for risks with heavy natural catastrophe exposures or pending claims. The growing demand in the renewal sector throughout Europe, predominantly wind, is steadily attracting the power markets as it allows them to deploy their capacity more strategically and sustainably across their portfolios. Moreover, there is more traction towards niche products, such as outage insurance, captive solutions, transmission and distribution carve-outs, and nonphysical damage coverages for battery storage systems.

HDI has experienced poor results within its property-power division due to large losses caused by machinery breakdown (gas turbines) and fires/explosions. As a result, it has decided to reduce its overall machinery breakdown exposure by moving to higher attachment points or reducing capacity. **Swiss Re Corporate Solutions** has merged its wholesale energy lines into one global team operating out of Zurich and London. It continues to pursue profitable growth by offering innovative risk transfers with a strong push towards renewables and the goal of reducing its exposure to heavy carbon-related industries such as thermal coal. **Munich Re** is also focused on innovation by significantly investing in its solutions for this segment. **Helvetia** is looking to grow its power team further to accommodate ambitions of expanding its portfolio. **Partner Re** remains very technical, requiring in-depth information, especially for gas turbines.

The drive for a low-carbon economy in Asia, and the Paris Climate Agreement to a two-degree target, has prompted several insurers to make official statements.



LATIN AMERICA

In the next two decades, Brazil forecasts its energy needs to increase by 50%. Today, 42% comes from hydro and renewables, with the expectation that this percentage will grow to 47%, reflecting the significant investments in these areas. Opportunities for solar are growing, and for wind local markets are providing reductions of 10% or more.

Since Brazil is not exposed to natural catastrophes, rate reductions range from flat to up to 10%.

As a result of the recent reduction in the interest rate from 14% to 6.45%, the market is more cautious and selective in terms of quality. However, the local market remains vibrant with **Allianz Global Corporate & Speciality (AGCS)**, **Austral**, **SCOR**, and **Terra** all competitive for power risks and deploying capacity to the region. **Starr** has been a big player in this segment. **Chubb**, **Tokio**, and **Swiss** continue being the major markets for the power and utilities industry, with occasional capacity coming from **AXA**, **Fator**, and **Starr**. **Travelers** is attempting to penetrate this market but its attempts are still very incipient.

The number of international markets underwriting power and utilities business for the Latin American (LATAM) region from Madrid continues to grow. After the sale of its subsidiaries in LATAM, **RSA** actively participates for the region's power risks from Madrid, and **Generali** is in the process of setting up Madrid as its hub for LATAM operations. Other key Madrid insurers, including **Mapfre** and **HDI**, continue to underwrite power and utilities activities.

MIDDLE EAST AND NORTH AFRICA (MENA)

The Middle East market continues to evolve and both regional and international markets continue to be

fully committed to power and utilities risks. The region remains a key area of interest for international firms looking to expand into or explore opportunities into emerging markets, especially now that sub-Saharan Africa forms part of our remit.

The first quarter of 2018 saw the arrival of another global insurer **Berkshire Hathaway**, and the opening of **Chaucer** in the Dubai International Financial Centre (DIFC); furthermore, since the start of the year both **Korean Re** and **Samsung Fire & Marine (F&M)** have been given full authority in the region. **Arma Underwriting Agency**, which started in 2017, is also writing power risks and supporting where possible, as is **Aspen Re**. Other regional players such as **Al Koot** (Qatar) and **Arig** (Bahrain) have become go-to support markets for the power and utilities regional business.

In the first quarter, there were new lead underwriter appointments at **Zurich**, **XL Catlin**, and **Oman Insurance**; plus a new head of engineering at **Allianz DIFC**. The regional markets have taken a more global view, with **Adnic** and **Oman** actively looking to become more involved outside of MENA. **AXA CS** has ceased operations since the start of the year and it was recently announced that **Qatar Re** is suspending new and renewal business for facultative lines in Dubai.

Despite significant loss activity in the region, totaling approximately USD3.5 billion, and a notably bad year for natural catastrophes in 2017, the first quarter of 2018 saw small rate reductions often coupled with improvement in terms for clean business.

The political violence and third-party liability markets continue to be extremely competitive and we are continuing to place much of this business fully in the region, often to complement already competitive property lines.

UNITED KINGDOM (UK)

Capacity in the UK market has remained largely unchanged over the past 12 months.

