

The Renewable Energy Insurance Markets in 2023: key drivers and challenges

Introduction: a 12-month recap

In previous editions of this Review we have reported on current market dynamics and successfully predicated the overall direction of travel. In this article the aim is to capture some of the key drivers and challenges anticipated within the burgeoning Renewable Energy market, both in London and on an international level.

We have previously reported that the Renewable Energy insurance market was - and continues to be - a complex, fragmented, dynamic, evolving global market still accommodated within many different product lines, making it opaque and difficult to directly analyse. It's certainly complex, traversing the fortunes and prevailing appetites in several product lines:

- Renewable Energy Speciality markets, for project lifecycle and portfolio risks
- Power and broader Downstream markets, for operational and portfolio risks
- · Construction, Marine and Liability markets
- The Upstream market, more frequently for offshore wind and hydrogen technologies

As these markets expand to accommodate the low carbon opportunity, they have captured many new graduates who now have 2-3 years market experience; however, they only know the harder market conditions which still prevail today.

Where were we in late 2021/early 2022?

In our January 2022 Review, we reported that as the pandemic became more controlled, insurers Combined Ratios were indicating a return to more sustainable levels. The technical adjustment of 2018-2021 was producing the desired impact, and there was a clear sense that the head of steam which had driven the last three years of pricing acceleration was stating to run out.

Considerable pain had been endured by insurance buyers, and with the hardening of attitudes towards ESG and the reduction in thermal opportunities, there was unlikely to be any shortage of capacity interested in supporting clean and green technologies. With the market fuelled by a feelgood factor due to this this rapidly growing and now profitable sector, it was likely to experience a period of buoyant capacity (although still with limited technical engineering leads) which in turn would lead to signs of tentative competition beginning to show for some programmes.

It was felt that in some circumstances, the peak in rates was in sight - if buyers approached the market with their brokers in the right way, at the right time and with the right information:

 If they respected and navigated the technical disciplines which had been formed over the previous three years, it was now possible to anticipate some level of rate reduction.

- However, other buyers, that approached the technical engineering markets without a long-term relationship

 on a more limited, transient, transactional basis - may not have received the same level of consideration by the market.
- This left some unfortunate buyers with unattractive occupancies and geographies, poor loss ratios, standalone projects, or late submissions likely to receive comparatively negative, selective responses from a market enjoying the opportunity and benefits of the journey to harder trading conditions.

The marketplace realities of 2022

To a large degree, this trifurcation of the market became a reality. Attractive portfolios and projects achieved up to 20% rate discounts from the prior years, as insurers sought to continue to pivot their portfolios towards technical quality and forward opportunities, not just revenue for growth.

The more transient risks achieved a steady market response, with flat to middle single rate increases. Those clients with more challenging assets were required to demonstrate solid remediation of their accounts; the brokers worked hard to achieve high single or low double-digit rate increases. However, these buyers were likely still necessary to lose some elements of cover which had been or were considered potentially loss producing; furthermore, the underwriting community maintained tight controls on capacity, ensuring that the strong underwriting disciplines of the last few years were maintained. Underwriters remained fearful that, in the event of an obvious loss which had not been managed, there would be an investigation; with the market's technical adjustment fresh in their minds, all market decisions continued to require justification.

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In hindsight, the first half of 2022 was relatively positive for market conditions from a buyer perspective. Yes, there were the known issues with the solar industry in Texas, historical wildfires, and some OEM technology issues; furthermore, the twin shocks of the beginning of the conflict in Ukraine in February and Hurricane Ian in September sent shockwaves through the London market. However, their impact was not yet being felt, and expectations of deteriorating global economic conditions and rampant inflation were pushed forward to the next half of the year. Renewable Energy underwriters were left looking in horror at their colleagues in the Aviation market, where US\$25-30 billion of losses were estimated, and reflected (with relief) that there was a very limited exposure to their individual programmes, as a result of the late development of the renewable energy industry in this country.

