LLOYD'S

Lloyd's ClimateWise Report

Annual reporting 2015-2016

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Contents

Lloyd's is the world's only specialist insurance and reinsurance market that offers a unique concentration of expertise and talent, backed by strong financial ratings and international licences. It is often the first to insure new, unusual or complex risks, providing innovative insurance solutions for local, cross border and global risks. Its strength lies in the diversity and expertise of the brokers and managing agents working at Lloyd's, supported by capital from across the world. In 2016, more than 80 syndicates are underwriting insurance and reinsurance at Lloyd's, covering all lines of business from more than 200 countries and territories worldwide. Licences in over 75 jurisdictions, supported by a network of local offices and coverholders across the world, ensure access to insurance markets large and small.[a]

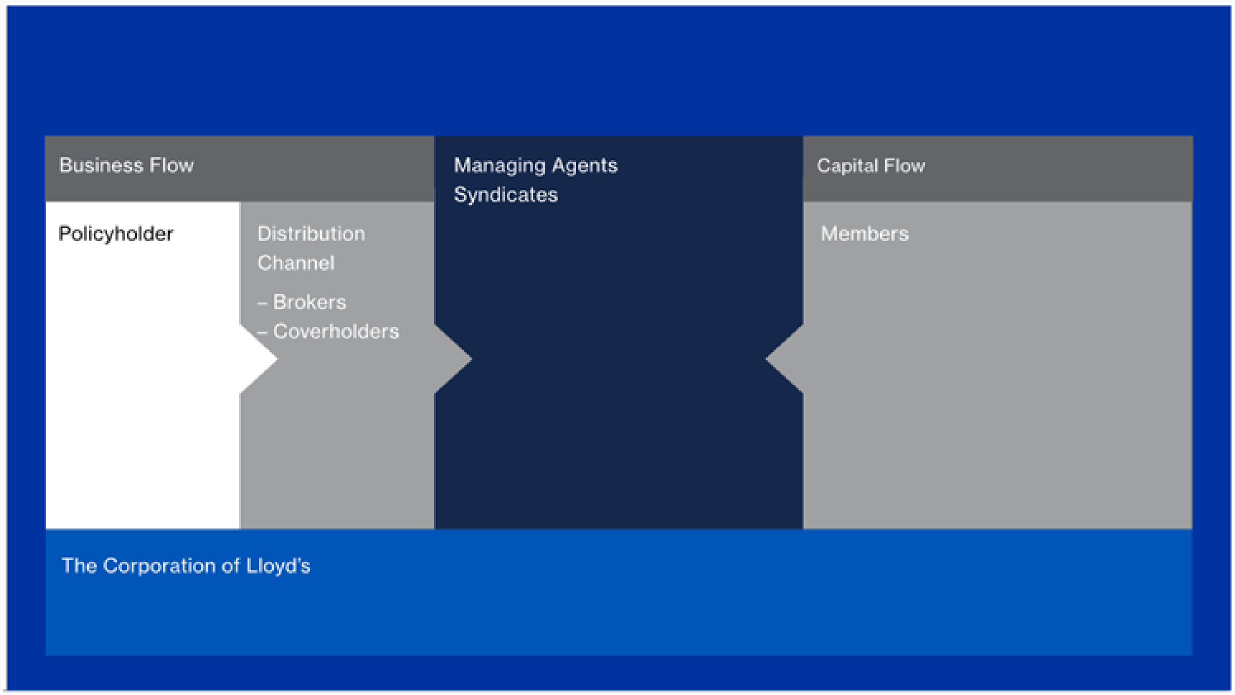
Lloyd's is part of the broader London insurance market, which employs around 48,000 people – 34,000 of them in London. It contributes some £60bn to the UK's GDP — more than a fifth of the City of London's GDP contribution. In 2015, 157 of FTSE 250 companies and 28 of the 30 listed in the Dow Jones Industrial Average were insured at Lloyd's. The Lloyd's market profit for 2015 was £2.1bn. Lloyd's capital position was further strengthened with total resources of £25.1bn and ratings were reaffirmed, at A+ with Standard & Poor's, AA– with Fitch Ratings and A with A.M. Best.

Lloyd's is regulated by the Prudential Regulatory Authority and Financial Conduct Authority.

How Lloyd's works

The Lloyd's market comprises members underwriting through syndicates supported by the Society of Lloyd's, including the Central Fund. The interests of the Lloyd's market and the Society are interlinked and therefore this report refers to both.

How the Lloyd's market works (Figure 1)



The Lloyd's Market

The structure of Lloyd's creates a market based on trusted relationships and expertise.

Market structure

Most of the business written at Lloyd's is brought by brokers to specialist underwriters who price and underwrite these risks. Policyholders across the world may access the Lloyd's market via a broker, coverholder or a service company.

[a] All figures are as at 31 December 2015.

Members – Providing the capital

The capital to underwrite policies is provided by members of Lloyd's. This capital is backed by many of the world's major insurance groups, listed companies, individuals and limited partnerships, with corporate groups providing the majority of the capital for the Lloyd's market.

Syndicates – Writing the insurance

A Lloyd's syndicate is formed by one or more members joining together to provide capital and accept insurance risks. Most syndicates write a range of classes of business but many will have areas of specific expertise. Syndicates are, technically, set up on an annual basis. In practice, they usually operate from year to year with members having the right, but not the obligation, to participate in syndicates the following year. This continuity of capital backing the syndicates means they function like permanent insurance operations. Each syndicate sets its own appetite for risk, develops a business plan, arranges its reinsurance protection and manages its exposures and claims.

At 31 December 2015 there were 97 syndicates at Lloyd's.

Managing agents – Managing the syndicates

A managing agent is a company set up to manage one or more syndicates on behalf of the members. Managing agents have responsibility for employing underwriters, overseeing their underwriting and managing the infrastructure and day-to-day operations.

At 31 December 2015 there were 59 managing agents at Lloyd's.

Distribution

Brokers

Lloyd's is a broker market in which strong relationships, backed by deep expertise, play a crucial part. Brokers facilitate the risk transfer process between policyholders and underwriters. Much of this business involves face to face negotiations between brokers and underwriters.

At 31 December 2015 there were 242 brokers at Lloyd's.

Coverholders and serivce companies – Offering local access to Lloyd's

A managing agent may also authorise third parties to accept insurance risks directly on behalf of its syndicates. These businesses, known as coverholders, form a vital distribution channel, offering a local route to Lloyd's in many territories around the world.

At 31 December 2015 there were 4,008 coverholders at Lloyd's.

A service company operates like a coverholder but is a wholly owned subsidiary of a managing agent or its group. Unlike a coverholder, a service company is able to sub-delegate underwriting authority to other coverholders.

At 31 December 2015 there were 381 service companies at Lloyd's, with the majority in the UK and the US.

Policyholders – transfering risk

Policyholders include businesses, organisations, other insurers and individuals from around the world who seek to mitigate the impact of potential risks. Policyholders may access the Lloyd's market via a broker, coverholder or service company.

Members' agents – supporting the members

Members' agents provide advice and administrative services to members, including assisting with syndicate selection.

At 31 December 2015, there were four members' agents at Lloyd's.

The Lloyd's market and ClimateWise

There are nine managing agents that operate within the Lloyd's market that have signed up to the ClimateWise principles. Case studies evidencing their compliance with the principles and actions against them are included to provide an overarching submission from Lloyd's:

Managing agents committed to the ClimateWise principles

[b]

Corporation of Lloyd's

Supporting the market

The Corporation of Lloyd's oversees the Lloyd's market. It provides the market's infrastructure, including services to support its efficient running, and protects and maintains its reputation.

The Corporation's role includes:

- Managing and protecting Lloyd's network of international licences;
- Agreeing syndicates' business plans and evaluating performance against those plans. Syndicates are required to underwrite only in accordance with their agreed business plans. If they fail to do so, Lloyd's can take a range of actions including, as a last resort, stopping a syndicate underwriting;
- Monitoring syndicates' compliance with Lloyd's minimum standards; and
- Continuing to raise standards and improve performance across two main areas:
  - Overall risk and performance management of the market; and
  - Maintaining and developing the market's attractiveness to capital providers, distributors and clients, while preserving its diversity.

The Corporation of Lloyd's Executive Team exercises the day-to-day powers and functions of the Council of Lloyd's and the Franchise Board.

[b] In May 2016 Amlin plc changed its name to MS Amlin as a consequence of the acquisition by MS&AD and the subsequent integration work of the legacy Amlin entities with UK MSI entities and MS Frontier in Bermuda.

The report therefore does not give a representation of the resultant combined business but rather what was previously known as Amlin plc. For the purpose of this document references to the company will be as Amlin throughout.

At 31 December 2015 the Corporation and its subsidiaries had 995 staff.

Lloyd's capital structure

Lloyd's capital structure, often referred to as the Chain of Security, provides excellent financial security to policyholders and capital efficiency for members. The capital structure provides the financial strength that ultimately backs all insurance policies written at Lloyd's and the common security that underpins the market's strong ratings and global licence network.

Lloyd's capital structure has three elements:

Syndicate assets – members' working capital – the first link in the Chain of Security

All premiums received by syndicates are held in trust by the managing agents as the first resource for paying policyholders' claims and to fund regulatory deposits. Until all liabilities have been provided for, no profits can be released. Every year, each syndicate's reserves for future liabilities are independently audited and receive an actuarial review.

Funds at Lloyd's – members' capital deposited at Lloyd's – the second link in the Chain of Security

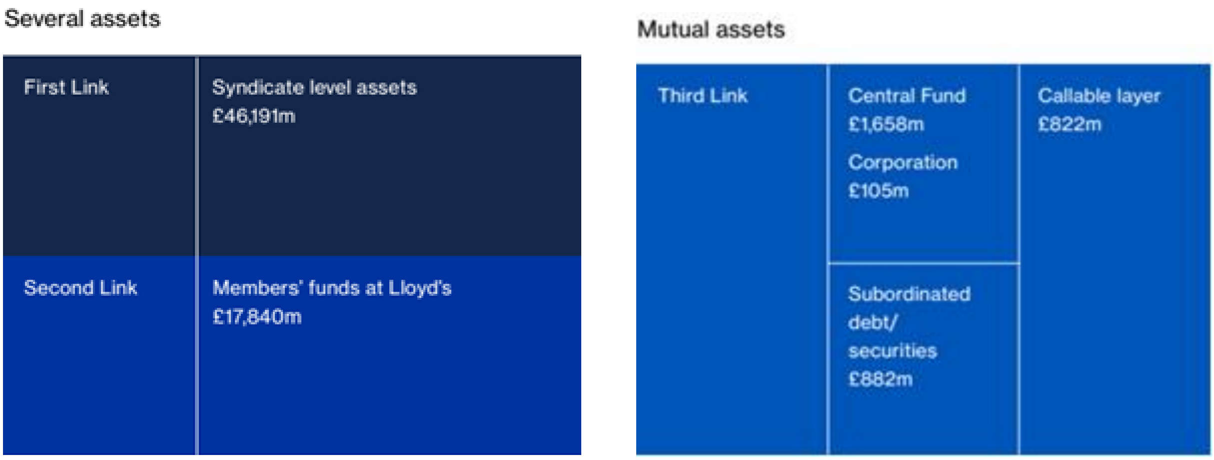
Each member, whether corporate or individual, must provide sufficient capital to support their underwriting at Lloyd's. Managing agents are required to assess the Solvency Capital Requirement (SCR) for each syndicate that they manage. This sets out how much capital the syndicate requires to cover its underlying business risks at a 99.5% confidence level. In light of Lloyd's mix of business, it is important that this assessment goes beyond the 12 month horizon required by Solvency II and must cover the risk of such extreme losses until all liabilities are paid and extend to an ultimate basis.

The Corporation of Lloyd's reviews each syndicate's SCR to assess the adequacy of the proposed capital level. When agreed, each SCR is then 'uplifted' to ensure there is sufficient capital to support Lloyd's ratings and financial strength. The uplift applied for 2016 is 35%. This uplifted SCR is known as the syndicate's Economic Capital Assessment and drives members' capital levels across all of the syndicates in which they participate in proportion to their share of those syndicates. Each member's capital is held in trust by the Corporation of Lloyd's for the benefit of policyholders but is not available for the liabilities of other members.

Lloyd's central capital – the third link in the Chain of Security

Lloyd's central assets, which include the Central Fund, are available, at the discretion of the Council of Lloyd's, to meet any valid claim that cannot be met from the resources of any member. Should syndicates need additional assets to meet their liabilities, the funds at Lloyd's ensure that members have additional resources available. In the rare event that a member's capital is insufficient and that member is not able to provide further assets to the relevant syndicates, Lloyd's central capital provides further financial support to ensure valid claims are paid. The Corporation of Lloyd's calculates the central Solvency Capital Requirement, which is independently validated and overseen by the PRA. The Franchise Board sets the level of economic capital needed above the regulatory minimum to meet its risk appetite and support the market's ratings and global licence network.

Lloyd's Chain of Security (Figure 2)



Lloyd's ratings

All Lloyd's syndicates benefit from Lloyd's central resources, including the Lloyd's brand, its global licences and the Central Fund. As all Lloyd's policies are backed by this common security, a single market rating can be applied. Lloyd's financial strength ratings apply to all policies issued by Lloyd's syndicates since 1993.

Three of the world's leading insurance rating agencies – Standard & Poor's, Fitch Ratings and A.M. Best – assess Lloyd's capitalisation and financial strength. Additional information on the security underlying policies at Lloyd's can be found on the Lloyd's website.

Corporation of Lloyd's and ClimateWise

As a founder member of ClimateWise, the directives of the principles have been integrated into a range of Corporation and market activities. Case studies of the Corporation of Lloyd's compliance with the ClimateWise principles and actions against them are included along with those of the Lloyd's managing agents identified above to provide an overarching submission from Lloyd's.

Climate change is an area where insurance can demonstrate its role as a public good. Lloyd's recognises the potential effects of climate change and the direct impact on the business community. Lloyd's also has a part to play globally in supporting the communities in which it operates and in taking a lead on wider social and environmental issues[1].

The Corporation of Lloyd's commitment to areas described by the ClimateWise principles is supported by Vision 2025, the aim of which is to make Lloyd's the global centre for specialist insurance.

Vision 2025 - To be the global centre for specialist insurance[2].

Vision 2025 was launched in May 2012. It sets out a strategy designed to enable Lloyd's to face future challenges head on while grasping the opportunities of a fast-changing world.

The stated aim of Vision 2025 is for Lloyd's to be the global centre for specialist insurance and reinsurance. The plan for the delivery of this aim naturally shifts with changing market and business circumstances and its successful delivery requires a partnership between the Corporation of Lloyd's, and managing agents and brokers.

Vision 2025 is divided into eight strategic priorities. Each priority has a delivery plan comprising milestones and annual key performance indicators (KPIs) and activities. These form a hierarchy of metrics ranging from the vision to annual KPIs for each strategic priority.

Lloyd's strategy and the associated performance metrics framework are reviewed annually to ensure they remain appropriate. The remuneration of Corporation Directors is influenced by progress against these milestones and performance indicators. Corporation employees are assessed against personal objectives designed to meet the performance indicators relevant to their role.

The most material milestones and annual KPIs are listed for each strategic priority in the 2015 Annual report.

What will Lloyd's be?