Following the 2017 Atlantic hurricane season, there had been some proactive reactions from **Lloyd's** and a number of UK markets seeking rate increases to stop the previous years' rate reductions. However, this generally failed to gain much traction, with domestic insurers not following this lead; as a result insurers either backed down on proposed rate increases or lost orders in favor of domestic insurers.

The appetite for coal-fired power stations has reduced considerably. A number of markets have withdrawn, or severely limited, their exposure to coal-fired power stations, with several major Continental Europe based markets imposing severe restrictions on the class. Nevertheless, there are many markets that are currently continuing in the class with no restrictions. Meanwhile, appetite for renewable power generation risks has grown with specialist teams being recruited, or existing power markets portfolios being refocused.

Aviva has maintained its penetration into the power market, having increased its capacity to USD100 million, as well as seeking licenses throughout most of the US. It is positioning itself to become a leading power market with engineering and claims expertise.

The difficult merger between **Mitsui** and **Amlin** has largely been finalized, with Matt Radbourne assuming the role of the power and utilities underwriter; he will work within the energy team headed by Keith Milbank.

Late 2017 and early 2018 saw a number of personnel changes within **Lloyd's** precipitated by the departure of Alex Priestly and Becky Stephenson from **Argenta** to start a dedicated power portfolio at **Cathedral**.

Aspen has consolidated its power portfolio, having closed its Singapore and Miami offices, with those risks being written out of London and Houston respectively.

Mapfre Global Risks has announced that it will be rebranding to Mapfre Re with effect from January 1, 2019.

Appetite for renewable power generation risks has grown with specialist teams being recruited, or existing power markets portfolios being refocused.



CASUALTY MARKETS

The general insurance marketplace experienced an active claims period in the third and fourth quarters of 2017 with hurricanes and wildfires, which pushed many insurers to post combined ratios of over 100%. On the back of a long period of competitive rates, these claims and the results posted have impacted insurers to a point where we can describe the general market place as transitional.

While these claims are predominantly property, the magnitude of these claims has impacted casualty. The casualty insurance market has been in a competitive space which has seen insurers challenged to grow and retain good business while operating in a market which offered low margins and little prospect of a rate change in their favor. The events of 2017 and the impact on insurers have seen all underwriters being tasked by their leadership and capital providers to underwrite to a profit and push for rate increases.

Along with the push for increases underwriters are also demonstrating greater underwriting discipline, more actuarial, a thirst for better, more detailed information and data. Basically, underwriters are “underwriting” the risk a lot more than previously. This manifests itself in the fact that when a negotiation previously took two visits, they are now taking three or four.

Despite all of this, the casualty marketplace is still strong and capacity remains relatively stable but we are certainly seeing some tightening. Some markets are looking at their line size and aggregation, with some “re-engineering” their portfolios. This has allowed new insurers to come onto programs or incumbents to write more. In general, if the exposures are up then underwriters are looking for a commensurate increase as a minimum. Ultimately, insurers are looking for rate across the spectrum. However, pressures are greater on low down, primary, and lead layers, but are less so on the mid to high excess. That said, insurers are keen to retain good business, so there are exceptions.

Limited premium decreases are continuing in regions and industries less affected by losses.

With regard to casualty capacity, the London and European marketplace has approximately USD1 billion of capacity available for international clients, while nearer to USD500 million available for US clients. The Bermuda marketplace has circa USD950 million in capacity as well. Obviously, the industry class, the attachment point offered, and exposure details all impact the level of capacity available.

With respect to the power and midstream energy sector, we have seen utilities and pipelines continuing to have support in the market but some insurers have exited the class due to loss activity while selective others are looking for greater involvement. However, there is a greater thirst for more information than previously requested, focusing on a comprehensive understanding of each client’s asset integrity program, and the measures that are being undertaken to manage.

Some insurers are managing their aggregate exposures for wildfire by managing the capacity available and quoting meaningful pricing increases. Other insurers are offering “take or leave it” numbers or have completely exited the space. While the over-supply of capacity has been one of the main reasons for keeping rates relatively stable, those with a wildfire exposure component will now witness a very different environment due to restricted levels of capacity with markets exiting the class or having treaty restrictions that

limit capacity. Despite this, accounts are still underwritten on their own exposures and merits, and as such are differentiated by detailed information such as vegetation management, wildfire mitigation programs, and the ability of the utility to manage their transmission and distribution network during high threat periods.