Outside of sanctions on Russian-related business, the Renewable Energy market continued its positive march towards 2030. Many existing and new entrants took the opportunity to define and expand their appetite and capacity and build their teams. This had been challenging, due to the limited availability of personnel and the well-reported market resource "super cycle". The focus was on delivering on their 2023 business plans drawn up in late 2022, stretching out to projections to 2030 and beyond.

H₂ 2022

The second half of 2022 has been more challenging. As well as sanctions on Russia and global hyper-inflation, the market had to contend with Hurricane Ian ripping through Florida in late September (after an absence of Nat Cat events during much of the US windstorm season). Soon afterwards, the market drums signalled that new Nat Cat capacity constrictions would come into effect in 2023.

So in general terms, there has been a lot for the market to contend with. The Renewable Energy market has sought to stay technical, selective and stay in the black, by maintaining sustainable terms and conditions (at least for the near future) and a steady hand on the rudder to resist increasing competition for the best and most profitable programmes.



Can the Renewable Energy insurance market make money?

This is the most common question asked in the market. Prior to 2019, it would be true that a combination of abundant capacity, competitive underwriting pressures and issues with technology occupancy, design, experience and location all contributed to the market not performing at a sustainable level.

Good loss ratios recorded for 2022

However, within that general Property market, where Combined Ratios exceeded what was required to break even, there have been some insurers that have produced excellent loss ratios, including those focused on Renewable Energy. This is ultimately down to good underwriting - and perhaps a dash of luck. Baked into the challenge is that the renewable energy industry is labelled as having many attritional losses, frequently due to its rapid growth trajectory and the challenges of keeping up with the pace of new technology (aligned to the technology readiness index) and maintaining experienced partners and workforces.

As any loss adjuster involved in the industry will attest, claims have been less frequent in 2022. Some are being avoided due to more experienced personnel, and some because of the increased deductible levels that were the result of the technical adjustment in the hard market which have been maintained.

Today's challenges

The greater challenge is that when there is a loss today, the severity is amplified by the size, scale and complexity of the technology.

The associated downtime is likely to be longer, due to issues with supply chain logistics and stretched manufacturers seeking to deliver full order books for a well-predicted sector growth. As such, it is no longer an option to underwrite based on generating revenue volume to hedge sufficient funds to meet general loss

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pace of new technology.

attrition. Each risk must be considered and underwritten on its own merits, with a view that any single loss could create a severity spike in the underwriter's portfolio.

Nat Cat risks

This consideration is especially acute when considering assets which are exposed to Nat Cat risks where EMLs (Estimated Maximum Losses) have frequently been achieved, being highly impactful to the overall profitability of insurer portfolios. In the last two years there have been a raft of Texas solar projects which have ended up being total constructive losses, some even exceeding the insured programme limits. There is a deep appreciation of these factors within the market, increasing the demand for detailed, early modelling and experienced Renewable Energy underwriters seeking to maintain a strong underwriting disciplines, who are prepared to walk away when necessary.

Collectively, it's estimated that the London Renewable Energy market now writes more than US\$1 billion premium annually of core renewable energy power generation business, supported by a booming market with over 100 dedicated underwriters - even more if European insurers are included.

Positive insurer results

Despite many losses still being experienced, overall, it's believed that the market is achieving a satisfactory return, with insurers reporting Combined Ratios between 80-100%, compared to the hard market's 120%-150%. Lloyd's of London returned a Combined Ratio of 91.4% in first half of 2022, demonstrating a positive turn in the market.¹ While 2022 saw seismic political and economic events, it also marked a year in which Lloyd's Gross Written Premium (GWP) increased to £24 billion, up 17% from £20.5 billion in 2021² - the best underwriting result for the Lloyd's market since 2015. The market expects to grow; all eyes will be on whether Lloyd's syndicates manage to return an underwriting profit despite the impact of the Ukraine conflict and hurricane lan in 2022.

However, within this more positive scenario there will be winners and losers, depending on the risks written, terms, losses, and various elements of luck. Following a review of our Renewable Energy Loss Database (RELD) we see that in aggregate our programmes are net positive, returning healthy profits to participating insurers.