- Lloyd's will be an international, London-based market, built on trusted relationships and focused on specialist property and casualty business requiring bespoke underwriting and broking.
- Lloyd's will be a mutual supported by a Central Fund, so it will always be more capital efficient to trade inside Lloyd's than outside.
- Lloyd's will be able to access all major international insurance markets, including emerging markets, through its global licence network.
- Lloyd's will offer access to underwriting expertise and capacity in the most efficient way to meet brokers' and clients' needs, including through a face-to-face subscription market.
- Lloyd's world class underwriting and claims management will be supported by an industry-leading infrastructure and service proposition with efficient central services and seamless processing.
- Lloyd's will be a risk selector and a market where entrepreneurialism and innovation will thrive, underpinned by robust risk and performance management.
- Lloyd's ratings will be at a level capable of attracting the specialist business it will write.
- Lloyd's will be larger than today, predicated on sustainable, profitable growth after allowing for movements in the underwriting cycle. Its performance will outstrip that of its competitor group. The increase in premium income in the largest 10 developed economies will track or slightly exceed increases in non-life premium. In the largest 10

developing economies, at times we would expect growth to exceed non-life premium as the specialist risk sector develops and insurance penetration increases.
- Lloyd's will be known around the world for its integrity. The Lloyd's brand will be globally admired and recognised. Lloyd's will be respected for its reputation as the world's specialist centre for (re)insurance.

1 Lead in risk analysis

Risk is our business. Lloyd's has published numerous reports on climate change topics ranging from tipping points and the cost of adaptation to political and security impacts.

Leading in risk

Lloyd's continues to work towards improving the analysis of risk. The Emerging Risks and Research team worked with experts in food security and sustainable development economics to produce a report entitled Food System Shock. The Emerging Risks and Research team has produced a number of reports on this issue, which can be found in the Emerging Risks reports library.

Sponsored debates

The Corporation of Lloyd's is proud of our relationships with universities and research organisations. Detailed understanding of risk is essential to everything the Corporation of Lloyd's does, and the Science of Risk prize is designed to challenge researchers and Lloyd's insurers to stretch their thinking. For researchers, the prize offers an opportunity to translate original work for a business audience. For insurers, the prize generates insights in to some of the most challenging risk management problems they encounter.

The 2014 competition focused on two broad categories: climate change and natural hazards. The winning climate change submission provided a valuable contribution on a topic of great significance for insurers. Dr Erwann Michel-Kerjan's entry 'Evaluating Flood Resilience Strategies for Coastal Megacities' described novel approaches that may help to shape public policy and improve the affordability of flood insurance.

Sharing our research

The Corporation of Lloyd's firmly believe that sharing the research we generate strengthens the industry. The Corporation of Lloyd's continues to work towards improving the analysis and quantification of less or non-modelled regions and risks, including climate and environmental issues. As the climate changes, catastrophe models will have an increasingly important role to play - the ability to tap into multiple sources of expertise will be invaluable. In 2014 Lloyd's released a report on Catastrophe Modelling and Climate Change. Lloyd's continues to promote it and to generate interest in the findings.

Lloyd's / The Market / CHUBB / Chubb Risk Management Process

CHUBB is the world's largest publicly traded property and casualty insurance company, CHUBB has a responsibility not only to provide solutions that help clients manage environmental and climate change risks, but also to control our own ecological impact and contribute to environmental causes. We also believe that the well-being of the society depends on a healthy environment and that a proper ethic strives for a sustainable balance between development and preservation.

Our approach to risk management is to identify all known and emerging risks that could have a significant impact on overall capital levels and financial results. Regarding the potential effects of catastrophe losses, we closely monitor our catastrophe risk accumulations around the world.

Because the potential physical effects of climate change present a significant risk to the company, they have been integrated into CHUBB's overall risk management process.

CHUBB invests to continually upgrade and refine its risk management tools for catastrophes such as floods and hurricanes.

Risk Management Process:

As a global insurance company, assessing risk is a core competency for CHUBB. With operations in 54 countries, CHUBB's business and operating models are exposed to the full impact of global climate change. The potential physical effects of climate change present a significant risk to the company, and therefore, have been integrated into CHUBB's overall risk management process.

Catastrophe Modelling

CHUBB is a leading proponent and user of catastrophe models to quantify natural catastrophe risk for product pricing, risk management, capital allocation and to simulate and estimate hurricane losses. CHUBB uses models to aggregate and closely monitor natural catastrophe exposures across its global portfolio and to ensure that its capital base is sufficiently strong to meet the expectations of regulators, rating agencies and policyholders and to provide shareholders with an appropriate risk-adjusted return.

CHUBB's, risk management modelling and underwriting practices have been adapted to the developing risk exposures attributed to climate change. For example, due to the fact that earth's climate appears to be changing in ways inconsistent with the historical record upon which catastrophe models draw data, CHUBB has adopted a more short-term view of event frequency. Our underwriters use state-of-the-art, proprietary catastrophe modelling tools as part of their underwriting process, and we strictly regulate the concentration of those risks we are willing to underwrite. Since the earth's climate appears to be changing in ways inconsistent with the historical record upon which catastrophe models draw data, CHUBB has adopted a shorter-term view of event frequency that is higher than the long-term historical frequency.

CHUBB invests continually to upgrade and refine its risk management tools for catastrophes such as floods and hurricanes. A priority initiative in 2015, for example, involves developing an enhanced flood risk management tool to give underwriters and risk managers improved modelling, underwriting and portfolio management capabilities.

Several major natural catastrophes in recent years, such as the tsunami following the Japanese earthquake and the floods in Australia and Thailand, were non-modelled events or involved difficult-to-model coverage (e.g., business interruption). These types of losses had not typically been considered in the risk and pricing model framework used by the insurance industry to project natural catastrophe losses and this has led to an overall rise in the industry's perception of risk.

With lessons learned from recent events – new assessments of building performance and improved understanding of how a convergence of conditions can increase losses in a severe catastrophe – we incorporate this latest knowledge in our modelled loss estimates.

Pricing

Chubb also incorporates risk mitigation services through its risk management and site surveys, specification of terms and conditions in policies and development of sound underwriting guidelines into the underwriting of catastrophe-exposed products (e.g., property, energy, marine or crop coverage). CHUBB's modelling and underwriting approach allows for risk = and hence price – differentiation across our client base.

Clients that mitigate risk – through retrofitting buildings to comply with updated building codes, installation of hurricane shutters and relocating exposures away from coastlines and flood plains – will have lower insurance costs than those that do not. CHUBB also makes use of terms and conditions such as sub-limits, coverage restrictions and deductibles to ensure appropriate risk selection and potentially reward certain policyholder behaviour.

The company is also actively engaged with regulators to ensure that pricing is actuarially sound and can be adapted to meet new emerging climate change risks and the capital implications of these risks. For CHUBB to continue to offer coverage under climate change conditions, pricing must always be set at sound actuarial rates that cover loss costs, expenses and risk margins on exposed capital. Thus, pricing must be flexible over time and by geography.

Unfortunately, many regulatory regimes impose the functional equivalent of price controls, which are not built to respond to developments in risk assessment and signal the wrong incentives to consumers who are encouraged to increase exposures.

Reinsurance

We mitigate our exposure to climate change risk by actively hedging catastrophe risk in both the reinsurance and capital markets. In addition, our investment portfolio, which backs the loss reserves and claims-paying ability of our insurance businesses, is highly diversified by risk, industry, location and type and duration of security.

Successful risk transfer from policyholders to insurance and capital markets also requires industry standards around exposure data. We are committed to helping the industry improve standards that will ultimately help increase risk transfer capacity and provide additional incentive for risk mitigation behaviour by policyholders.

Supporting Solutions

CHUBB has participated in and supported scientific-based research to enhance the loss modelling response to climate change and is participating in leading environmental information forums.

Specific activities include:

- In June 2015, CHUBB joined the United Nations Global Compact, the largest corporate sustainability project in the world. CHUBB joins thousands of other leading companies in a public commitment to human rights, corruption-free governance, fair labour standards and environmental sustainability.
- Membership in the Geneva Association, an international insurance think tank representing 90 global insurance organisations, whose Climate Risk and Insurance project has been outspoken on climate change issues. CHUBB was part of a working group that produced a report on ocean warming and the implications for the insurance industry. In November 2015, CHUBB's Chairman and CEO was among 68 chief executives of major international insurers who publicly confirmed their commitment to the Geneva Association's Climate Risk Statement — a set of guiding principles on the substantial role insurance can play in global efforts to tackle climate-related risks.
- Completion of CDP's annual survey to further support our commitment to reducing our carbon emissions. In 2015, CHUBB was again named to CDP's S&P 500 Climate Disclosure Leadership Index (CDLI).
- Membership in the Business Roundtable (BRT), which supports climate-related initiatives, including Climate Resolve, which seeks to have companies in every sector of the U.S. economy take voluntary actions to control GHG emissions. Each year, Chubb Chairman and CEO Evan Greenberg outlines the company's environmental commitment and achievements in the BRT's Sustainability Report.
- Membership on the Reinsurance Association of America's (RAA) Extreme Events Committee, which focuses on catastrophe modelling improvements to reflect climate change. Chubb supported the RAA's call for reform of the National Flood Insurance Programme (NFIP) in the U.S. Congress. The RAA pushed to strengthen the provisions of the legislation to ensure that the NFIP's rates were actuarially sound and encouraged risk mitigation.
- Membership in the Insurance Institute for Business and Home Safety, a U.S. based non-profit scientific and educational organisation sponsored by the property insurance industry that supports the sharing of expertise loss mitigation-related public policy areas including wind related loss events.
- Membership in the Insurance Information Institute (I.I.I), an association that improves public understanding of insurance. The organisation, supported by industry members, is a primary source of information, analysis and referral concerning insurance. In September 2014, the I.I.I. published a white paper entitled "Climate Change: Insurance Issues." The paper acknowledges that "the climate is changing, with potential risk to the global economy, ecology, and human health and well-being," and reviews what insurance companies are doing to lessen the impact of global warming.
- CHUBB's Chief Risk Officer, Sean Ringsted, was a member of the Expert Review Panel for the "American Climate Prospectus: Economic Risks in the United States" report. The panel was brought together by the Risky Business Project, a group co-chaired by prominent leaders from the public and private sectors that focuses on quantifying and publicising the economic risks from the impacts of a changing climate. Risky Business tasked the Rhodium Group, an economic research firm that specialises in analysing disruptive global trends, with an independent assessment of economic risks posed by a changing climate in the U.S. Rhodium also partnered with Risk Management Solutions (RMS), the world's largest catastrophe-modelling company for insurance, reinsurance, and investment-management companies around the world.

Evidence also applies to principle(s): 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 5.1, 5.2, 5.3, 6.1

Source(s): CHUBB[3].

1.1 Support and undertake research on climate change to inform our business strategies and help to protect our customers' and other stakeholders' interests. Where appropriate share this research with scientists, society, business, governments and NGOs in order to advance a common interest.

1.1.1 Lloyd's / The Corporation of Lloyd's / Food security

Following on from the Corporation of Lloyd's' work on the issue of global food security (Feast or Famine[4]) and the Chief Risk Officers Forum report (Food and its impact on the risk landscape[5]), the Coporation of Lloyd's commissioned the development of a scenario of an extreme shock to global food production in order to explore the implications for insurance and risk.

Based on analysis from the previous reports, there was a need to reduce the uncertainty surrounding the impacts of an extreme shock to food supply to the Insurance industry. Sudden disruptions to the supply chain could reduce global food supply and trigger a spike in food prices, leading to substantial knock-on effects for businesses and societies. The food system's existing vulnerability to systemic shocks is also being exacerbated by factors such as climate change, water stress, on-going globalisation, and heightening political instability. This was identified as an area for future work, and was added to the next project cycle.

The Corporation of Lloyd's commissioned experts[c] in the field of food security and the economics of sustainable development were asked to develop a scenario describing a plausible, relatively severe production shock affecting multiple agricultural commodities and regions, and describe the cascade of events this could cause. The scenario was developed in conjunction with members of the UK/US Task Force on Resilience of the Global Food Supply Chain to Extreme Events supported by the UK Foreign and Commonwealth Office, which members of Corporation of Lloyd's participated in:

- Trevor Maynard, Head of Exposure Management and Reinsurance.
- Lucy Stanbrough, Executive, Emerging Risks and Research.

The scenario was peer-reviewed by a diverse group of leading academics[a], before being presented to insurance industry practitioners for assessment at two workshops. The final report presents one plausible scenario and the initial findings of the workshops. It aimed to reveal some of the complex risk factors that exist in the modern food system, and to present initial findings on the role that insurance could play in managing them.

The systemic production shock to the world's staple food crops described in the scenario generates widespread economic, political and social impacts. There are uncertainties in the scenario, arising from the difficulty of obtaining key data, the applicability of historical data to modern food trade networks, and the uncertainty surrounding future impacts of climate change. However, the scenario provides a tool to allow these uncertainties to be explored, and to begin to think about the potential implications of a global food shock for the insurance industry.

During the last reporting year, the research from the UK-US Taskforce on Extreme Weather and Global Food System Resilience was completed a launched. Recommendations include; creating international contingency plans, developing better modelling methods to accurately predict the effects of production shocks, and identifying international trading 'pinch points' in order to minimise them. The report – which is split in to four sections – identifies a need for agriculture to adapt to a changing climate and become more resilient in the face of extreme weather, while at the same time increasing productivity to meet an increasing global demand for food:

- Synthesis.
- Climate.
- Responses.
- Impacts.

Impact

The report was launched on 16 June 2015 at the Expo Milan by Tom Bolt, Director of Performance Management, and

[c] Page 9, Emerging Risk Report 2015 – Food system shock.

Trevor Maynard, Head of Exposure Management and Reinsurance, at a joint session hosted by Lloyd's and Aon Italy titled '*The Insurance Implications of Food Safety and Security*'.

Expo is a non-commercial universal exhibition that Milan will host from 1 May to 31 October 2015. 140 participating countries will contribute to the Expo theme '*Feeding the Planet, Energy for Life*' and over 20 million people are expected to visit its 1.1 million square meters of exhibition area.

The report was been distributed to over 5,000 subscribers to the Emerging Risks mailing list, ~1,000 people via the Center for Integrated Modeling of Sustainable Agriculture and Nutrition Security mailing list. It was also mentioned throughout Lloyd's social networks[d]:

- Facebook: 6,000 followers.[6]
- LinkedIn: 25,624 followers.[7]
- Twitter: 26,578 followers.[8]

These social network accounts have grown over the last reporting year to:[e]

- Facebook: 7,530 likes (25% increase).
- LinkedIn: 37,261 followers (45% increase).
- Twitter: 33,641 followers (30% increase).

The report continues to produce news stories as part of the Corporation of Lloyd's communications plan, which was developed in collaboration with the Corporation of Lloyd's Italy office.

- Recommendations of the report were further promoted by the UK Government Chief Scientific Adviser at the Milan EXPO, at COP21 in Paris and with stakeholders in policy and industry, including discussion with officials in US, Canadian and European governments and presented to the US Congress at the beginning of 2016.
- The work was also presented by Maynard at the Bank of England, Centre for Central Banking Studies, Workshop for Heads of Insurance Supervision meeting, on 7 July 2015. The presentation focused on emerging insurance risks including space, weather, food system shocks, and autonomous vehicles, and was identified as a highlight of the meeting in the CCBS annual report. Maynard received the invitation to present in recognition of his industry expertise.
- Maynard was also invited to attend a session of the All-Party Parliamentary Climate Change Group (APPCCG) on 'The Insurance Sector and Climate Change', on the 25 April 2016, to speak about the work as an example of the Corporation's work.
- The Food System Shock report was also submitted to the United Nations Environment Programme in response to a call for information. In January 2016, the report, entitled 'The UK: global hub, local dynamics - mapping the transition to a sustainable financial system' profiled the actions that have been taken by UK financial service organisations over the past 15 years to make environmental and social factors a core part of banking, capital markets, investment and insurance. The Food System Shock report was listed within the body of evidence detailing case study examples of best practice in the final report. The report shows that the UK has evolved a distinctive model of innovation in sustainable finance, based on a close interaction between social entrepreneurs, mainstream financial institutions and, increasingly, financial policy and regulation.