Severe weather events over the last year have brought dam exposures back to the forefront with structural integrity, overflow valves, and geographic location being key elements of underwriters’ interest.

The events of the fourth quarter in 2017 along with three consecutive years of active claims have ensured that the power and midstream energy sector remains a challenging class of business for underwriters, with insurers looking closely at rates and ensuring they are commensurate with loss records and exposure changes. As a consequence, we are seeing modest increases (low-single digit) with capacity and appetite remaining relatively stable. As previously described, the exception being wildfire exposed clients. However, further deterioration in the loss experience both generally and in the sector will see further pressure on rate and coverage.

CLAIMS

Insurers continue to pay large sums for power generation losses resulting from machinery breakdown, natural perils, and business interruption. After two comparatively quiet years of power generation claims, 2017 has provided a number of unexpected jolts. Losses from the aforementioned natural catastrophes have caused extensive damage – notably in the US and Europe – which has resulted in a significant impact to both owners and operators.

Gross losses are anticipated to be in excess of USD1 billion, which when added to an estimated USD1.5 billion gross for losses relating to turbines, generators, and transformers – the traditional source of major loss figures for power generation claims – is clearly a substantial and unwelcome impact for insurers and

clients alike. The best indication of total gross losses for power generation claims across all perils is around USD3.5 billion. An interesting development this year however, appears to be an increased number of losses where repairs have been concluded within the deductible period. The majority of payments by

insurers are allocated for property damage rather than business interruption.

Major losses have been recorded throughout the world, with incidents of particular note occurring in the US, Latin America, and the Middle East.





DOMESTIC MARKET CONDITIONS

AFRICAN MARKET CONDITIONS

Most countries in sub-Saharan Africa will have an infrastructure deficit of hundreds of billions of US dollars for years to come. The deficit also comprises the acute shortage of electrical power as many countries lack a viable transmission and distribution network, and apart from Southern African countries, also lack a national grid system.

New investment by public-private partnerships in the independent power producer (IPP) space is taking place across Africa and is the most likely means of successfully expanding electricity generation and bringing power to the population. Base load power will be dominated by thermal power (mainly coal) generation although there is new investment in gas-fired generation technologies in Nigeria and in a few East African countries. Nuclear power, due to its high cost of construction and development, is not likely to be a viable alternative to coal and gas in the foreseeable future.

Renewable energy investment is booming with solar photovoltaic (PV), concentrated solar power, and wind offering viable investment opportunities to investors. Investment in large-scale hydro power seems to be hamstrung by government intervention and cross-border agreements, as most major rivers in Africa are often also natural borders. Small hydro and “run of river” installations are popular and also viable.

The insurance markets across Africa, and particularly in South Africa, are very competitive and there is adequate capacity and appetite for construction and operational risk.

ASIAN MARKET CONDITIONS

The demand for power risks in Asia continues to grow at a frenetic pace – as emerging economies seek to meet the electrification needs of their growing populations, and more established countries replace aging carbon intensive assets. These new power demands are being met by challenges in light of global, social, and political pressures around climate change.

Many established economies are pushing renewable energy as a means to achieve a more balanced carbon footprint. Offshore wind is gaining substantial traction particularly in Taiwan, Japan, China, and Korea who all have committed developments and are seeking to adopt frameworks that will support this growing industry.

Taiwan has committed to a “nuclear-free homeland”, shutting down all of its nuclear power plants and replacing much of this with renewable energy by 2025. Its target is for renewable energy to represent 20% of its overall generation capacity, with a substantial proportion derived from offshore wind, more than 3,000MW-worth of projects slated to be developed. Japan too is focused on developing offshore wind projects, but conversely is gradually bringing back on line part of its nuclear generation fleet, albeit under new stringent safety and operating conditions.

Thailand is due to release its latest Power Development Plan in 2018, and it's likely that there will be a continued push towards renewable energy or low carbon intensive power generation.

In Vietnam, the government has introduced new incentives for renewable energy. While there

has been a significant uptick in the number of projects, there are still concerns surrounding the fundamental viability of some of these projects. Aside from renewable energy, there still remains a large pipeline of large IPP projects in various stages of development and awaiting approval.

Singapore is introducing new levels of consumer competition at a retail level, which in an already oversupplied market may impact generator earnings. They are leading the charge in Asia in terms of research into integrated renewable energy solutions, including distributed energy.