Winners and losers

2022's positive underwriting performance should affect Renewable Energy underwriters' competitiveness, appetite, and ability to grow in 2023. As noted, there will always be winners and losers. Munich Re has issued guidance for a EUR4 billion (US\$4.26 billion) consolidated profit in 2023 under newly adjusted

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https://www.lloyds.com/about-lloyds/media-centre/press-releases/lloyds-reports-strong-underwriting-result-in-2022-half-year-results#:~:text=Combined%20ratio%20of%2091.4%25%20(HY%202021%3A%2092.2%25),-Underlying%20combined%20ratio

² https://www.lloyds.com/about-lloyds/media-centre/press-releases/lloyds-reports-strong-underwriting-result-in-2022-half-year-results#:~:text=Combined%20ratio%20of%2091.4%25%20(HY%202021%3A%2092.2%25),-cusn Underlying%20combined%20ratio

IFRS17 reporting standards, while their P&C reinsurance Combined Ratio is expected to improve significantly to 86%. Munich Re recently confirmed that it remained on course to deliver a profit of EUR3.3 billion for 2022; those insurers making money with strong ESG protocols would appear to be the ones more ready to take advantage of a strong market opportunity³.

Attracting offshore wind capacity

In our 2022 Review we reported that the offshore wind sector was perhaps experiencing its greatest revolution in the past decade. The global oil & gas industry, being carbon intensive, has been challenged with cleaning up their act, to meet Net Zero targets by 2050. The Upstream insurance market is a massive sector; in 2022, we sense that they have finally accepted the bitter pill that their clients' business strategies were changing and life for Upstream underwriters and brokers would therefore also be changing. It was telling that last year's Energy Insurance London Conference, a well-attended market event held in Bishopsgate in October, focused heavily on sustainability together with floating offshore and renewable technologies, as the Upstream market tries to master the new language of 2022 and beyond⁴.

The insurance market transition

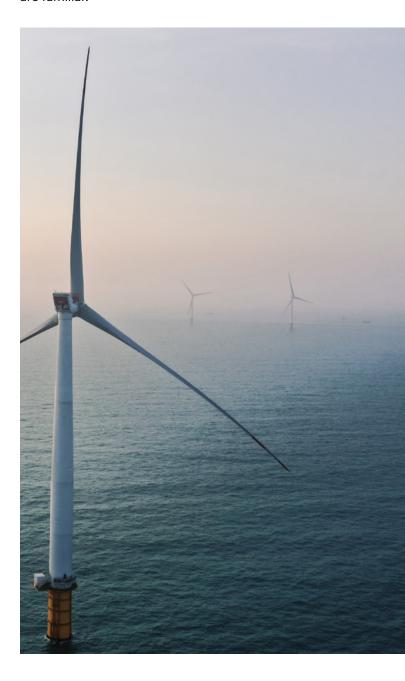
Oil and gas will certainly be with us for a while; however, it's important to manage an orderly energy transition. Difficult boardroom decisions are being made, and insurer capacity continues to be withdrawn from carbon-intensive industries. The market shockwave of 2022 was Munich Re's Syndicate 457 ceasing to write traditional Upstream oil & gas business, effective January 1 2023, citing ESG, and the Syndicate is now focusing on clean technologies⁵. However, the Upstream market is foremost a capacity market; it's now embracing the next technology or deal to continue fuelling the machine as less carbon-based and more clean electrons are injected into the energy system. The Upstream market is still finding its home, feeling a natural affinity with wet technologies in harsh offshore environments. There is certainly good alignment with the oil & gas majors, who are supporting offshore wind and hydrogen development globally.

The greatest support is likely to be from other capacity already involved with or considering entering this market sector, often with a deeper experience of this renewable technology sector, which happens to also be in Upstream insurers' offshore domain. Will these insurers just be drawing another seat to the Renewable Energy market table, or will they find a way to offer different coverages, perhaps without Design Exclusion clauses, more aligned to the traditional cover provided

to their client's carbon-intensive businesses? It remains to be seen if they will be as comfortable in higher Nat Cat-exposed locations which have traditionally not had a significant oil & gas footprint.