The report methodology and findings have also been written up as an academic paper by the research partners from the Corporation of Lloyd's study, and wider UK/US Taskforce team, to illustrate a need for the scientific community to partner across sectors and industries towards better-integrated global data sets, modelling and analytical capacities, so that stakeholders are better able to respond to and prepare for concurrent agricultural failure. The paper was made available online on 24 May 2016 in Climate Risk Management, an open access journal from Elsevier Press, to make the research methodology is freely available.

Over the last reporting year the Corporation of Lloyd's has been requested to talk about the project and findings at a number of events, of which included the following areas described below.

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d Figures correct at time of submission.

e Figures correct at time of submission, and in comparison to figures published in the 2014-2015 ClimateWise reporting.

19 October 2015, Resilient Supply Chains: Farmers & Food Industry Tackle the Shared Challenge of Climate Change

Taking place on 19 October 2015, the event highlighted concrete examples of how farmers and food companies can work together to build more resilient supply chains. Companies shared their experiences with deepening supply chain engagement. Farmers described the impacts climate changes have on their production and what is needed for them to continue to meet demand.

The event pulled together 200 leaders from the food industry from across supply chain management, procurement, sustainability and strategy units of food retailers, processors, traders and other agri-businesses, as well as representatives of farmer groups from developed and developing countries; and other stakeholders including development partners, civil society and academia.

The World Bank, the International Finance Corporation (IFC), the UK Department of International Development (DFID), the World Business Council for Sustainable Development (WBCSD), the Swiss State Secretariat for Economic Affairs (SECO), and the Ministry of Foreign Affairs of the Netherlands co-hosted the event, and Trevor Maynard was asked to speak on a panel session on the topic of ‘Production losses and supply chain disruptions driven by climate change induced volatility’.

Evidence also applies to principle(s): 1.1, 1.2, 1.3, 1.4, 2.1, 2.2

Source(s): Food System Shock report[9], UK Science and Innovation Network Impact Story[10], Global Food Security programme[11], The Insurance Sector and Climate Change[12], Centre for Central Banking Studies[13], UNEP report[1415], Vulnerabilities to agricultural production shocks journal paper[16], Resilient Supply Chains[17]

1.1.2 Lloyd’s / The Corporation of Lloyd’s / Liability

Liability exposure management has historically been a challenge for insurers. While earthquakes and storms can be understood as manifestations of physical laws of the earth or its atmosphere, liability scenarios can arise from complex interactions among the socio-economic, environmental, health and legal environments. These can be harder to capture in terms of mathematical equations.

Over the last two years, the Corporation of Lloyd’s has been investigating different methods that aim to reduce uncertainty in this area:

Arium

Developed in partnership with Arium, an independent company specialising in risk modelling and decision support, the report scrutinises the power of supply chain management to understand and quantify liability events. Liabilities often stem from a complex interaction of legal and socio-economic factors which can make this kind of problem hard to represent and the exposures hard to capture in a form that lends itself to systematic study.

The report sets out a conceptual framework to assess exposure to liability catastrophes across many lines of business. The report suggests a possible approach to defining the spread of potential liability for a harmful product or service through industries with potential exposure, resulting in a map of the event footprint. Information about the harm caused is combined with policy information to filter and refine this map, which is then used to calculate an aggregate loss for the scenario. To calculate insured losses, the scenario may be split into sub-scenarios, and parameterised to calculate a per policy loss.

Speaking about the new report, Trevor Maynard, Head of Exposure Management and Reinsurance at Lloyd’s, said:

“Insurers have historically faced a variety of challenges when attempting to manage liability exposures – including the difficult task of identifying where exposures are likely to accumulate. The scenarios explored in this report, which have been developed by Lloyd’s and Arium, centre on the mapping of liability against trading relationships while considering the legal system within which the economy functions, and is one example of how this issue can be overcome. As such, this approach is a promising step towards improving insurers’ understanding of emerging liability risks.”

Key facts:

- Mapping supply and distribution chains illustrates the fact that liability can arise or end up in industries beyond that from which a potentially harmful product or service originates.
- Scenarios can be developed using data from a diverse range of sources both within and outside an organisation. While this collaborative approach is resource-intensive, it can enable more thorough design and stress testing of scenarios.
- For liability scenarios and the resulting loss estimates to provide meaningful insights for insurance practitioners, portfolio data should be captured in a format that is optimised for analysis. Appending basic corporate information to policy data is necessary to run scenarios and accumulations, and is likely to result in a more consistent and comprehensive dataset than most insurers currently possess.
- Despite continuous progress in modelling capabilities for property exposure to natural catastrophes, modelling for liability has remained a challenge for insurers. Advances in the quantification of liability scenarios are a promising step towards improving insurers' understanding of emerging liability risks.

Praedicat Inc.

Accumulations of liability risk have the potential to send shockwaves through the insurance industry, and are one of the most complex exposure management challenges faced by insurers. A new report, commissioned by the Corporation of Lloyd's, presents an innovative approach to managing this type of risk, and uses big data analytics to improve understanding and reduce the potential for unexpected market shocks.

The report helps insurers tackle the four key challenges associated with understanding emerging liability risks:

- Identification: recognising an emerging risk before it manifests as a loss or claim.
- Contextualisation: comparing the size of risks, both relative to other emerging risks and to previous risks.
- Projection: converting an emerging risk from the context in which it is identified, such as scientific literature, into an exposure-relevant context, such as companies and portfolios.
- Quantification: estimating the expected loss from an emerging risk.
- The report is part of Lloyd's on-going research into different ways of reducing uncertainty in this area.

Developed by liability catastrophe modelling company Praedicat Inc. in collaboration with the Corporation of Lloyd's, this report sets out a new methodology, which uses big data to improve insurers' understanding of liability risk. Using new technology to search and mine data from scientific research associated with potential liability risks, this approach estimates the probability of a general consensus being reached that exposure to a substance or product causes a particular form of injury.

This report also shows that big data innovations have the potential to create more robust liability risk management for insurers. Further developments in liability catastrophe modelling using big data could offer insurers a means of managing liability accumulations while also identifying opportunities to increase exposure to certain risks where the accumulation is consistent with their risk appetite

Speaking about the report, Trevor Maynard, Head of Exposure Management at Lloyd's, said:

"Rapid advancements in big data have opened up a wealth of new opportunities in the understanding of emerging risks. One area in particular in which this is creating new possibilities is around the management of liability risk. The approach explored in this report, developed by Praedicat, Inc., is one example of how new technologies are being used to enhance the Corporation of Lloyd's understanding in this area. While the most effective risk transfer is expected to continue to rely on a combination of underwriting expertise and detailed analysis, emerging technologies are offering new insights that we hope will drive further innovation in the insurance industry."

Evidence also applies to principle(s): 1.1, 1.3

Source(s): Designing liability scenarios[18], Emerging Liability Risks: Harnessing big data analytics[19]

1.1.3 Lloyd’s / The Corporation of Lloyd’s / Cambridge Centre for Risk Studies

On 13 January 2016, the Cambridge Centre for Risk Studies (CRS) held the 2016 meeting of its Advisory Board, with attendees representing the supporting organisations of the Centre, academic advisors, and invited guests. The Advisory Board provides guidance and inputs into the planning of the future research agenda of the Centre for Risk Studies.

Nick Beecroft, Manager, Emerging Risks and Research, represented the Corporation of Lloyd’s as an invited member of the Advisory Board, based on recognition of Corporation as experts in the field of risk, and continuing the Corporation of Lloyd’s commitment to support and undertake research in the field. The Corporation of Lloyd’s connects the Market to relevant research to further their understanding of a wide range of risks and part of a wider programme that includes initiaves like the Special Interests Group, mentioned in case study 1.1.4.

At this years meeting, the Centre for Risk Studies research team gave a series of presentations in a morning session to provide the Advisory Board Meeting attendees with an update on recent research activities and current thinking around next stage research objectives. Groups and presentations like these feed in to the Emerging Risks and Research team horizon scanning process, which in turn flags areas for the Corporation of Lloyd’s research strategy.

Evidence also applies to principle(s): 1.1, 3.1

Source(s): CSR Advisory Board[20]

1.1.4 Lloyd’s / The Corporation of Lloyd’s / Special Interests Group

The special interests group brings together Lloyd's market representatives to discuss and feedback on emerging risks that could affect Lloyd's on a range of different timescales. The group is available to Lloyd's Market Managing Agents only.

The group as a whole will aim to highlight any areas of emerging risks they want to research and also discuss output from the Lloyd's Emerging Risks team. Any areas of specific or focused interest may produce sub-committees to ensure discussions are relevant to those who are interested. The special interests group meetings will be held quarterly, though additional meetings on specific topics will be held as and when they are required.

The special interests group was formed in May 2007 to act as a bridge between the Lloyd's Market and Lloyd's Emerging Risks team to identify key emerging risks that are of current and potentially future interest to the market. Meetings usually consist of an update on emerging risk topics from the Emerging Risks team, alongside a presentation from an expert external speaker on topics relevant to the group.

Members of the special interests group consist of a mixture of underwriters, analysts and modellers from the Lloyd's Market covering many classes of business including, marine, livestock, property and energy.

Evidence also applies to principle(s): 1.1, 1.3

Source(s): Special Interests Group[21]

1.1.5 Lloyd’s / The Corporation of Lloyd’s / Lloyd's joins government pledge to build natural catastrophe resilience across Asia

On 28 July 2016, the Corporation of Lloyd's joined a government pledge to build natural catastrophe resilience across Asia. In a Statement of Intent signed to share knowledge and support growth of regional insurance markets.

In an industry-first, the British Government, the Monetary Authority of Singapore (MAS) and the Corporation of Lloyd’s signed a Statement of Intent pledging their commitment to a series of initiatives to build greater understanding of risk exposure in Asia, and support the growth of insurance markets across the region. The statement was signed by John Nelson, Chairman of Lloyd’s, Lord Maude of Horsham, Minister of State for Trade and Investment, Ms

Jacqueline Loh, Deputy Managing Director, MAS and witnessed by UK Prime Minister David Cameron.

Signing the Statement of Intent (Figure 3)

Although Asia is the world's most natural catastrophe-prone region, on average, less than 5% of likely economic losses are insured when disaster strikes. This means that one major catastrophe could wipe out decades of economic progress. This issue is further explored in work with the Geneva Association, presented in case study 3.4.1.

The three parties committed to working together to share knowledge and expertise with partners across the region in order to identify threats facing regional economies and support the development of new risk transfer solutions.

Commenting on the agreement, UK Prime Minister, Rt Hon David Cameron MP, said: “As a world leading insurance provider, the Corporation of Lloyd’s and Market play an important role in protecting millions of people in the region from the financial losses of natural disasters.

“The agreement with Singapore will put Lloyd’s at the forefront of the Asian insurance market and shows how governments can work together with industry to provide a vital product.

“Lloyd’s ensures countries across Asia are protected which helps to safeguard their economic success.”

John Nelson, Chairman of Lloyd’s, said: “There is no doubting the value of open insurance and reinsurance markets. They diversify risk globally, underpin all aspects of economic growth and ensure that countries hit by catastrophes can rapidly recover. Lloyd’s has developed our largest concentration of underwriting and risk management expertise outside of London here in Singapore and we want to use that to support the development of insurance markets across Asia.”

Ravi Menon, Managing Director of the Monetary Authority of Singapore and signatory of the agreement, welcomed the agreement: “Asia is especially vulnerable to the threat of natural disasters,” he said. “The human and economic costs of these disasters are large and increasing while the proportion of these risks that is insured is worryingly small.

The Monetary Authority of Singapore is committed to partner insurers operating in Asia to better understand these risks, develop effective insurance solutions, and facilitate cross-border access to specialist insurance services, so as to strengthen Asia's resilience to large natural catastrophes."

Singapore's insurance market has seen premiums quadruple since 2000 and is now Asia's preeminent insurance hub. Lloyd's has worked in Singapore over that period and has grown considerably, seeing premium growth of 120% over the past five years and employing 400 staff.

The full text of the Statement of Intent reads:

Statement of Intent to Support and Promote the Development of Insurance and Reinsurance in the Region

Whereas:

- Singapore is a leading insurance and reinsurance centre in the region and a regional hub for major international insurance industry firms. The London insurance market is the largest global hub for commercial and specialty risk.
- The Singapore insurance and reinsurance industry provides reinsurance capacity and expertise across Asia Pacific, and is growing as a centre of excellence and expertise.
- There is significant underinsurance in the region. In2014, the insurance penetration rate in Asia was just 3.1 per cent, significantly lower than the global average of 6.2%
- Over the last 20 years, Asia has borne the brunt of natural catastrophe losses, accounting for almost half of the world's estimated economic losses from natural disasters – around $53bn each year according to the Asian Development Bank. However, less than 5% of the losses were insured, compared to 40% in developed countries.
- The Undersigned agree to work in collaboration with regional insurance markets to support countries in the region to increase insurance penetration in their markets, promoting the transfer of risks from businesses, tax payers and national economies to the insurance and reinsurance sector, and consequently remove some of the economic volatility caused by natural catastrophes. This could include potential collaborative initiatives such as:
- Engage with international regulatory and standard setting bodies such as FSB and IAIS to promote international risk transfer, free trade and free capital flow; such that the insurance industry will be able to efficiently pool and diversify their risks and capital globally, and deliver the risk reduction benefits to communities, businesses and governments in Asia-Pacific.
- Foster deeper research collaborations between Singapore and UK research entities to identify risks facing regional economies that insurance and reinsurance can help mitigate and use the findings to develop tailored initiatives to address key risks.
- Develop a greater understanding and knowledge of catastrophe risks and exposures in Asia-Pacific, and catalyse the development of innovative risk transfer and insurance solutions.
- Engage with regional insurance industries to undertake educational initiatives; sharing expertise and best practice to support local market development.
- Promote the benefits of the free trade of cross-border specialist insurance and reinsurance services in the region, to facilitate access to essential expertise and capacity across markets.
- We invite other UK firms with operations in Singapore, and other insurance firms in Singapore and across the Asian region to join us as co-signatories in this commitment to build greater resilience to the impacts of natural catastrophes.

Evidence also applies to principle(s): 1.1, 1.2, 1.3, 1.4, 2.1

Source(s): Lloyd's press release[22], Lloyd's news story[23], Twitter[24],

1.1.6 Lloyd's / The Market / Amlin / Partnership with Oxford University

Models seek to combine the latest technical and scientific thinking, with historical and stochastic loss detail, to generate a 'number' indicative of the inherent risk profile. Amlin has always recognised the value of models to help guide risk management and decision making, but distinguishes itself by empowering our underwriters to question the validity of modelled output.

Amlin seeks to further the industry's understanding of the systemic risks of these models, their technological development and greater usage and in pursuance of this continues its collaboration with Oxford University. Amlin and the Future of Humanity Institute at Oxford University's Oxford Martin School (OMS), launched a White Paper in November 2015, reaching a key milestone in a three year research project into the Systemic Risk of Modelling (SRoM)[25].

The White Paper, entitled 'Systemic Risk of Modelling in Insurance: Did your model tell you all models are wrong?' has been produced and co-authored by the SRoM Working Party, a collaboration forum composed of voluntary contributions from 30 academic researchers and industry practitioners, including (re)insurers, catastrophe model vendors, brokers, regulators and consultants.