A recent change in Malaysian government has meant that a number of large proposed projects are likely to be reviewed, which may result in these being put on hold in the short term. Smaller scale projects are likely to push forward, particularly renewable energy developments.

A number of coal-fired generation projects are under development, and it's expected that these will continue, particularly in economies where substantial base-load capacity is required. The funding of these projects may shift from traditional sources, as might the insurance solutions, as more and more finance and insurance companies attempt to reduce their carbon footprint. In addition to coal and renewable energy, there is still continued development of gas-fired generation, and there are a number of gas-to-power projects in various different stages of development, including Indonesia and Bangladesh.

A number of international power insurers have recently announced changes to their approach to providing insurance for coal, and coal fired generation assets. Add to this AXA's acquisition of XL Catlin, and you have potentially less capacity available for these risks.

With Asia growing at a significant rate, and with continued investment into coal-fired generation required to meet current and future demand, owners, developers, and investors will need to continue to monitor the position of the insurance markets approach toward these investments.

Overall insurers are still actively pursuing operational power business. Insurers such as AGCS, HDI Global, Liberty International, XL Catlin, CV Star, and AXA are key markets in Asia that are actively looking to grow their portfolios. Other international insurers, such as Chubb, AIG, Zurich, Munich Re, and Swiss Re appear happy to be selective in terms of the business in which they participate, but who often will aggressively defend the business they already have. Middle Eastern insurers are also keen to gain a footprint in Asia, which has added additional competitive capacity into the mix.

For power construction, the market remains extremely competitive with no immediate signs of any change. Asian power insurers still appear to be seeking to use construction premium to offset their declining operational revenues, while there continues to be a steady pipeline of power.

For offshore wind, capacity remains limited. While some insurers write this business in Asia, including Swiss Re, AGCS, and Canopus; for the majority, these risks are referred back to Europe, where the underwriting authorities still reside.

AUSTRALIAN MARKET CONDITIONS

The Australian power and energy market in late 2017 was characterized by the concerted push of major insurers to improve the profitability of their portfolios through modest pricing increases. This followed a series of generation

losses, worsening underlying underwriting results for the year.

This trend has continued in 2018, especially in light of the earthquake that hit Papua New Guinea in February causing considerable damage to the Southern Highlands, a region containing large liquid natural gas, mining, and energy infrastructure. The heavy losses sustained in this area are estimated to be in excess of AUD1.25 billion.

Following the closure of various coal plants, buoyant wholesale energy prices and improving government policy is driving a renewables surge, with 6,553 MW of renewables generation recently completed or under construction. This is creating new "green" opportunities for local insurers willing to chase business previously directed to London, with most energy underwriters developing their renewable capability. Many projects bring new capital to market, with traditional operators restructuring portfolios through public-private partnership arrangements or mergers and acquisitions.

CANADIAN MARKET CONDITIONS

Canada's commitment to reduce greenhouse gas emissions and impose a carbon price across the country in 2018 has spurred policy initiatives at the federal and provincial levels, which have impacted the economy, industries, citizens, and the power generation mix. In Ontario, for example, coal-fired generation has been replaced with a mix of emission-free energy sources, including nuclear, hydro, and renewables. Two significant nuclear refurbishment projects are underway in the province, and plans for small modular reactors (SMRs) in remote northern communities are a part of the energy strategy.

Nationally, distributed energy resource solutions to large commercial and industrial customers are on the rise, saving them money and improving reliability and sustainability. The Canadian insurance industry is evolving and introducing new, innovative products to address these changes in the nation's power generation sector.

CONTINENTAL EUROPEAN MARKET CONDITIONS

The European power market both in their conventional and renewable spaces is characterized by its diversity. The conditions and trends are very much driven by country industry, regulatory, and market situation. The common feature is that at different speeds and with different initiative all countries are preparing for decarbonization measures being imposed by European Union regulators.

In Spain, conventional power clients have sustained accumulated rate reductions during 2017, and in 2018, premiums seem to have reached rock bottom levels. While clients with good loss history are renewing flat, markets are seeking increases for clients with poor loss history or

natural catastrophe exposures. In the renewables space, some markets are deterred by the high attrition of the aging fleet of wind farms and solar PV power stations and new markets interested in growing their portfolio in the country has ensured a dynamic marketplace. There is particular interest in recently commissioned sites still under original equipment manufacturer (OEM) warranties, as well as construction projects.