Following the client

The insurance market rightly has a history of following its clients. The Norwegian Protection and Indemnity Mutuals know this full well and are now frequently supporting their clients' interests as they expand into Offshore Wind in their well-understood offshore environments, while the Upstream insurers may be keen to support their transitional clients with capacity in a way in which both are familiar.



³ https://www.theinsurer.com/breaking-news/munich-re-targets-e4bn-profit-for-2023/?utm_source=listrak&utm_medium=email&utm_term=Munich+Re+targets+%e2%82%ac4bn+profit+for+2023&utm_campaign=ins-generic-news-alerts

⁴ https://energyinsurancelondon.com/2022-agenda/

⁵ https://www.theinsurer.com/news/munich-re-cites-esg-as-syndicate-exits-oil-and-gas-from-1-1/



Other offshore wind backers

The growth in the offshore wind industry will not be limited to companies in these sectors; there will also be a heavy involvement from a range of more traditional power & utility, independent power producer and private equity enterprises. These developers and asset owner/operators have a different DNA to oil & gas majors and are likely to require a different level of response from the markets. They tend to feature lower self-insured retentions, greater debt financing and risk aversity, and offer more experience and methodology in terms of moving from the power, IPP and green utility sectors.

High levels of risk and reward

The North Sea, North America and Asia promise many opportunities and will continue to attract much attention. Offshore wind technology continues to rapidly evolve; for example, the 16GW Offshore WTG recently emerging from a factory in Fujian province in November 2022, with Chinese giants China Three Gorges (CTG) and Goldwind claiming a new benchmark with China now "leading not following" in the global wind industry⁶.

CPS losses

Losses from Cable Protection Systems (CPS) also continue to be a challenge for the industry; for example, Orsted recently reduced the cost to reinstate the integrity of inter-array cables affected by cable protection issues to DKK1.3 billion (around EUR175 million) and not the DKK3 billion initially anticipated7. Insurers have general concerns about development zone aggregations (for example, Taiwan, the North American East Coast and ScotWind expect 27.6GW of development over the next decade8). The deployment of projects in Asia and North America, where projects are exposed

to typhoons/hurricanes, will continue to define price and availability of cover, which will be considered in the context of the global constriction in Nat Cat capacity. This may be more influential than technology choices, as we move forward into 2023/24.

A global exercise

Acquiring capacity for offshore wind projects continues to be a truly global exercise, particularly if the projects are exposed to Nat Cat risks; the fact that these risks command attractive premiums will help drive a healthy interest in providing capacity. A greater reliance on the purchase of capacity on an agreed value basis is expected, relative to the technically assessed Estimated Maximum Loss (EML). This is not an exact science, remaining indicative; unusual and worst-case scenarios can occur, demonstrated recently by the cargo ship Julieta when it crashed into the foundations at Vattenfall's Hollandse Kust Zuid offshore windfarm⁹.

Limited Offshore Wind leadership

While we are seeing greater interest in Offshore Wind business in the Upstream sector, particularly for energy sector-partnered clients, there remains a scarcity of large leading capacity for such projects.

We believe there are at least 20 key London/European insurers who are all increasingly active, with an interesting dynamic still to be fully realised by three or four MGAs in this space. However, there remains no outright market leader in the way that some of the Danish markets were positioned during the previous decade. We have also seen OIL rebrand as Everen to support its mutual clients, emphasising its commitment to the continuously evolving renewable energy sector¹⁰.