The White Paper is further evidence of the momentum gathering behind the concept of systemic risk in modelling and the scale of the working party represents a growing industry voice seeking guidance on better regulatory, organisational and behavioural management practices in (re)insurance.

The focus of this White Paper is on finding a practical solution for the industry to SRoM, drawing on the findings to date from the Amlin-OMS collaborative research, to introduce a Risk Scorecard framework. The scorecard is designed to help firms and regulators measure the amount of systemic risk introduced from modelling, with the intention, in the long-term, of it becoming part of a toolkit to better monitor and manage risk.

Systemic risk is increasingly relevant due to the growing level of globalisation, interconnectedness, and speed of business transactions in the world. Amlin and OMS have been working together on the project since the start of 2014, with the aim of researching and promoting a better understanding of SRoM across the (re)insurance industry, to the benefit of clients and stakeholders.

Simon Beale, Chief Underwriting Officer, (CUO) at Amlin prior to the acquisition, (and now CUO) at MS Amlin) subsequently said:

"One of the most profound changes our industry has experienced in the last two decades is the increasing influence of quantitative models, now used for many purposes from catastrophe risk to technical pricing to capital adequacy. Whilst the benefits of modelling are undeniable, systemic risk, resulting from unintended side-effects of modelling, is becoming increasingly common and, in itself, complex, and could create the potential for systemic risk in (re)insurance.

Developing the framework for the risk scorecard is another significant step in managing the risks we face and ensuring that our reliance on modelling within the industry is managed more effectively. We are extremely grateful to all members of the working group who have helped share ideas for this paper."

Ian Goldin, Director of the Oxford Martin School at the University of Oxford, said:

"This unique project has brought leading academics together with leading thinkers in insurance to identify and overcome a number of critical shortcomings in the modelling of risk. I am delighted that the results of this innovative collaboration will now be widely available through the publication of a landmark White Paper which aims to improve long-term systemic risk governance in insurance and other institutions, where risk models are used."

Forward planning

Joint work between Amlin and University of Oxford's Future of Humanity Institute on understanding of the systemic risks of models and their usage has continued throughout 2016. The next phase of our research partnership, which will stretch into 2017, will further explore the potential impact of regulatory change on systemic risk in the insurance industry[26]. This research will include consideration of the potential impacts of Solvency II, the use of a single model, and the extent to which model based regulation creates pro cyclical behaviours.

Evidence also applies to principle(s): 1.3, 6.1

Source(s): Amlin.

1.1.7 Lloyd’s / The Market / QBE / Working together with clients and business partners to raise awareness of ESG issues, manage risks and develop solutions

QBE creates and offers a wide range of events, seminars and publications to assist clients and brokers to build on their risk management knowledge and raise awareness of ESG issues. Events include forums which bring together large groups of sector-specific clients to discuss the issues facing their markets. Client workshops are also held to provide smaller gatherings of clients with the opportunity to discuss specific business issues in a confidential setting, and share different approaches and solutions.

A wide range of publications are provided by QBE’s Risk Solutions team to assist insured clients of all sizes in meeting their risk management objectives. These publications range from best practice and technical guidance through to briefings on industry standards and case studies that demonstrate how businesses can protect lives and save money.

QBE is also an active participant in insurance industry events that promote an improved understanding of ESG issues across industries and geographies, such as the risk roundtable in Malaysia.

In July 2015, QBE partnered with a regional risk management publication to host a roundtable for risk managers. Topics included environmental risks, climate change, political uncertainty and business sustainability.

As detailed later in this report, the QBE Underwriting Academy will run a dedicated program to assist current and aspiring underwriters in the development of their skills and expertise. This program incorporates topics relating to ESG issues, consistent with QBE’s commitment to supporting the inclusion of ESG issues in professional education.

Evidence also applies to principle(s): 1.1, 1.3

Source(s): QBE.

1.1.8 Lloyd’s / The Market / Tokio Marine Kiln / Disaster modelling and climate change

Tokio Marine Kiln (TMK) is a core member of Lloyd’s Oasis Loss Modelling Framework, a not-for-profit company backed by Lloyd’s Corporation and a community of (re) insurers and brokers in the UK, Bermuda, Zurich and the US. A number of enterprises from around the world have also joined as associate members, including the UK Met Office, University College London, Karen Clark & Co, JBA Risk Management and Perils AG. The Oasis Loss Modelling Framework provides members with an alternative source of catastrophe risk models to the small number of proprietary software vendors which exist to date. The Oasis project deliberately concentrates initially on perils and geographies that are not so well covered by other proprietary models. TMK is represented at the Oasis Committee and has contributed significant resources (dataset, modelling capability, man-hours, financial) to-date, particularly in developing the US windstorm catastrophe model for Oasis.

In addition, TMK is represented at the Lloyd’s Exposure Management Committee. Through this Committee, our views, experiences and internal research materials on climate related risks such as El Nino, La Nina, Polar Vortex, are shared with the other Market participants. TMK also supports Lloyd’s on relevant publication in relation to climate change, where possible.

Forward planning

TMK continues its efforts in supporting Lloyd’s Oasis Loss Modelling Framework.

Evidence also applies to principle(s): 1.2, 1.3, 1.4, 2.1

Source(s): Lloyd’s.com news story[27]

1.2 Support national and regional forecasting of future weather and catastrophe patterns affected by changes in the earth's climate.

1.2.1 Lloyd's / The Corporation of Lloyd's / Lloyd's Tercentenary Research Fund

Lloyd's Tercentenary Research Foundation (LTRF) was established to mark the tercentenary of Lloyd's in 1988. Since then, it has funded over 100 years of academic research in the fields of engineering, science, medicine, business and the environment through the provision of post-doctoral fellowships and business scholarships.

Today, through its partnership with the Insurance Intellectual Capital Initiative, UK Research Councils and specifically commissioned academic institutions, Lloyd's Tercentenary Research Foundation continues its work of funding top flight academic research by supporting new programmes of research on risk related issues.

The below table shows the research funded in the 2015/2016 academic year:

LTFR funding awarded

Year	Name	Position / Institution/ Department	Host Institution/ Department	Project Title	Project Duration
2015/16	Dr Liam Wren-Lewis	Research Fellow, INRA, Paris School of Economics	University of California-Berkeley, Department of Agricultural and Resource Economics	Public-private partnerships for weather insurance in underinsured countries	5 months
2015/16	Dr Hannah Nissan	Research Associate, Department of Physics, Imperial College London	Columbia University, International Research Institute for Climate and Society	Climate change projections for robust decision making in Africa	12 months
2015/16	Dr Sarah Fox	Associate Professor, Travel and Aviation School of Law and Management, Buckinghamshire New University	DePaul University, College of Law – The International Aviation Law Institute	Risky Business - Protecting Airlines: distorting competition or protecting national interests?	6 months

Two of the three research projects are of particularly relevant under the Corporation of Lloyd's climate change work, and the results aim to be distributed to the Market:

- Dr Hannah Nissan – Climate change projections for robust decision making in Africa. Hannah is due to conduct research which aims to reduce the vulnerability of societies in developing countries to the impacts of a changing climate. During her 12 month project at Columbia University in New York, she is planning to work jointly with scientists at the International Research Institute for Climate and Society and the Red Cross Red Crescent Climate Centre, developing climate change projections for disaster risk reduction programmes and examining how this knowledge can best be communicated to decision makers.
- Dr Liam Wren-Lewis – Public-private partnerships for weather insurance in underinsured countries. Liam is due to undertake a five-month research project at the University of California-Berkley analysing how public-private partnerships can provide people in developing countries with effective insurance against weather related risks.

Today, through its partnership with the Insurance Intellectual Capital Initiative and UK Research Councils, LTRF continues its work of funding top flight academic research by supporting new programmes of research on risk related issues. Note that LTRF is an independent charity and not part of Lloyds but, with the exception of audit and investment management fees, the administration costs of the Foundation are borne in full by the Corporation of Lloyd's.

Forward planning

In 2015, LRTF renewed the partnership with the US-UK Fulbright Commission for a further three years from the 2016/17 academic year and expanded the programme to a fund one Postgraduate Award, as well as two Fulbright -

Lloyd's of London Scholar Awards on an annual basis:

- Fulbright – Lloyd's of London Award: Awarded to post-doctorate students to pursue research in the US for up to twelve months in a subject related to the risk business.
- Fulbright – Lloyd's of London Post-Graduate Award: Awarded to a post-graduate student to support the first year of a master's degree at a US university to pursue research in a subject related to the risk business.

For more information, see the Lloyd's LTRF webpages.

Further awards will be reviewed and announced going forwards.

Role of Coastal Habitats in Managing Natural Hazards

Lloyd's Tercentenary Research Foundation is also funding a two-year research project led by the University of California at Santa Cruz entitled 'The Role of Coastal Habitats in Managing Natural Hazards and Risk Reduction: A Multi-Disciplinary Approach Across Ecology, Economics and Engineering'. UCSC and project partners, The Nature Conservancy and Wildlife Conservancy Society, aim to examine the factors that determine the role of coastal and marine habitats in damage reduction from flooding and surge. In particular, the research seeks to explore how nature-based defence systems can be incorporated into policy and industry and to quantify and emphasize the societal value that these ecosystems provide.

Flooding from storms causes significant economic damage globally and is projected to increase as coastal populations grow and sea levels rise. Grey or hard measures such as sea walls and levees can be costly, rarely keep up with environmental change, and often have adverse effects on nearby shorelines and habitats. Coastal communities, under pressure to identify cost-effective measures to reduce risks, are increasingly considering nature-based defences to protect their shorelines. Nature-based defences such as salt marshes and mangroves can help protect coastlines by acting as natural breakwaters and absorbing much of the energy of waves before they hit the coast. Under favourable conditions, nature-based defences can keep pace with changing environmental conditions and rising sea levels.

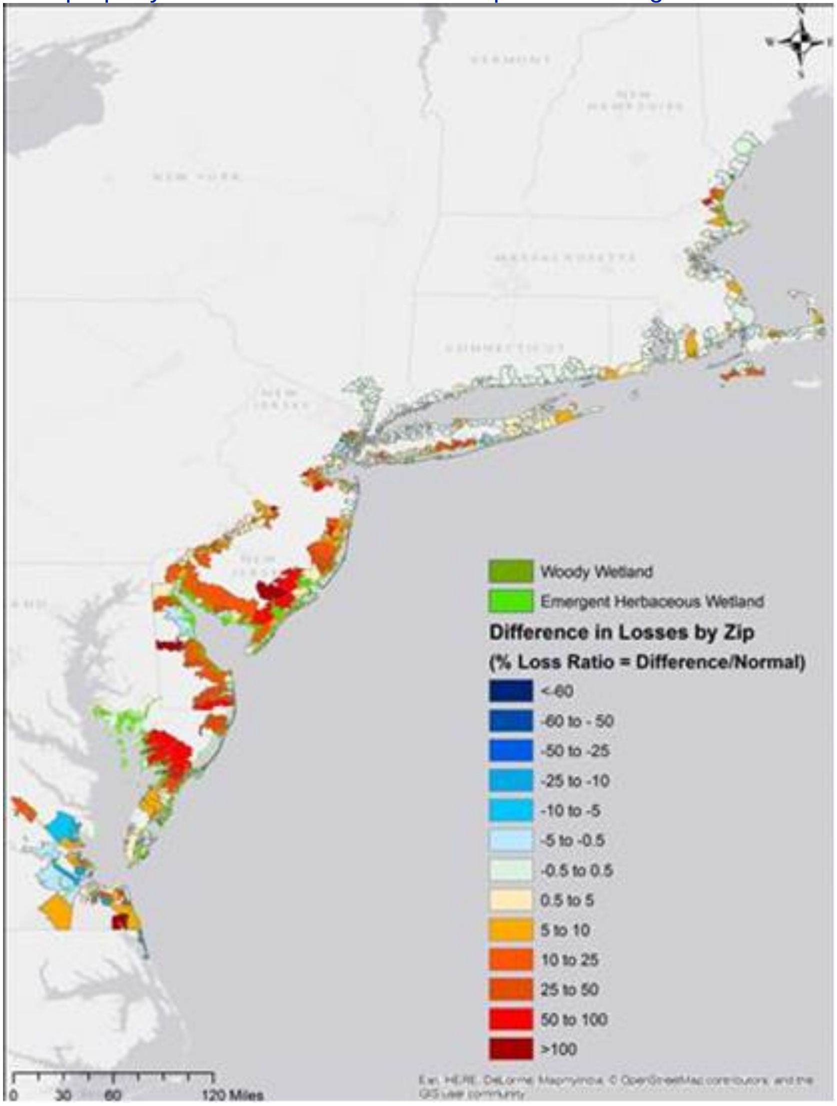
Despite growing interest in the role that habitats can play in building coastal resilience, many questions remain about when and where natural defences are most effective, and how their conservation and restoration can be funded. The insurance sector can play a leadership role in identifying how to include natural defences in risk assessment and financing.

LTRF is bringing together partners from academia, environmental organisations, and the insurance sector;

- To assess the flood reduction role of coastal habitats in insurance industry-based models.
- To identify innovative financial tools that could meet risk reduction and conservation goals.

The research team on this project includes leading scientists at the University of California Santa Cruz (UCSC); The Nature Conservancy (TNC), Wildlife Conservation Society (WCS), Risk Management Solutions (RMS), Guy Carpenter and others. Together, this team of engineers, risk modellers, ecologists and economists is examining the factors that determine the effectiveness of coastal habitats in reducing damage from flooding during hurricanes and storms. Specifically, the team is focusing on the following questions: are salt marshes and mangroves effective in protecting property from damage during storms? If so, what are the specific characteristics of these coastal habitats that influence their effectiveness?

Predicted increases in property losses if marshes were not present during Hurricane Sandy (Figure 4)



To start, the team has examined if the loss of salt marshes in the Northeast coast of the United States would have any effect on storm damages to property. The team modelled storm surge and damages from Hurricane Sandy in RMS's North Atlantic Hurricane Model, and is finding that salt marshes can significantly reduce flood losses. Salt marshes reduced damages by more than 10% on average across coastal zip codes (*See Figure 4, Above*) representing hundreds of millions of dollars in averted damages. However, the effect varied spatially, and in a few areas, effects were negligible or even negative and in other areas marshes reduced damages by 25-50% or more.

The team is producing a public report on these findings and aim to provide guidance on the parameters that drive variation in the values of these wetlands. The team intent to extend the work being done across the US NE coast to mangroves on the SE coast in work that aims to inform risk assessment in the USA and in the many at-risk developing nations such as the Philippines where mangroves play a critical role in reducing social and economic vulnerability. Another major component of this work is the identification of entry points and opportunities for integrating the coastal protection values of habitats into financing tools.

Forward planning

Working with experts in the risk and finance sector, the team aim to review existing financial mechanisms that could leverage ecosystem values to lower risk, and suggest innovative ways to integrate the coastal protection values of habitats into financing tools. Overall, the project aims to provide recommendations for business and public policy on the types of habitats (e.g. salt marshes, mangroves, reefs) and geographies where the role of natural and nature based defences should be considered.

The team intends to build on past work together in this field, including:

- "Guidelines for measuring and valuing the coastal protection services of mangroves and coral reefs", from the World Bank that identifies how to measure and value nature-based solutions in a manner consistent with national economic accounts, and;
- "The Effectiveness, Costs and Coastal Protection Benefits of Natural and Nature-Based Defences" - a global synthesis of the costs and benefits of nature-based defences.
- and the Economics of Coastal Adaptation an app on Coastal Resilience based on work by TNC and Swiss Re that compares the cost-effectiveness of nature-based (green) and artificial solutions for risk reduction across the Gulf of Mexico.