The Italian marketplace remains competitive and depending on the strategic interest of the insurer and the size of the account, reductions of 5% – 15% have been achieved for clients with a non-favorable loss history. For renewables, rates vary depending on the market. During the past 12 months, traditional markets have pursued a flattening of the premiums for non-producing losses accounts, while new market entrants who are pricing aggressively, are keeping the market competitive.

In Turkey, the market remains extremely competitive, even for clients with a loss history, with rate reductions of 5% – 15% and, exceptionally, 25% – 30% for clients with a clean loss record. These reductions are not applicable for standalone coal power plants, where sourcing competitive capacity is

challenging and rate increases of 10% – 15% are not uncommon. For risks where the local capacity can be deployed, the market remains especially competitive with significant reductions. Small renewables accounts can achieve 5% – 10% average rate reductions, while larger renewables accounts are in the range of 5% – 15%.

The marketplace for both conventional power and renewables risks in Germany is stable with moderate reductions, with 10% being achieved in extraordinary cases. Coverage restrictions are being discussed in the marketplace about the viability of LEG3 due to the past T24/25 steel weldability problems. AGCS has announced it is no longer writing coal risks. For renewables, onshore risks are more likely to receive rate reductions than offshore exposures. Appetite for renewable risks is healthy.

There are attractive loss ratios, particularly in solar PV and wind risks (despite the premium rate declines) whereas biomass, biogas, and geothermal assets have experienced considerable loss activity. The future for local market growth in renewable projects is becoming increasingly limited as more developers internationalize their investment.



Additionally, new German regulations on power purchase agreement (PPA) tenders are likely to slow down the flow of new projects in 2018.

LATIN AMERICAN MARKET CONDITIONS

2018 has had a similar start to 2017, with Latin American markets pursuing market share and pricing competitively. Property renewals involving clients in non-catastrophic areas, and with good loss records, are still showing some rate reductions. Areas of the Caribbean not affected by the 2017 Atlantic hurricane season renewed with small increases of between 5% – 10%, while areas such as Puerto Rico received double-digit increases. For the non-Caribbean territories that have other catastrophic exposures, there have been small rate increases, if any.

There is significant growth with investment by private equity firms and the acquisition of existing assets from the traditional utilities, or developing green field projects. With a hands-on approach to operation, maintenance, and most importantly risk engineering, these firms are aligning to what the reinsurance market is looking for, and markets across the region have shown a lot of appetite for these types of accounts.

Construction is also starting to gain momentum, and in the first half of 2018 several projects for new thermal, solar, and wind generation are progressing, and it is expected that this trend will continue.

Capacity covering power risks keeps growing, both in Miami and Sao Paulo. Key markets are Starr Specialty, Swiss Re, LIU, Chubb, and AGCS. These markets, together with the supporting capacity from markets like IRB, Talbot, Scor, Brit, Aspen and some newly created managing general agents,

are allowing clients to keep their insurance spending at a low level, as these markets are replacing some of the more expensive capacity coming from other hubs.

MENA MARKET CONDITIONS

The first three quarters of 2017 saw the softening trend in the insurance market continue. The Middle East insurance markets continued to fight for leadership positions with their European counterparts on various power placements and in many instances leadership positions were traded between the two geographies.

The 2017 Atlantic Hurricane season appears to have brought this trend to an end. For a brief period, during the last quarter of 2017, there were no reductions available in the market. This was in line with the sentiments seen in the international market where (re)insurers were not willing to make a call one way or the other pending crystallization of the hurricane losses.

The market continued to be directionless in the first quarter of 2018. While there was fear about reduction in capacity post HIM losses, the Middle East market has not seen any significant withdrawal of capacity. AXA CS has ceased writing any new power risks and put its existing portfolio into run-off. As previously mentioned, Qatar Re recently announced suspending new and renewal business for facultative lines in Dubai following significant losses from its US portfolio in 2017 and the political stand-off between Qatar and some of the other large Middle Eastern countries (Saudi Arabia and United Arab Emirates), meaning that Qatar Re was unable to participate in some of the large insurance programs in the Middle East.

While the Middle East market is vibrant for power risks and still

boasts of significant capacity, there may only be a few viable options for leadership positions, with AIG and Zurich leading the pack, both of whom have been unpredictable in the recent past. RSA DIFC saw upheaval with the departure of its two senior executives making it difficult for RSA DIFC to be considered a strong alternative lead market, which it has been building itself up to. Trust Re Bahrain, has been taking a cautious approach and is reluctant to put out lead terms.