⁶ https://www.rechargenews.com/wind/goldwind-and-ctg-claim-worlds-largest-wind-turbine-crown-as-16mw-giant-rolls-out-in-china/2-1-1360638

⁷ https://www.offshore-energy.biz/orsted-expects-much-lower-hit-from-cable-protection-system-issues-than-anticipated/

⁸ https://www.crownestatescotland.com/news/three-shetland-scotwind-projects-announced

https://swzmaritime.nl/news/2022/02/03/julietta-d-damages-wind-turbine-foundation-master-and-chief-officer-under-suspicion/
 https://ffnews.com/newsarticle/everen-limited-formerly-oil-insurance-limited-reveals-its-brand-identity/#:~:text=August%2022%20
 2022-, Everen%20Limited%20(formerly%20Oil%20Insurance%20Limited)%20Reveals%20its%20Brand%20Identity,the%20continuously%20

Looking into 2023

Inflation

At the time of writing (in December 2022, with January 1 renewal negotiations intensifying) the impacts of a tumultuous 2022, including the Ukraine conflict and Hurricane Ian, are still being considered. What is clear is that Renewable Energy insurers needed to see their portfolios grow at least in line with inflation to achieve parity, given the prospect of inflated claims. Claims inflation is set to be a major factor influencing the profitability of the insurance industry in 2023 and beyond. And as a result, all buyers will be challenged to have appropriate reinstatement values declared for rate application by insurers.

Often there are fewer total losses in the market and more partial losses; without an inflationary increase in asset values, insurers will consider that they are not receiving a commensurate contribution to the funding pool to meet inflated partial loss settlements. As such, insurance buyers and their brokers approaching insurers with historical or level reinstatement values are likely to chastised by underwriters, who in consequence are likely to apply an enhanced rate to the static original values to compensate for the increased costs anticipated from partial losses as a result of claims inflation. This will be separate to any technical occupancy or experience market rate adjustment; on that basis, its realistic for an insurer with a US\$100 million revenue portfolio to project organic growth to perhaps US\$110 million.

Independent revaluations take time to arrange and have a cost attached to them. It's likely that the market will settle on a comfortable middle-of-the-road position, where it can be acknowledged that inflationary impacts have been addressed. This is certainly different for some technologies and occupancies where reinstatement values have been consistently falling for years, and where asset insurance premium modelling has been aligned to this accepted trajectory, making the realities of 2023 difficult to swallow.

Most property covers will support an escalation provision, providing automatic adjustment of the premium without revised declaration of values to perhaps 10% of the original declared values. We anticipate that these provisions will come under increased pressure and additional charges can expected if buyers seek to rely on them too heavily without demonstrating appropriateness of the declared values.

2023 rating increases

Nat Cat

The greatest influencing factor for 2023 for the Renewable Energy market will be the availability and pricing of Nat Cat cover. Reinsurers have been signalling throughout the second half of 2022 that there will be a constriction in capacity and a strong need for direct insurers to retain a greater degree capacity on their portfolios. The pre-January 1 treaty renewals are indicating strong double-digit increases for this market, particularly North American Nat Cat Property business, where early indications have been conservatively alarming – increases of 20-50% on this product line. This is going to be acutely felt by many projects, especially in North America and Asia, although Europe has also shown itself not to be immune to the ravages of unexpected heatwaves and flooding in 2021 and 2022.

2022 - a terrible year of Nat Cat events

The Swiss Re Institute estimated in that floods and storms in the first half of 2022 would drive global insured catastrophe losses of US\$38 billion, 22% above average of past ten years (US\$29 billion). Floods in Australia set a record for insured losses of US\$3.5 billion, the costliest natural catastrophe for the insurance industry during this period. The general outlook was already looking very bleak before the arrival of hurricane lan in September. lan was the largest single loss-causing event of 2022; the latest numbers suggest the all-in loss may breach the US\$50 billion threshold and could point to an industry loss of closer to US\$60 billion - at the top end of the estimate range¹¹.