The project team includes:

- Dr Michael Beck, Adjunct Professor at the Department of Ocean Science as the University of California Santa Cruz and Lead Marine Scientist at The Nature Conservancy.
- Dr Jane Carter Ingram, Conservation Fellow at Wildlife Conservation Society and Senior Manager of Climate Change & Sustainability at Ernst & Young.
- Dr Siddharth Narayan, the LTRF-UCSC Postdoctoral Fellow, a coastal engineer specializing in flood risk reduction and human interactions with coastal ecosystems.

Evidence also applies to principle(s): 1.1, 1.3, 1.4, 3.1

Source(s): Lloyd's Tercentenary Research Foundation[28]

1.2.2 Lloyd's / The Market / Hiscox / Informing and influencing business practice

One example of how research has been used in 2015-16 can be seen in how the output of our Catastrophe Research Team, working in partnership with our selected risk modelling companies, has informed Hiscox capital, pricing and reserving calculations and enabled us to provide tailored property insurance based on the risks identified on an individual location basis, helping to provide flood cover for many properties that would have otherwise been excluded.

As another example in 2015-16, our findings from catastrophe research have directly informed alterations to our US hurricane models in regards to both hurricane landfall frequencies around the US coastline and perceived model underestimation of losses in specific regions in the US, with effects on our pricing. In addition, recent studies into Atlantic hurricane frequencies and Japanese tsunami risk are better informing the pricing teams and model outputs feed directly into the Hiscox internal capital model.

Further information on Hiscox's work in this area can be found in our independent submission.

Evidence also applies to principle(s): 1.1

Source(s): Hiscox.

1.2.3 Lloyd's / The Market / RenaissanceRe Syndicate Management Ltd / NatCatDaX: the Natural Catastrophe Data and Analytics Exchange Alliance

The Natural Catastrophe Data and Analytics Exchange (NatCatDAX) Alliance, launched at the 7th International Symposium on Catastrophe Risk Management organised by NTU, will be an industry-led catastrophe data and analytics platform for Asia. It will generate a rigorous database by tapping into national and industry data. Such high quality data, market analytics and product innovations are currently lacking in the region.

The Alliance is a partnership with Nanyang Technological University (Singapore's Institute of Catastrophe Risk Management), Aon Benfield, Mitsui, Risk Management Solutions and PERILS, with support by the Monetary Authority of Singapore (MAS).

Jon Paradine, Principal Officer, Singapore Branch, Renaissance Reinsurance Ltd and DaVinci Reinsurance Ltd, said: "Fostering a shared, scientifically sound understanding of catastrophic risk in Asia will help to better protect people from the increasing risk of natural disasters, while expanding the penetration of insurance coverage will improve financial resiliency for our communities. This ground-breaking initiative will further enhance Singapore's position as a strong, innovative financial centre and RenaissanceRe is honoured to be a founding sponsor."

Evidence also applies to principle(s): 1.1, 1.3, 1.4, 2.

Source(s): RenaissanceRe Syndicate Management Ltd, MAS[29], NTU[30].

1.2.4 Lloyd's / The Market / Tokio Marine Kiln / Joint research on climate change with universities

Tokio Marine Kiln works closely and shares knowledge and intelligence on climate change via TM Tech, the Tokio Marine Group centre for research and development. The Tokio Marine Group is advancing research into future natural disaster risks in collaboration with universities, engaging in market leading research in this area. Currently the Tokio Marine Group is undertaking joint research respectively with the Atmosphere and Ocean Research Institute at The University of Tokyo, the Hydrospheric Atmospheric Research Center at Nagoya University, and the Graduate School of Engineering and the Disaster Prevention Research Institute at Kyoto University.

The Tokio Marine Group intends to utilise its research to develop and provide products and services and to disseminate relevant information to the public. The Tokio Marine Group's contribution to society in this regard has been recognised in public. For example, the Earthquake and Tsunami Risk Research (industry-academia collaborative project) was selected for Good Practice in the Insurance category in 2015 by the Principles for Financial Action for the 21st Century.

Forward planning

Ongoing research and sharing of research on climate change issues with the relevant public organisations.

Evidence also applies to principle(s): 1.1, 1.3, 1.4, 2.1

Source(s): Tokio Marine Kiln[31], [32]

1.3 Use research and improve data quality to inform levels of pricing, capital and reserves to match changing risks.

1.3.1 Lloyd's / The Corporation of Lloyd's / City Risk Index

In the Corporation of Lloyd's ongoing effort to provide a comprehensive analysis of natural hazards and extreme events, the Corporation of Lloyd's has been working on using research and data to inform understanding of risks and capital and reserve requirements. A new study, three years in the making, was published and launched in September 2015 – the Lloyd's City Risk Index – and presents the first ever analysis of economic output at risk (GDP at risk) in 301 major cities from 18 man-made and natural threats over a ten-year period.

Based on original research by the Cambridge Centre for Risk Studies at the University of Cambridge Judge Business School, the Index finds that a total of $4.6 trillion of projected GDP is at risk from manmade and natural disasters in these cities around the world.

When a catastrophic event, such as an earthquake, a pandemic or a financial crisis, hits a city, it reduces its economic output. The loss of economic output, relative to the economic output that would have been expected, is the GDP at risk from an event. Lloyd's City Risk Index 2015-2025 takes the first five years of lost economic output as the standard measure of GDP at risk from an event.

Cities are at risk from multiple threats. Lloyd's City Risk Index considers 18 of them: cyber-attack, drought, earthquake, flood, freeze, heatwave, pandemic, market crash, nuclear accident, oil price shock, plant epidemic, power outage, solar storm, sovereign default, terrorism, tsunami, volcano and windstorm.

The Corporation of Lloyd's estimates the likelihood of each city being affected by different magnitudes of events between 2015 and 2025. These likelihoods vary from city to city depending on their locations and risk characteristics, but all of these events are rare and the probability of a city being impacted by any particular event scenario in the ten year period may be only a few percent.

The Corporation of Lloyd's estimates the GDP at risk from each event, were it to occur, for each city. How quickly a city recovers after a catastrophe is a key component of the total risk. The impact of events is mitigated by rapid access to capital to help restore the economy afterwards.

Summing all the expected losses from the different threats and their representative scenarios that could occur in each of the years from 2015 to 2025 gives the Total GDP at risk for the city from all threats. This is a probability-weighted expected loss to the economy of that city from all threats.

The Corporation of Lloyd's has produced this Index to help increase the understanding of, and shape the world's response to, the shifting risk landscape. The Index is aimed at stimulating further discussions between insurers, governments and businesses on the need to improve resilience, mitigate risk and protect infrastructure, and is available online for anyone to access and use to and provide support and tools so that they can assess their own levels of risk.

Globally, the Index identifies three important emerging trends in the global risk landscape:

1. Emerging economies are anticipated to shoulder two-thirds of risk related financial losses as a result of their accelerating economic growth, with their cities often highly exposed to single natural catastrophes.
2. Manmade risks such as market crash, power outages and nuclear accidents are becoming increasingly significant, associated with almost half the total GDP at risk. A market crash is the greatest economic vulnerability – representing nearly a quarter of all cities' potential losses.
3. New, emerging or developing risks, such as cyber-attack, are also increasingly significant. Together, they account for more than a third of the total GDP at risk with just four – cyber-attack, human pandemic, plant epidemic and solar storm – representing more than a fifth of the total GDP at risk.

The findings show the need for governments and businesses to work together to build more resilient infrastructure and institutions. How quickly a city recovers after a catastrophe is a key component of the total risk, and the impact of events is mitigated by rapid access to capital to help restore the economy.

Inga Beale, Chief Executive Officer, Lloyd's said at the launch:

"Lloyd's City Risk Index highlights the economic exposure of 301 major cities across the world. Governments and businesses, together with insurers, must work together to ensure that this exposure – and the potential for losses – is reduced.

"Insurers, governments, businesses and communities need to think about how they can improve the resilience of infrastructure and institutions. Insurance is part of the solution.

"Insurers must continue to innovate; ensure their products are relevant in this rapidly changing risk landscape, offer customers the protection they need and, as a result, contribute to a more resilient international community."

Professor Daniel Ralph, Academic Director, Cambridge Centre for Risk Studies, said:

"This analysis for the Lloyd's City Risk Index is the result of six years of research into catastrophic shocks on complex systems carried out at the Cambridge Centre for Risk Studies. It combines a detailed understanding of 18 different economic threats to the world's most important cities. The measure GDP@Risk makes it possible to combine and compare a very wide range of threats, including those that are disruptive and costly, such as market collapse, in addition to destructive and deadly natural catastrophes."

The project was launched at an event at the Corporation of Lloyd's London office, and is used as part of conversations in all of the international offices with local insurance markets and resilience contacts. Most recently, the findings formed part of the launch event for the opening of the Colombian office on 22 June 2016, where it was translated in to Spanish for the local audience. Two Lloyd's Market insurers - Advent and Brit - are represented on the Colombia platform alongside the Lloyd's representative office. In 2015 the Corporation of Lloyd's appointed Juan Carlos Realphe as its first General Representative and received a licence to provide onshore reinsurance.

Colombia is a fast-growing centre for facultative reinsurance and Lloyd's is already a well-established provider of energy, property, financial lines and aviation cover.

John Nelson, Chairman, Lloyd's, said at the launch event:

"Colombia is an important part of Lloyd's future growth strategy, both as a fast-growth market and as a gateway to Latin America, and I am delighted to be opening our office today.

"Colombia is a growing economy which is making significant investments for the future. However, insurance penetration is one of the lowest in Latin America, at only 1.6% of GDP.

"As Colombia realises its economic potential, insurance and reinsurance can play a key role in supporting this economic growth by improving resilience, taking risks out of the country, and helping the economy recover after catastrophes.

"Lloyd's, as the world's specialist insurance and reinsurance market, can help to support and protect Colombia's economic growth by sharing our risk insights and offering solutions to protect businesses and assets."

The City Risk Index has been picked up and covered by various insurance trade press, local and national news networks, and can be found online on various stakeholder forums, a small select of which are covered below:

- Prevention Web (online here).
- UnderstandingRisk (online here).
- Property Casualty 360 (online here).
- The Actuary (online here).
- CNBC (online here).
- The Guardian (online here).

Evidence also applies to principle(s): 1.1, 1.3, 2.1, 2.2, 3.1, 3.4, 6.1

Source(s): Lloyd's City Risk Index[33], Lloyd's Press release[34],[35], Lloyd's Twitter[36]

1.3.2 Lloyd's / The Corporation of Lloyd's / California Flood: Central Valley risk analysis

In the Corporation of Lloyd's ongoing effort to provide a comprehensive analysis of natural hazards and extreme events, the Corporation of Lloyd's has been working towards a California flood risk review, focusing on Central Valley, in partnership with JBA Consulting.

California has been suffering severe drought conditions pre-El-Niño[37], which has been focusing public attention on the need to secure reliable water supplies. However, one of the consequences of extended dry seasons is an increased vulnerability to flooding when rainfall does arrive. California's Central Valley – the area of focus – spans 19 counties, is home to 6.9 million people and contains $1 trillion of insurable assets. Despite containing over 20,000km of levees and flood control structures, the Central Valley has a particularly high vulnerability to flooding – a vulnerability that is likely to rise as this infrastructure is eroded by climate change and as population expansion increases the pressure for urban development on protected floodplains. Additionally, population expansion increases the pressure for urban development on protected flood plans.

The Corporation of Lloyd's assess that, even if upkeep programmes maintain the 1-in-100-year protection, such protection is expect to be gradually eroded by climate change. Climate change is likely to result in adjustments to the flood probabilities assigned to much of the Central Valley, with the 1-in- 100 and 1-in-200-year floodplains enlarged. Climate change is expected to have implications for the US National Flood Insurance Program (NFIP), which provides subsidies to support take-up of flood insurance. The rising cost of climate change could add further costs to the programme.

The analysis in this report is intended to support insurers to achieve more accurate risk-based pricing, which in turn should ensure claims can be paid and encourage responsible risk management. When this approach is combined with advanced modelling and forward-looking analysis, the private (re)insurance sector can play a major role in sustainable flood resilience.

"The report highlights that the Central Valley's exposure to flooding is high and likely to increase," said Hank Watkins, President of Lloyd's America. "We hope our report will maintain awareness among businesses and communities, as well as the insurance industry, of flood risk in the region. Ultimately, more sophisticated catastrophe modelling needs to be developed for the Central Valley in order to better understand and mitigate the potential losses that could result from extreme flood events."

The Corporation of Lloyd's hope that this report will contribute to the understanding and management of a peril that remains arguably less well understood on a global scale than some other natural hazards, yet which has the potential to inflict devastating loss and disruption to communities.

Evidence also applies to principle(s): 1.2, 1.3, 2.1, 2.2

Source(s): Lloyd's Press release[38], California Flood: Central Valley risk analysis[39]

1.3.3 Lloyd's / The Corporation of Lloyd's / Worldwide Programmes – the Global Development Centre

Lloyd's Global Development Centre (LGDC) designs, develops, co-ordinates and delivers programmes of educational and networking events that promote Lloyd's as the world's specialist insurance market, and communicate Lloyd's strategic priorities. LGDC Programmes are intended to educate participants about the key role that Lloyd's plays in global insurance and reinsurance. They also showcase the expertise and innovative thinking to be found in the market.

Purpose

The LGDC actively engages and co-ordinates with the Lloyd's Market Association (LMA), London & International Insurance Brokers' Association (LIIBA) and their members to create customised programmes to meet the requirements of specific audiences and showcase Lloyd's and the London market.

The Corporation of Lloyd's works with international professional membership organisations and representative federations / bodies such as AIRMIC (Association of Insurance and Risk Managers in Industry and Commerce), BIBA (British Insurance Brokers' Association), FERMA (Federation of European Risk Manager Associations), IAC (Insurance Association of China) and MGAA (Managing General Agents Association) amongst many others.

Programmes based in London offer participants first-hand experience of the market with opportunities to develop new relationships between the market, brokers and their clients across the globe. Presentations continue to include topics that cover at climate change and environmental risks, and in 2015 Lloyd's welcomed 232 participants from 41 different countries/territories to learn how the Lloyd's market works and receive presentations from leading market experts across a wide range of cases of business.

The following presentations are a selection of the events where climate change and insurance were covered to offer attendees an overview of some of the thought leadership work the Corporation of Lloyd's is involved in relating to climate change.

Presentations highlighting the Corporation of Lloyd’s climate change research over the 2015-2016 reporting period

Date	Title	Location
08/06/2015	African Broker Network Allied Africa	London
16/09/2015	Andrew Beazley Broker Academy	London
12/10/2015	Autumn Worldwide programme	London
26/01/2016	BIBA and Lloyd's Professional Development Programme.	London
16/02/2016	AIRMIC and Lloyd's Professional Development Programme.	London
15/03/2016	MGA Association Programme at Lloyd's	London
11/04/2016	Spring Worldwide Programme	London
21/04/2016	3rd FERMA Professional Development Initiative sponsored by Lloyd's (Part 1)	London
18/05/2016	Lloyd's Irish Risk Managers Conference - Dublin	Dublin
25/05/2016	Lloyd's Connect programme for Newly Registered Lloyd's Brokers 2016	London
02/06/2016	Third Insurance Association of China Programme at Lloyd's	London

Forward planning

In 2016 the Corporation of Lloyd’s aims to deliver two Worldwide programmes, one in April and one in October, for senior decision makers in the insurance industry (brokers, [re]insurers, risk managers) and with focuses on different classes of business and topics.