NEW ZEALAND MARKET CONDITIONS

New Zealand's power generation clients will face some form of upwards pricing pressure throughout 2018. Locally there will be a two-speed insurer response to renewals. This will typically consist of the multinational insurers being able to provide stability in terms with small rating increases, and the regional domestic markets – struggling to separate this class of business from general property risks – requiring greater rate increases, dependent on geographical location.

The impact of the 2016 North Canterbury earthquakes, which caused significant damage to buildings and infrastructure assets from Kaikoura to Wellington, have mostly been felt by general property clients with no significant insured losses resulting from power clients. Although natural disaster premiums, and the adequacy of these, is a significant focus currently in New Zealand, the overall market capacity and risk appetite remains positive for clients, particularly those who exhibit a positive risk profile and a proactive approach to risk management.

UK MARKET CONDITIONS

In the UK, the Capacity Market scheme and auction was introduced in 2014 to provide security of future supply and prevent blackouts, as well as to encourage investment in new capacity. The results of February's auction guaranteed power delivery in 2021/22 cleared at a recorded low of GBP8.40 per kW, down from GBP22.50 the previous year. Total market capacity awarded was just over 50,000MW with an existing large thermal plant taking the bulk of agreements. Very little capacity was awarded to flexible new build generators, and battery-storage generators also secured less capacity than last year, reflecting their need for higher prices to make such technology viable. While the auction enables competition for the lowest prices, it has been questioned whether such low prices would support new investment in flexible technologies in the future.

National Grid is predicting that demand for electricity during summer 2018 will be less than that required in 2017, a trend since 2015. The increase in distribution-connected generation, which includes wind and solar PV, has contributed to this downward trend. Solar PV and wind generation are connected to the distribution networks and are therefore "outside"

of the system demand managed by National Grid. The increased level of renewable generation "outside" of the system makes it challenging for National Grid to balance the network. Increased supply and demand variability caused by the periods of low demand and high levels of renewable generation creates operability challenges and reflects the changing power generation landscape.

US MARKET CONDITIONS

In 2017, the US saw an increase in the installation of direct-use generation (primarily rooftop solar PV) and the retirement of older less efficient fossil generation units. Major drivers influencing these trends included legislative and regulatory incentives promoting clean energy and energy market dynamics driving stiff price competition in power markets. Looking to the future, power generation prices are expected to remain depressed due to a sustained low natural gas price and increased competition from renewable energy sources. However, for the end-user, it is anticipated that increased investment in transmission and distribution assets to improve reliability and modernize the grid will result in flat electricity prices during the near to intermediate term.

We fully expect renewable energy generation to continue to attract investment capital as new and replacement generation is added to the grid. The growth rate by generation type (wind, solar, biomass and biogas, and hydro) will vary and be influenced by legislative and regulatory actions, such as production tax credits and the recently enacted trade tariffs, as well as by advances in new technologies including energy storage.

The property insurance market for power and utility risks has remained favorable due to a surplus of capacity and the resulting price competition. The excess capacity has contributed to an extended period of softening rates with no apparent end in sight. While catastrophe losses during 2017 are reported to have been in excess of USD100 billion, there have been no significant losses impacting the power and utility sector – certainly not to the scale of insured events associated with Superstorm Sandy. Nevertheless, renewals through the fourth quarter of 2017 and first quarter of 2018 were challenging with the majority of property insurers seeking double-digit rate increases. By the end of the first quarter, many insurers moderated pricing pressure from flat to plus 5% with very few programs seeing rate decreases.



In the US casualty insurance market, renewal pricing ranged from flat to modest single-digit premium reductions throughout most of 2017. The industry mutual, however, sought rate increases with many programs ultimately renewing flat. However, by the fourth quarter, the majority of insurers began pressing for rate increases. Some insurers unable to secure renewal increases reduced their capacity. Others have remained and fortunately for insurance buyers, overall market capacity remains abundant.

During 2017, wildfire exposure and coverage continued to attract the attention of excess liability insurers. In California, industry leaders are hopeful legislative solutions will be implemented to mitigate future loss potential. Many insurers continue to demand relatively high premiums for wildfire coverage. In addition, others have reduced capacity offered, or have declined to write the exposure altogether. Additional loss activity in the electric and gas distribution segment, as well as auto liability loss activity for the entire energy segment, have also raised market concern – at least insofar as primary insurers and lower layer excess carriers are concerned. At the same time, however, market capacity remains substantial, lessening the likelihood of any adverse impact on rates.