The effect was to increase Nat Cat estimates for 2022 to US\$115 billion, coming in well above the 10-year average of US\$81 billion. However, the key focus remains on risk management for secondary perils such as Flood and Hailstorms, which caused over US\$50 billion of insured losses, yet again confirming their significant contribution to the global total. 2022 is the second consecutive year in which estimated insured losses total more than US\$100 billion, continuing the trend of a 5–7% average annual increase over the past decade. The (re)insurance industry covered roughly 45% of the economic losses this year, indicating a large protection gap across the world.¹²

[&]quot;https://www.swissre.com/press-release/Floods-and-storms-drive-global-insured-catastrophe-losses-of-USD-38-billion-in-first-half-of-2022-Swiss-Re-Institute-estimates/4d31d695-e49f-4168-85bc-2a5944313b05#:~:text=Floods%20and%20storms%20drive%20global%20insured%20catastrophe%20losses,in%20the%20first%20half%20of%202022%20More%20items

¹² https://www.swissre.com/press-release/Hurricane-Ian-drives-natural-catastrophe-year-to-date-insured-losses-to-USD-115-billion-Swiss-Re-Institute-estimates/2ab3a681-6817-4862-8411-94f4b8385cee

Design and risk?

There are many projects which have been built in locations which are not considered benign from a Nat Cat standpoint; many of these projects are completed, energised, and delivering long-term operations aligned to fixed risk financing, deductible, and cost models. A constriction in global capacity and price increase is likely to be single greatest challenge to insurance premium modelling in 2023. The January 1 treaty renewals will provide an indication of how serious this is likely to be; currently the Renewable Energy insurance market, its brokers and clients should be very concerned, although the impact will probably not be fully appreciated until the April 1 renewal season.

We do have a concern that Special Purpose Vehicle (SPV) projects with traditional debt financing structures will need to accept greater levels of self-insured retention for all aspects of Nat Cat business, and specifically Windstorm, Severe Convective Storm, and Lightning. Retaining this risk may not be commercially viable to all SPVs in the operational phase, or contractually possible to pass through to balance sheet-constrained contractors during the erection phase.

General rate increases

The psyche of the market does not move that quickly. It has made substantial gains towards creating a profitable and sustainable marketplace, but the two greatest challenges remain inflation and the availability of economically priced Nat Cat capacity. We therefore believe that the Renewable Energy market will continue its current trajectory of maintaining its technical assessment, management, and pricing of risks, assessing and responding to trifurcated client types according to their underwriting model and strategy for the year.

So far, many insurers' balance sheets have proved resilient; despite the volatile geopolitical climate, insurers are still anticipating positive underwriting conditions in 2023. As the world lurches from one geopolitical crisis to the next, the resilience of insurance balance sheets, demonstrated in some 2022 third quarter results, is testament to the major strides that the London market has made to remediate their portfolios in prior years. However, the slow-burn nature of the general market loss emanating from Ukraine is anticipated to impact the profitability of the market for years to come, with the lines of business affected handing a disproportionate loss to London insurers in general compared to other re(insurance) hubs.

However in contrast to 2022, additional consideration will be given in 2023 to the way in which insurance buyers and brokers approach inflationary factors, together with the level of exposure and/or evidenced mitigation of Nat Cat risks. Premium increases for 2023 will therefore be a result of a combination of inflationary factors, occupancy losses and technical rate adjustments and higher reinsurance spend; this is likely to result in a double digit increases in overall premium.

Conclusion: a market trifurcation

General rate increases will be tempered by an appetite for client/asset type, with a trifurcation in rate aligned to Renewable Energy insurers' strategy and appetite:

- Buyers' programmes that fall within insurers' high appetite level can anticipate low-mid single digit increases.
- Those transient clients not looking for longevity in relationships may achieve similar, with some of the new markets fighting for a share in an over-capitalised marketplace but are more likely to receive middle to high single digit rate increases with more circumspect markets.
- Those with challenging occupancies, poor claims experience and a poor strategy to approaching the market will continue to be the worst hit, with high single into double digit increases, excluding final Nat Cat considerations, which promise to be jaw-dropping.

As we move into 2023, for insurance buyers it may appear that the sun will stop shining for a while. However, those who come prepared with the biggest umbrellas at the ready will undoubtably weather the storm best.



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