Evidence also applies to principle(s): 1.1, 3.1, 3.4, 4.3

Source(s): Lloyd’s Global Development Centre[40]

1.3.4 Lloyd’s / The Corporation of Lloyd’s / Educating international regulators

In September 2015, the Corporation’s International Regulatory Affairs team hosted the Corporation of Lloyd’s 15th annual International Regulators’ Programme, attended by 22 regulators from 19 jurisdictions. In 2015, for the first time, delegates were welcomed from Bermuda, Botswana, Grenada and Saudi Arabia who joined their counterparts from Australia, Brazil, Canada, China, Dubai, Hong Kong, Korea, Labuan (Malaysia), Japan, South Africa, Tanzania and the US.

The programme, supported by the UK Regulatory Authorities (the Prudential Regulation Authority and the Financial Conduct Authority), the LMA, IUA and featuring presentations from the underwriting and broking community as well as subject matter experts from Lloyd’s, was designed to provide international regulators with an in-depth insight into

the operations of Lloyd’s. The event not only presented an opportunity for the Corporation and Lloyd’s Market to build and develop relationships with international regulators, but it also provided an opportunity for regulators to meet and discuss international regulatory developments and emerging best practice with supervisory colleagues from around the world.

As part of this programme, the Emerging Risks and Research team delivered a presentation that covered a number of aspects that covered the potential impacts and uncertainty of climate change, and used the Food System Shock scenario to demonstrate the complexity of climate driven hazard events.

Forward planning

The 2016 programme is currently under development, and is designed to cover ClimateWise and the research outputs that the Corporation of Lloyd's has delivered on the topic of climate change, amongst other emerging risk topics.

Evidence also applies to principle(s): 1.1, 2.1, 2.2, 3.1, 3.4

Source(s): Lloyd's International Regulators' Programme 2015[41]

1.3.5 Lloyd's / The Corporation of Lloyd's / Science of Risk

The Corporation of Lloyd's is proud of our relationships with universities and research organisations. Detailed understanding of risk is essential to everything the Corporation of Lloyd's does, and the Science of Risk prize is designed to challenge researchers and Lloyd's insurers to stretch their thinking. For researchers, the prize offers an opportunity to translate original work for a business audience. For insurers, the prize generates insights in to some of the most challenging risk management problems they encounter.

The Corporation of Lloyd's believes that our industry has some technical challenges that should be very interesting to academics around the world. These include better understanding the impact and management of climate change, the use of cutting-edge mathematics in modelling and the understanding of the benefits and risks of nanotechnology.

Each year, the prestigious Lloyd's Science of Risk prize is awarded to esteemed academics and PhD students who, through their scientific work, further the understanding of risk and insurance.

The academic community were invited to submit papers in one of the following two categories:

- Big data analytics and machine learning; and
- Cyber risk

The winners were announced on 25 November 2015 with the awards presented by Tom Bolt, Lloyd's Director of Performance Management.

Within the category of "Big data analytics and machine learning", Dr Erik Chavez was awarded first prize for his paper on "End-to-end assessment of extreme weather impacts on food security". Within the category of "cyber risk", Stefan Laube was awarded first prize for his paper on "Mandatory Security Information Sharing with Authorities: implications on investments in internal controls"

Feeding tomorrow's world

Dr Chavez's study recognises the increasing pressures on food global production, which are expected to be exacerbated by population growth and climate change in the future. With the expectation of more extreme weather events, he was concerned this could have a volatile impact on food security.

The solution lies in reducing the food system's vulnerability to shocks, in particular extreme weather events. His approach harnesses machine learning to translate complex dynamic processes into economic loss risk metrics, and can be used by farmers and other stakeholders to build a more resilient and sustainable global food system, explains Dr Chavez.

"Instead of focusing on average values the aim was to go a step beyond, and quantify impacts using risk metrics that would allow you to state the average impact, but also quantify the impact of rare events versus very frequent events. The decision to focus on the food sector and agricultural production was because this is one of the greatest challenges of this century. It is also one of the sectors most vulnerable to how weather patterns will change," he continues.

Using Northern China as a case study, he demonstrated how data can reveal the potentially severe impact of heat waves and droughts on maize production at a regional level. Dr Chavez went on to show how relatively simple water conservation methods could decrease the exposure from a 1-in-15-year to 1-in-100-year event.

"It would cost the province of Shandong 0.7% of its annual GDP to actually deploy irrigation throughout the province, which is home to 110 million people," explains Dr Chavez. "It's a big investment, but 0.7% of GDP in Shandong is the same as a 1-in-60 year impact on the agricultural sector."

"The motivation behind the paper is to provide metrics that can be used by decision makers," he continues. "And one of the key decision makers in my view is the risk transfer industry."

"This model is currently being applied to design new financial instruments for the different actors of the food value chain," he adds. "Currently we're working with the World Food Programme, Sainsbury's, Swiss Re and Willis across the value chain to relieve smallholder farmers of the sole responsibility and burden of coping with the impact of climate change."

In their summary, the judges concluded that Dr Chavez's winning entry was highly relevant work that "not only is the work directly relevant to the development of insurance solutions, it also represents a valuable contribution to a major challenge for sustainable economic development".

Dr Pete Burnap, Stefan Laube, Andrew Hayward and Dr Erik Chavez from the 2015 Science of Risk Award (Figure 5)

The judging panel for the Science of Risk Prize consisted of:

- Mel Goddard, Market Liaison Director, LMA
- Dr Dougal Goodman, Chief Executive, The Foundation for Science and Technology
- Dr Michael Maran, Chief Science Officer, XL Catlin
- Trevor Maynard, Head of Exposure Management and Reinsurance, Lloyd’s; and
- Professor Jeremy Watson CBE, Professor of Engineering Systems and Vice-Dean, University College London

The event's post-conference drinks reception was co-hosted by the Science of Risk Prize and the Lloyd's Market Innovation Awards.

Forthcoming work

Entries for the 2016 Science of Risk Prize are being accepted under two categories:

- Natural hazards
- Systems modelling

One of the key sources of uncertainty for insurers in the assessment of complex risks lies in the connections between economic, political, social and natural systems. In the system modelling category the Corporation of Lloyd's are seeking entries that attempt to tackle this challenge by combining modelled outputs from more than one system. Examples of complex problems in this are the multi-dimensional impacts of climate change or the cascading effects of a shock to global food supply networks.

This year in the theme of natural hazards the Corporation of Lloyd's are proud to inaugurate the Peter Taylor Prize for outstanding contribution to insurance understanding of Natural Sciences. Reflecting the late Peter Taylor's commitment to the advancement of science in insurance, the prize seeks to generate entries that connect the science of natural hazards with clear implications for insurance.

Evidence also applies to principle(s): 1, 3, 6.1

Source(s): From the physical to the intangible[42], The Science of Risk Prize[43]

1.3.6 Lloyd's / The Market / Amlin / Non Modelled Risks

The Association of British Insurers published an industry white paper on Non Modelled Risks ("Non Modelled Risks: A guide to more complete catastrophe risk assessment for (re)insurers") which was co-authored by JB Crozet and David Singh from MS Amlin. This paper defines Non Modelled Risks as "Any potential source of non-life insurance loss that may arise as a result of catastrophic events, but which is not explicitly covered by a company's use of existing catastrophe models".

Building on this initiative, we have developed a methodology for enhancing the modelling of these risks in our Internal Model.

The approach is based on the EM-DAT database of natural disasters maintained by the Centre for Research on the Epidemiology of Disasters ("CRED"). The EM-DAT database contains essential core data on the occurrence and effects of over 21,000 mass disasters in the world from 1900 to present. It is compiled from various sources, including UN agencies, non-governmental organisations, insurance companies, research institutes and press agencies. The database provides estimated total damage and we have complemented this with Swiss Re's Sigma Reports to estimate the insured loss from each event.

Using actuarial techniques, we have developed high-level market-share models for each Non Modelled Peril/Region in the EM-DAT database, which we are planning to embed in Pricing & Portfolio Management Platform which feeds our Internal Model.

Evidence also applies to principle(s): 1.1, 6.1

Source(s): Amlin.

1.3.7 Lloyd's / The Market / ArgoGlobal / Evaluation of Evolving Climate Risks

Argo Group considers the impact of climate risk in its modelling of risks and exposures for the product lines and insurance coverages that it offers. Argo Group also considers the influence of climate change risk in its underwriting decisions. For example, in modelling flood catastrophe exposure, Argo Group makes assumptions in its model regarding increases in ambient temperature, and has revised its appetite for flood risk in the US in certain zones.

Argo Group also undertakes stress and scenario testing against the most material climate risks via the catastrophe and economic capital modelling processes. Material exposure is frequently assessed in respect to both catastrophe model and non-modelled climate-related perils. These stress tests, together with our approach to non-modelled risk (NMR) and emerging risk processes provide the ability to consider the wider economic capital implications for Argo Group's solvency in respect of climate-related risks.

Argo Group risk management considerations in the area of climate change also motivated Argo Group's participation in the 2014-2015 group-level study in partnership with University Cattolica Sacre Cuore in Milan, Italy. This study focused on the impact of sustainability on credit and surety insurance pricing and also analysed the impact of the development of sustainability initiatives in the financial services sector on the quality of the risk and hence pricing models. Argo Group's continuing participation in this study may, in time, influence pricing decisions as to certain types of insurance products.

Evidence also applies to principle(s): 1.1, 1.3, 3.4

Source(s): ArgoGlobal – Syndicate 1200

1.3.8 Lloyd's / The Market / Beazley / Disaster Relief Financing Working Group

We participate in the Lloyd's Disaster Relief Financing Working Group and are part of the consortium that has announced the provision of $400mn of new insurance capacity to help developing economies tackle underinsurance and increase their resilience to the economic impact of natural catastrophes. As part of our involvement we have also developed a good relationship with Oxfam to assess how we can support their insurance initiatives in developing countries.

Forward planning

We are in the early stages of considering commissioning a research project to supplement our participation in the working group, to model natural disaster and/or weather-related risks in countries where a lack of data contributes to the lack of insurance provision. We hope to identify key areas of interest and potential partner organisations over the coming months.

Evidence also applies to principle(s): 1.1, 1.2, 2.1, 3.4

Source(s): Beazley.

1.3.9 Lloyd's / The Market / Navigators Underwriting Agency Limited / Research and data analysis

Navigators continues to enhance its Natural Catastrophe management and refine its catastrophe modelling capabilities in USA and elsewhere around the world in countries prone to weather-related exposures and flooding.

In the last 12 months, Navigators has in conjunction with their modelling vendor AIR Worldwide, expanded their model domain in order to capture other key regions of the world probabilistically, and through AIR's Geospatial software the CAT team and the Underwriters now have a more visual appreciation of the risks across the globe, enabling them to review clash and key areas of risk accumulation.

Each year our Group Underwriters and other internal stakeholders attend our own NatCat Summit held in London and a large number also participate in various external conferences on related topics.

Catastrophe exposure (and aggregate loss potential) remains a key component of our capital modelling and as a Marine and Energy specialist insurer this helps steer our business strategy at Group and Business Division level, including the Lloyd's Syndicate.

Evidence also applies to principle(s): 1.4

Source(s): Navigators Underwriting Agency Limited

1.3.10 Lloyd's / The Market / RenaissanceRe Syndicate Management Ltd / RenaissanceRe presentation at the AIRMIC & Lloyd's Professional Development Programme

Fifteen Airmic Members (the Association of insurance and Risk Managers in Industry and Commerce) visited Lloyd's for a two-day training programme jointly-organised by Airmic and Lloyd's. The training included a climate change presentation by Dail Rowe, Senior Scientist and Regional Manager at Weather Predict Consulting Inc. (WPC) which is a U.S. affiliate of RenaissanceRe

Evidence also applies to principle(s): 2.1, 6.1

Source(s): RenaissanceRe Syndicate Management Ltd, Lloyd's.com[44], [45]

1.3.11 Lloyd's / The Market / Tokio Marine Kiln / Use of research in pricing, capital and reserving

Natural catastrophe risks and exposure play a dominant part of Tokio Marine Kiln's (TMK) insurance portfolio. Therefore it is critical that we have in-depth knowledge and understanding of the modelling of different portfolios and perils we write.

Whilst we rely on third party models to deliver the raw materials of portfolio management and specific peril analysis, TMK spends considerable time on model validation and improvement. We continuously look for additional industry data to supplement our existing models. For example, we have used data from JVA on UK flood and Spatial Key to enhance our models on floods. TMK is also a core member of the Lloyd's Oasis Loss Modelling Framework project and views this initiative as another useful source of industry models.

To date the future impact of climate change has been widely considered by our risk and exposure management, capital and reserving and pricing teams. Emerging climate change issues from El Nino, La Nina and Polar Vortex have been discussed in length amongst the teams in weekly meetings and internal research papers have been produced by the Modelling Valuation team within Exposure Management each month. Where relevant, the output of this research has been considered and incorporated in the capital and reserving of the portfolio.

TMK works closely and shares knowledge and intelligence on climate change via TM Tech. TMK's Chief Risk Officer participates in the conferences held by TM Tech, where the latest thoughts on climate change are discussed across the different operations. We then utilise the group know-how in conducting sensitivity testing in the models.

Forward planning

TMK continues to work closely with Lloyd's on Oasis and leverage group wide knowledge sharing on improving our capital, reserving and pricing models.

Evidence also applies to principle(s): 1.1, 1.2, 1.4, 2.1

Source(s): Internal models and research papers available upon request.

1.4 Evaluate the risks associated with new technologies for tackling climate change so that new insurance products can be considered in parallel with technological developments.

1.4.1 Lloyd's / The Corporation of Lloyd's / Drones take flight

In the Corporation of Lloyd's 2013-2014 submission, we provided evidence of a report on autonomous vehicles 'Autonomous vehicles: handing over control'[46], which looked at two major categories of autonomous and unmanned vehicles: autonomous cars and Unmanned Aerial Systems (UAS). As a result of the emerging nature of UAS, as identified in the Corporation of Lloyd's horizon scanning process and conversations with the Market, the Corporation of Lloyd's commissioned a second study focusing specifically on drones.

The drones sector is expanding rapidly with global expenditure on the emerging technology set to double to $91bn over the next decade. Drones are now used for a range of activities including military, agriculture, public services, wildlife protection and research.

As early as 1946, American magazine Popular Science concluded that: "Drones, as the radio-controlled aircraft are called, have many potentialities, civilian and military." Seventy years later that potential is now being realised. Exponential advances in sensor technology; satellite positioning systems; communication links and computer processing power have given drones a wide range of applications, many unthought-of even a decade ago. Such applications fall into two key areas:

- Measurement, including environmental monitoring, photography and filming.
- Transport, including targeted delivery.

The potential of drones is wide-reaching. However, concerns around safety, security and surveillance could pose significant risks to users of this emerging technology. While this may be true of many emerging technologies drones are expected to receive particular scrutiny because of the technology's military heritage and surveillance capabilities. Adequate insurance coverage will likely be of particular importance to protect users against emerging risks.

The report identifies three key areas that must be developed for the effective provision of insurance for drone operations:

- Regulation, through the implementation of a robust, internationally-harmonious regulatory framework.
- Safety, through the continued development of training and licensing schemes, and further enhancements in 'sense and avoid' technology.
- Security, through the application of sufficient cyber security measures. Drone manufacturers must also be prepared to manage their increasing vulnerability to intellectual property and product liability risks.