Cyber risk and the use of unmanned aerial systems continue to draw underwriter attention. Insurers remain keen to review the extent and scope of infrastructure investments – especially with regard to pipeline integrity for gas operations, vegetation management for electric distribution, and the hardening of utility infrastructure to better withstand weather events that could otherwise lead to loss activity.

For financial and professional services lines for power and utility risks, capacity and coverage continues to increase and expand. In the area of director's & officers liability coverage, overall program premiums continue to decline with nominal premium reductions common across program towers. Primary-layer premiums underwritten by the lead US industry mutual continue to trend flat with material premium offsets realized through favorable continuity credit allocations. Fiduciary pricing has also trended flat, with single-digit reductions driven by ample market capacity enabling renewal price competition. Interest in cyber liability continues to grow with the take-up rate for new programs continuing across the industry sector. While the scope of cyber coverage continues to broaden as the understanding of potential exposures develops, renewal pricing is trending flat as underwriting models mature and activity leading to potential losses increases.



SPOTLIGHT

Renewable Energy US Insurance Market Outlook

As investments in US renewable energy power generation continue to grow, so does the interest of insurers seeking a share of this market. While overall capacity is plentiful and the market remains competitive, insurers are beginning to become more selective in deploying aggressive pricing strategies to gain market share.

Natural catastrophe losses made 2017 a challenging year for renewable energy underwriters. In addition, operational losses to wind turbine fleets entering their middle years of age (eight to 12 years) continued at higher than expected levels during 2017.

We anticipate that renewable energy insurers will seek to improve loss ratios through rate increases at renewal. However, the attraction of new capital into the renewable energy market is expected to temper, keeping most increases to single digits. Amendments to coverage and deductibles may also be seen in conjunction with rate increases on equipment types, contributing to high valued, repetitive losses.

Rate reductions will be mostly reserved for risks with quality engineering data and equipment maintenance programs, profitable loss records, and containing limited or no natural catastrophe exposure. Furthermore, quality information and updated values are still considered critical to secure the most favorable renewal outcomes.

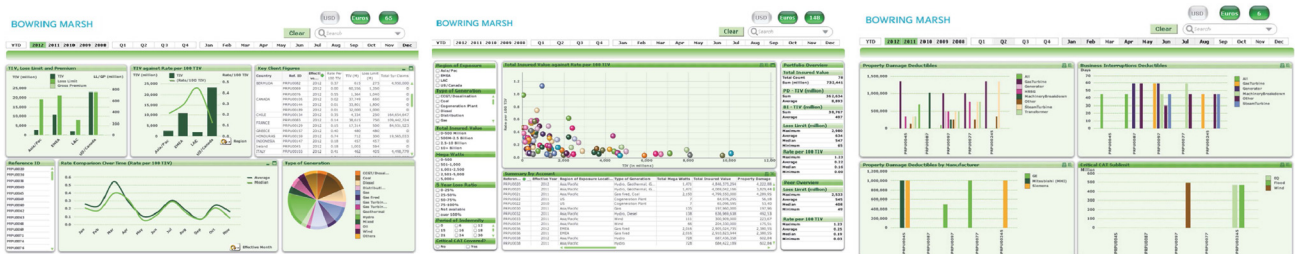
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The size and diversity of our global portfolio has enabled us to develop a market-leading Risk Analysis Modeling Platform. This helps us benchmark property damage and business interruption insurance programs.

Using data points such as critical catastrophe, deductibles, key sublimits, loss limit, loss ratio, and type of power generation, we can provide important in-depth management information on a confidential basis.

FEATURES AND BENEFITS OF THE RISK ANALYSIS MODELING PLATFORM

FEATURE	BENEFIT
Consolidated global database providing historical rates, limits, deductibles, and programs structures.	A clear visual representation of how any insurance programs compares to that of others in the same industry.
Access to terms and conditions offered by both local and international markets.	The ability to compare local programs (in the same region as the insured) to those available from international markets.
Provision of real-time average and median rate analysis for any given timeframe (i.e. comparing specified quarters and/or years).	The ability to provide quick “ball-park” estimates for either new or renewing business based on historical trends.
Quality printed output.	Aid executive decision making.
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- Our proprietary facilities.
- Our Risk Analysis Modeling Platform.
- Our results from our underwriter survey.



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