The report concludes that drone manufacturers and users could face increasingly complex and high value risk exposures as the market continues to expand, and that they need to work with regulators and insurers to ensure the technology is used safely and responsibly. By providing the support needed for the systems to operate safely and with due regard for third party interests, the insurance industry has the potential to act as an enabler for the successful adoption of this emerging technology.

Evidence also applies to principle(s): 1.1, 1.3

Source(s): Drones take flight[47],[48]

1.4.2 Lloyd's / The Market / Navigators Underwriting Agency Limited / Power generation

Navigators' Risk Engineers continue to maintain dialogue with major European, Japanese and American turbine manufacturers in order to keep abreast of technological advances, and to translate this technical know-how into risk analysis; allowing lead Underwriters to tailor the insurance products and coverage accordingly.

It is noted, that effective from 1 July 2015, the roll-out of EU EcoDesign Directive 2009/125/EC, whilst having a positive climate change impact by mandating use of energy efficient transformers for new or replacement equipment, will lead to longer lead times for such items. Navigators will in this regard be potentially liable for increased business interruption exposure in the event of catastrophic transformer failure as Operators will not be allowed to make planned use of less energy efficient second-hand transformers.

Evidence also applies to principle(s): 1.1

Source(s): Navigators Underwriting Agency Limited.

1.4.3 Lloyd's / The Market / Tokio Marine Kiln / Insurance products innovation in response to climate change

Tokio Marine Kiln has been providing insurance support to new technologies which serve to work against climate change. We have highlighted some examples as follows:

Unmanned Aerial System (UAS)

The UAS industry indirectly provides solutions that help counter climate change as they are a greener alternative to operating a conventional aircraft, with many UAS systems operating via batteries and even solar power rather than the usual polluting fuels used in manned aircraft. With its leading expertise, TMK is supporting the increase usage of UAS through the coverages it provides.

In May 2015, TMK successfully launched the first comprehensive insurance product of its type for Unmanned Aerial Systems (UAS) in the Lloyd's market. The product, "One Unmanned" offers clients, ranging from UAS operators, manufacturers and service providers, protection under a single wording featuring multiple coverages, which the client can tailor to best suit the needs of their business. Once a client has selected one or both of the core products of UAS Hull & Liability and/or Products Liability, they can extend their coverage to include a range of risks including Aviation Hull War/War Liability, Personal Accident, Cyber, Intellectual Property and Employers' Liability as required.

In addition, TMK has made a strategic commitment to supporting this industry by partnering with aviation specialist Resource UAS to help mitigate the risks associated with using commercially flown Remotely Piloted Aerial Systems (RPAS) through training and insurance. TMK's expertise of the UAS sector has also resulted in us contributing towards industry publications and events such as the Lloyd's of London autonomous vehicles report, Market Magazine article and the Maritime, Aviation and Transport (MAT) event.

In recognition of TMK's contribution to the industry, the "One Unmanned" product was shortlisted for the category "most innovative product" in the inaugural Lloyd's Innovation award in November 2015.

Renewable Energy and related infrastructure

Renewable energy is a growing source of alternative energy which helps climate change. A 2013 study by Swiss Re predicted premiums paid by renewable-energy producers for insurance and other risk-mitigation products will increase from the current $850 million to anywhere between $1.5 billion and $2.8 billion by the end of this decade. However, the renewable energy industry tries to balance the need to find innovative new ways to drive down costs and boost production against the necessity for reliable, well-proven technology. This comes at a cost to the insurers.

TMK is a pioneer in the renewable energy insurance space and has been underwriting since 2002, by supporting one of the largest and long established managing agency in this area. To-date, TMK still leads the Renewables line slip with a share of more than a third, covering comprehensive property insurance coverage for transit, construction and operational risk associated with wind, solar, hydroelectric and wave and tidal energy generation across developed and developing countries. We have seen the mix of portfolio shifting over the years with the emergence of new sources of energy and increasing exposure to emerging countries such as Latin America, South Africa, Asia.

Given our participation in this area over the past decade, we have access to extensive technical data and this has been used for risk management and understanding of key trends. The managing agency whom we have supported often hosts workshops / conferences for its customers. These conferences aim to provide key lessons learnt from new technologies, risk management best practices as well as key market trends and emerging risks. TMK is represented in all of these workshops/conferences.

In addition, TMK insures new technologies associated with the infrastructure related to renewable energy. For example, we have provided insurance coverage on offshore transmission (OFTOs) for several projects offshore

Northern Europe since 2014. We expect the support from the insurance coverage to be critical in the development and growth of this infrastructure going forward.

Building on TMK's expertise in this field, the Tokio Marine Group has leverage the size of its balance sheet in providing insurance coverage on larger renewable energy projects and supporting our clients globally. A few notable examples include the Fukushima floating offshore wind farm project in Japan and MHI Vestas in Scandinavia.

Carbon Credit

Carbon credits are one of the initiatives created to encourage green behaviour and work against climate change. They allow businesses to get paid for using greener processes which they might otherwise not do. Through the Clean Development Mechanism, carbon credit could be monetised into cash. This enables carbon credit to be sold to a developed nation or other company under initiatives such as the EU Emissions Trading Scheme.

TMK is first in the Market with capability in structuring carbon credit insurance. Similar to many financial or trade transactions, insurance can protect the risk that is associated with the lost in value of carbon credits including issues with the trade platform or mechanism. For example, if a company pressed ahead with a windfarm project and had a carbon credit buyer lined up, insurance would protect the risks that the buyer reneged on the promise of purchase and that they company would had to sell the credits to a new buyer at a lower price.

This product is applicable and can be tailored for asset classes that produce carbon credits (CO2 savings). For example, TMK has tailored this product for a standing timber forest in New Zealand as well as for wind farms in China and Mongolia. TMK has started raising the profile of this new technology through market blogs published on our website.

Construction and Engineering

In the US, aging coal generated power stations are being replaced with much cleaner natural gas as they are more efficient which reduces CO2 emissions. Over the next few years, natural gas generated power is expected to replace c.95 GW of coal fire power plants and this has led to an increase in the construction of "combined cycle gas turbine" plants. TMK provides insurance coverage in the construction of these plants.

To minimise the impact on climate change, there has also been increasing focus in the construction industry on the use of 'eco-friendly' materials for buildings and infrastructure projects. The TMK Construction and Engineering team is providing insurance coverage on wood-framed buildings (as opposed to concrete which is more damaging to the environment). They also provide insurance coverage for construction of 'waste to energy' facilities, such as domestic waste incineration, biomass fuelled power plants or anaerobic digestion, mostly in developed markets.

Forward planning

Being at the forefront of innovation, TMK aims to continue developing new insurance products in response to climate change.

Evidence also applies to principle(s): 1.1, 1.2, 1.3, 3.4

Source(s): Tokio Marine Kiln[49], [50]

2 Inform public policy making

Policymakers around the world are looking to business to help them combat climate change. The Corporation of Lloyd's intends to continue the dialogue.

Support global leaders

The Corporation of Lloyd's are relying on global leaders and policymakers to take the necessary brave steps to avoid dangerous climate change. It has and aims to continue to support them. Inga Beale, Chief Executive, pledged the Corporation's support for the Target Two Degrees campaign, which raises awareness about the need to tackle global warming. Launched by Insurance Europe, the European insurance and reinsurance federation, the campaign called on people to support a worldwide commitment to limit the increase in global warming to 2°C. To pledge your support, visit their website.

Power of collaboration

The Corporation of Lloyd's continues to be highly involved in the climate change debate and participate in many cross-industry, UK and international projects and initiatives. Corporation staff engage with many organisations on climate change – eg ClimateWise, London Climate Change Partnership, Geneva Association, and UK Government departments. The Corporation of Lloyd's believes that the insurance industry is in a unique position to be able to encourage mitigation and adaptation.

Speaking out

As stated in its Corporate Social Responsibility strategy, "[the Corporation is] committed to use its position and voice to inform and encourage appropriate action on global social and environmental issues of relevance to insurance, such as climate change". A range of different communication tools are used to raise the issue of climate change, including social media, blogs, its websites and speaking opportunities.

The Corporation of Lloyd's continues to produce reports and publish news stories and articles on various aspects of climate change. Through ClimateWise, we are also engaged in numerous activities to encourage and facilitate adaptation. An example of this is that the Corporation of Lloyd's, along with other ClimateWise signatories, signed an open letter to the Prudential Regulation Authority calling for more action on building resilience to climate change in the build up to the 21st Conference of Parties held in Paris at the end of 2015.

2.1 Work with policy makers nationally and internationally to help them develop and maintain an economy that is resilient to climate risk. This should include supporting the implementation of emissions reductions targets and where applicable supporting Government action that seeks to enhance the resilience and reduce the environmental impact of infrastructure and communities.

2.1.1 Lloyd's / The Corporation of Lloyd's / Leading from the top

As stated in the Corporate Social Responsibility (CSR) strategy for 2016-2018, "as a major player in the global economy, it is important that Lloyd's acts responsibly". The Corporation of Lloyd's is already highly regarded for the CSR undertaken in its local communities. As the market grows and diversifies, so does this activity.This responsibility also applies to business practices. The Lloyd's market should aspire to the highest standards in business conduct and ensure its customers are fairly treated at all times.

The Corporation of Lloyd's also wants to use its experience and expertise to help communities around the world build resilience against disasters, including the effects of climate change and extreme weather events. John Parry, Director, Finance, and ClimateWise sponsor, summarised the Corporation of Lloyd's position in a news story announcing Lloyd's ClimateWise table position in December 2015: "Climate change is a key issue for everyone, and recent natural disasters show the very real cost that climate change could potentially cause insurers in the future.

"Lloyd's recognises the potential effects of climate change and the direct impact on the business community and we are in regular dialogue with insurers, businesses and policy makers to try to address the challenges of climate change, both for our industry and for the wider world." Lloyd's continues to use different communication tools to raise the issue of climate change, including social media, blogs, and its websites and speaking opportunities. Within this news story the Corporation of Lloyd's chose to disclose its ClimateWise score and position as part of the Corporation of Lloyd's commitment to support action to tackle climate change in the run up to COP21, and to demonstrate the aim in 2016 to continuing to play a leading role in ClimateWise.

The Corporation of Lloyd's believes that the insurance industry is in a unique position to be able to encourage mitigation and adaptation. The Corporation of Lloyd's therefore participate in cross-industry, UK and international projects and initiatives including the London Climate Change Partnership. The Corporation of Lloyd's also produce numerous reports and publish news stories and articles on various aspects of climate change, which are described in the principle one submissions. Through ClimateWise, the Corporation of Lloyd's are also engaged in numerous activities to encourage and facilitate adaptation on top of the Corporation of Lloyd's efforts.

Throughout 2015-2016, senior members of Corporation staff have continued to speak publicly about the issue of climate change and to present work on mitigation and adaptation. The following speeches are available online and represent a select of speaking engagements.

Senior Corporation speaking engagements mentioning climate change

Date	Title	Speaker	Event
27/06/2015	The challenges and opportunities facing the South Africa insurance market today	Inga Beale, Chief Executive Officer	IISA/SAIA/FIA Conference
30/09/2015	Welcome speech	John Nelson, Chairman	Lloyd's City Dinner
26/10/2015	Latin America: a golden opportunity (available in English and Spanish)	John Nelson, Chairman	Keynote speech at the Inter-American Federation of Insurance Companies (FIDES) conference in Santiago, Chile

Additional speaking events over the last reporting year included, but are not limited to:

- 25 November 2015: Lloyd's Science of Risk Prize. Tom Bolt, Director, Performance Management.
- 12 January 2016: Lloyd's/Aldersgate Group event: Beyond Paris, What next? Inga Beale, Chief Executive Officer.
- 10 May 2016: Disaster Risk Finance and Insurance: tools for emerging economies. John Parry, Director, Finance.

Evidence also applies to principle(s): 2.1, 2.2, 6.1

Source(s): Lloyd's Press Centre[51], Lloyd's news story[52]

2.1.2 Lloyd's / The Corporation of Lloyd's / Developing a resilient world – the formation of the Insurance Development Forum by the United Nations, the World Bank Group and the Insurance Industry

On the 18 April 2016, senior figures of the United Nations, the World Bank Group and the insurance industry announced the formation of the Insurance Development Forum (IDF), which occurred at a high level meeting in Washington, DC, the week before.

The IDF broad scale mission stated in the press release is to: "better understand and utilise risk measurement tools that aim to help governments apply that knowledge at multiple levels in order to better deploy governmental resources targeting resilience to protect people and their property". Two initial aims from the Forum are to:

1) incorporate insurance industry risk measurement know-how into existing governmental disaster risk reduction and resilience frameworks; and

2) build out a more sustainable and resilient global insurance market in a world facing growing natural disaster and climate risk.

This announcement followed a keynote address by the UN Secretary General Ban Ki-Moon at a planning conference on 13 April 2016, attended by Inga Beale, Chief Executive Officer, Lloyd's, alongside many CEOs of the insurance industry.

During its inaugural meeting, the IDF established four priority work streams:

1. Understanding Risk: the IDF aims to support a better understanding of hazards and the exposure and vulnerability of people and assets to those hazards. By quantifying the risks and anticipating the potential impacts of hazards, governments, communities and individuals are better able to make informed decisions on resilience, insurance, investment and wider policies and interventions.
2. Risk and Insurance Regulation, Legislation and Policy: the IDF aims to promote (i) supportive and inclusive insurance regulation to increase access to insurance by the most vulnerable and (ii) integration of quantitative and standardized climate and natural hazard risk disclosure into mainstream financial and accounting systems and the appropriate adoption of resilience policies to protect lives, livelihoods and assets.
3. Risk Sharing, Transfer and Response: the IDF aims to fully support the delivery of the G7 InsuResilience Climate Risk Insurance Target and facilitate availability of climate and natural hazard risk sharing facilities in most regions. The IDF aims to identify and address challenges to wider insurance coverage (including sovereign, micro-insurance and conventional insurance facilities) and encourage insurance development metrics within updated official statistics and post 2015 indicators.
4. Risk and Resilience: the IDF aims to help build the capacity of developing and emerging countries to manage and implement sustainable financing and resilient investment from insurance and related sectors. It aims to support the creation of a Global Adaptation and Resilience Fund to invest in resilience related technologies, innovation and facilities.

The IDF acts as a Forum to enable the optimal coordination of insurance related activities; the development of shared priorities; the mobilization of collective resources; the development of strategic and operational relationships within and between governments, industry and international institutions; and, to avoid the fragmentation of efforts and resources. The IDF is set to be led by a High Level Steering Group of senior leaders from the insurance industry and governmental institutions supported by an Executive Secretariat, housed at the International Insurance Society (IIS).

The IDF is chaired by:

- Stephen Catlin, Executive Deputy Chairman, XL Catlin; Deputy Chair International Insurance Society and Chair of the Association of Bermuda Insurers and Reinsurers.

With co-chairs:

- Joaquim Levy, Managing Director and World Bank Group Chief Financial Officer, and former Minister of Finance of Brazil.
- Helen Clark, Administrator of the United Nations Development Program (UNDP), and former Prime Minister of New Zealand.

Inga Beale, Chief Executive Officer, Lloyd's has accepted a place on the steering committee alongside ClimateWise members from Aviva and XL Catlin. This commitment from Beale forms part of a larger programme of work that is reported against through this report on the topic of resilience, and is part of the overarching work towards Vision 2025. Staff from across the Corporation of Lloyd's aim to be involved in supporting this work stream.

The Corporation of Lloyd's is also supporting the Oasis Loss Modelling Framework on this initiative.

Continuing this theme, the Corporation of Lloyd's has been involved in a number of meetings and discussions with stakeholders working in this area. Trevor Maynard, Head of Exposure Management and Reinsurance, attended and presented Corporation progress and research at the Seventh Meeting of the High-level Experts and Leaders Panel on Water and Disasters (HELP). The meeting was held on 11 May 2016 at Bilderberg Parkhotel Rotterdam, and hosted by The Ministry of Infrastructure and the Environment, Kingdom of the Netherlands. The meeting was chaired by the Vice-Chair of HELP, H.E. Ms. Melanie Schultz van Haegen, Minister of Infrastructure and the Environment, Kingdom of the Netherlands. The meeting was attended by about 60 participants from HELP member organisations representing national governments, international organisations, civil society and private sector.

Seventh Meeting of HELP (Figure 6)

The presentation is available online, and the Corporation of Lloyd's welcomes discussion on this topic.

Evidence also applies to principle(s): 1.1, 1.2, 1.3, 1.4, 2.2, 6.1

Source(s): IDF press release[53], HELP[54], [55]

2.1.3 Lloyd's / The Corporation of Lloyd's / Climate change and the insurance industry: Adaptation Sub-Committee

Trevor Maynard, Head of Exposure Management and Reinsurance, was invited to address a session on the 19 November 2015 of the Committee on Climate Change, Adaptation Sub-Committee (ASC) to present the findings of the Food System Shock report. The presentation clarified how food security is a potential threat to insurers through aspects covering geopolitical risks, business interruptions, agriculture in terms of land damage and product liability.

The event was attended by the following Sub-Committee members: Professor Lord Krebs, Sam Fankhauser, Jim Hall, Anne Johnson, Martin Parry and Graham Wynne. The outcomes from the Food System Shock report have been used and referenced in chapter 7 of the 'Climate Change Risk Assessment 2017' that is scheduled to be laid before Parliament by January 2017.

Evidence also applies to principle(s): 1.1, 1.2, 2.2, 6.1

Source(s): ASC Committee Meeting[56],[57],[58]

2.1.4 Lloyd's / The Corporation of Lloyd's / Can we feed the world sustainably? Schrodinger Lecture

On 19 January 2016, Trevor Maynard, Head of Exposure Management and Reinsurance, was invited to take part in and attended Imperial College London's Schrodinger Lecture and Guest Dinner.

Maynard was invited to make a presentation in recognition of the Corporation of Lloyd's status of being experts in climate modelling, and work on the Food System Shock report roundtables that Imperial College London staff contributed towards.

Maynard is one of a number of Corporation staff who commit to engagement activities throughout the year as part of the Corporation's aim to remain a responsible global corporate citizen through its ethical principles and sharing of knowledge and expertise.

Evidence also applies to principle(s): 1.1, 1.2, 2.1, 2.2

Source(s): Lloyd's 2015 Annual report[59], Lloyd's Vision 2025[1,] Can we feed the world sustainably?[60]

2.1.5 Lloyd's / The Corporation of Lloyd's / London Climate Change Partnership

The Corporation of Lloyd's continues to support the London Climate Change Partnership (LCCP), a multi-stakeholder group with a secretariat at the Greater London Authority. The LCCP is the centre for expertise on climate change adaptation and resilience to extreme weather in London. LCCP is comprised of public, private and community sector organisations that have a role to play in preparing London for extreme weather today and climate change in the future.

Lucy Stanbrough, Executive, Emerging Risks and Research, continues to represent Corporation as a member of the LCCP steering group, which commissions and monitors a range of London focussed climate change projects. One example includes the below example.

Weathering the storm: The Impact of Climate Change on London's Economy

In 2014, Nick Beecroft, Manager, Emerging Risks and Research, took part in a meeting of the London Assembly Economy Committee on 24 June 2014, on the 'Investigation into Climate Change Risks to the London Economy', as part of the Corporation of Lloyd's work with the LCCP. The meeting was also attended by other LCCP members, who were invited to the meeting in recognition of the collective expertise within the partnership and the unique nature of the multistakeholder composition. The report was finally launched in July 2015, and the LCCP were set a recommendation within the findings:

> *"Recommendation 5:*
>
> *The London Climate Change Partnership should develop a London monitoring and evaluation programme for business adaptation to climate change, using the national set of indicators developed by the Adaptation Sub Committee of the Committee on Climate Change, as a basis. The Environment Agency should contribute to its development."*

Forward planning

The Corporation of Lloyd's attends meetings like this as part of the Corporation of Lloyd's horizon scanning process, which informs the Corporation of Lloyd's research strategy for planning projects going forwards. Lloyd's partner status supports the Corporation of Lloyd's commitment to continuing dialogue with policymakers and stakeholders in London as part of the Corporation of Lloyd's aim to be a centre for global expertise, and to share the Corporation of Lloyd's views on climate risk as a leader in risk analysis.

This partnership represents one example of the Corporation of Lloyd's commitment to engaging with public policy makers with partnership members representing key stakeholders working in this area.

Corporation staff continue to engage and promote events supported by the group to the Corporation of Lloyd's wider network.

Evidence also applies to principle(s): 1.1, 2.2, 4.1

Source(s): London Climate Change Partnership[61], London Assembly[62]

2.1.6 Lloyd's / The Corporation of Lloyd's / Pathways to City Resilience

Last year the Corporation of Lloyd's reported against the Global Reinsurance Forum (GRF) report, which concluded that 'disaster risk is becoming more complex and costly, and the global reinsurance industry has a critical role to play in helping societies prepare for and recover from the impact'. Building on this theme, the Corporation of Lloyd's have been developing the Lloyd's City Risk Index (see, case study 1.3.1), which has been used to explore and take the concept forwards.

On 17 February 2016, the Corporation of Lloyd's and American Security Project, a nonpartisan national security think-tank, hosted an event on 'Pathways to City Resilience'. This half-day event examined the challenge of developing global resilience and protecting urban centres from economic shocks. The forum saw key policymakers, business leaders, risk managers and regulators discuss how US cities and institutions could build greater resilience, and to examine best practices in risk assessment, mitigation, adaptation and transfer.

Pathways to city resilience event (Figure 7)

Keynote speaker Judge Alice Hill, Special Assistant to the President and Senior Director for Resilience Policy at the National Security Council at the Whitehouse, outlined key issues cities face in their pathways to resiliency. Governor Tom Ridge, Chairman, Ridge Global and former Governor of Pennsylvania and former Secretary of Homeland Security, spoke about his experience in government and with issues such as cyber attacks and potential human pandemics. The event provided senior government and business leaders the opportunity to ask policy and community leaders questions on city resiliency.

Speaking at the event, Glenn Dorr, Northeast Regional Director, Lloyd's said:

"The City Risk Index is designed to stimulate the conversation between business, government and insurers on our collective responsibility to ensure that appropriate steps are taken to promote awareness of risk, facilitate post-event recovery and build resilience. We have to work out how we can support each other to protect our collective interests and those of the citizens in our ever growing cities across the United States."

Dante Disparte, Founder and Chief Executive Officer, Risk Cooperative, said:

"The confluence of man-made, natural and emerging risks set against a backdrop of unprecedented levels of urbanization call for entirely new combinations of public sector, insurance and capital market support. Risk is a cost of doing business, leading a city or a country in an interconnected and turbulent world. Resilience on the other hand is an investment, one requiring a long term investment horizon and new categories of solutions. The Lloyd's City Risk Index begins to frame the economic consequences and opportunities shaping our times and urges policymakers and business leaders alike to get off the sidelines."

The event was recorded, and videos can be viewed online:

- Featured speaker: Judge Alice Hill
- Panel one: Risk & Resiliency: Understanding the City Risk Index
- Featured speaker: Governor. Tom Ridge
- Panel two: Emerging Risks: Impacts and Opportunities
- Panel three: The Way Forward: How to Build Resiliency

Evidence also applies to principle(s): 1.1, 1.2, 1.3, 2.1, 3.1, 3.3, 3.4

Source(s): Global Reinsurance Forum[63],[64], Lloyd's news story[65]

2.1.7 Lloyd's / The Market / Amlin / Internal Policies and Procedures

Amlin has a number of policies and procedures in place which ensure that our position on climate change is made aware to suppliers, employees and the general public. Through our membership of the Lloyd's market and the insurance collaboration organisation ClimateWise, Amlin participates in the lobbying for action on climate matters.

Amlin has an 'Environmental Management Policy', published on the employee intranet site. Also, where appropriate, prior to the placement of new contracts with third parties, a copy of the environment policy is requested by our vendor management team to ensure that weighting is given accordingly in contractor selection.

Evidence also applies to principle(s): 5.1, 5.4, 6.1

Source(s): Amlin

2.1.8 Lloyd's / The Market / Beazley / Paris Pledge for Action

Beazley have recently signed the Paris Pledge for Action which represents the formal initiative for non-state organisations at COP21, the 2015 UN Climate Change Conference. This is a demonstration of our support for the Paris Agreement and its ambition to limit the global temperature rise to less than 2 degrees Celsius.

Forward planning

Beazley are sending a representative to the Prince of Wales' Business and Sustainability Programme at the University of Cambridge's Institute for Sustainability Leadership. This course looks at how sustainability issues are shaping regulation, markets and supply chains, and will enable us to consider how we can manage this changing context at Beazley.

Evidence also applies to principle(s): 2.2, 6.1

Source(s): Beazley.

2.1.9 Lloyd's / The Market / CHUBB / CHUBB Advisory Examines Costly Environmental Risks Facing the U.S. Agriculture Industry

Amid heightened scrutiny and intensified regulations, pollution incidents pose a serious risk for vital agricultural businesses.

In March 2016 CHUBB released an in-depth report detailing new and unrecognised environmental risks facing the agriculture industry. The report discusses how these businesses can help reduce pollution risks related to their operations and address potential gaps in insurance coverage.

While the number of U.S. farms has decreased, total U.S. agricultural output has more than doubled since 1948 as farmers have made greater use of chemicals, energy and machinery to substitute for human labour, according to the United States Department of Agriculture. Because of these operational changes, agricultural businesses must now address a dramatic rise in their environmental liability risks.

"Agricultural Businesses Face Unrecognised Environmental Risks" was co-authored by Craig Richardson, Senior Vice President, CHUBB Environmental, and Philip Twietmeyer, Senior Vice President, CHUBB Agriculture. It is the latest instalment in CHUBB's series of insurance and risk management perspectives papers for risk managers.

"With increased consolidation and production – and the resulting reliance on fertilisers and other chemicals – the agricultural industry needs to be aware of current and under identified pollution exposures," said Mr. Richardson. "To reduce the threat of environmental risks and potential expensive remediation, companies should conduct a thorough risk assessment of their operations to identify any activities that might result in pollution incidents. They should also work with an insurer to assist them with understanding critical pollution risks and instituting a coverage program that can provide the appropriate pollution insurance while supporting the growing needs of the industry."

Key highlights from CHUBB's report include:

- recognising specific pollution risk associated with fuel, fertiliser, chemicals, and storage tanks;
- addressing increasingly strict environmental regulations at the state and federal level, especially as suburban development increases;
- recognising the signs of potentially wide-ranging pollution exposures for agricultural co-ops and supporting businesses;
- assessing protection methods, and upgrading insufficient hardware, machinery, storage, and transport vessels; and
- reviewing and implementing a pollution risk control strategy, and securing coverage that addresses all these risks.

To access the full report, please visit our website at the link below. The material presented in this report is not intended to provide legal or other expert advice. It is presented as informational only. Readers should consult legal counsel or other technical experts, as applicable, see more at:

http://news.chubb.com/2016-03-10-Chubb-Advisory-Examines-Costly-Environmental-Risks-Facing-the-U-S-Agriculture-Industry

Evidence also applies to principle(s): 2.2

Source(s): CHUBB.

2.1.10 Lloyd's / The Market / Navigators Underwriting Agency Limited / ClimateWise CEOs respond to the Prudential Regulation Authority's report 'The impact of climate change on the UK insurance sector'

In October 2015, Stephen Coward, President, Technical Risk, signed an open letter to Mark Carney in support of a ClimateWise CEOs call for more climate action by publishing the statement in the Financial Times.

The letter welcomed the PRA's initiative to be one of the first insurance regulators globally to examine the likely impact that climate change will have on the insurance industry and its customers. The group also called for the PRA's report to lead to more urgent collective action to reduce the risks of climate change impacting society, and ultimately the insurance industry.

Evidence also applies to principle(s): 2.2, 6.1.

Source(s): Navigators Underwriting Agency Limited.[66]

2.1.11 Lloyd’s / The Market / QBE / Engaging with governments and regulators on ESG issues

QBE has a strong track record of engaging with governments and regulators on ESG issues. As a global insurer with operations in 37 jurisdictions, QBE is well-placed to share expertise gained from dealing with catastrophes in multiple locations when working with local authorities as they respond to a natural disaster. In the aftermath of Cyclone Pam, the most intense tropical cyclone in the southern hemisphere in 2015, QBE and the regulatory officials in Vanuatu agreed on a regular update program and immediately QBE took a leading role by initiating standing weekly meetings.

For several months after the March storm, information sharing meetings were held weekly and then fortnightly as the country recovered from one of the worst natural disasters in its history. QBE staff were able to provide guidance and direction to Vanuatu officials in relation to both the recovery process and future disaster preparation.

QBE also contributed to the Northern Australia Insurance Premiums Taskforce (Taskforce) established by the Australian Government in March 2015. The Taskforce was established in response to concerns over affordability and access to insurance, in particular strata title cover, in Northern and Far Northern Queensland. By virtue of geography and climate, communities in this region are exposed to particular risks from severe weather and cyclones.

Following detailed consideration of the issues under review, QBE provided a submission to the Taskforce in September 2015. QBE supports the Insurance Council of Australia (ICA) proposal focusing on short-term targeted Federal Government subsidies that improve the cyclone resilience of older homes in North Queensland. This is considered as the most effective, low-cost and sustainable way of protecting communities while also reducing insurance premiums.

QBE and the ICA also propose the following initiatives: a focus on hazard awareness education; a forum for consumers to provide evidence when they believe that premium prices do not accurately represent the relevant risks; and a centralised database where mitigation work conducted can be registered to ensure that premiums accurately correlate with the level of risk to a property.

QBE is a leader in promoting action on ESG issues through socially responsible investment. This is reflected in our sponsorship of socially responsible investment products through our stated intention to invest $100 million in social impact bonds over the next three years. Social impact bonds are social policy-driven investments that pay a return based on the performance of a social service provider improving a specific social outcome. The key participants in social impact bonds are governments, social service providers (generally not for profit organisations) and private sector investors with a focus on areas of social and welfare services.

Social impact bonds have the potential to benefit the whole community as achievement of the targeted outcome should reduce the need for, and therefore government spending on, acute social or welfare services. Part of the resultant public sector savings are then used to repay investors’ principal and make additional reward payments (the return on investment), the level of which is dependent on the degree of improvement achieved. QBE is also an active investor in green bonds, which are a funding source for eligible development programs that are designed to address the challenges of climate change – see case study 4.1.1 for more details.

2015 was also the first full year in which QBE was a signatory to the UN’s Principles for Responsible Investment. These principles provide a framework under which QBE formally integrates and tracks ESG considerations, such as environmental and social impacts of business practices or stakeholder expectations, throughout our investment process.

Evidence also applies to principle(s): 1.1, 1.2, 2.2, 3.1, 3.4, 4.1, 4.2, 4.3

Source(s): QBE.

2.1.12 Lloyd's / The Market / RenaissanceRe Syndicate Management Ltd / Insurance Development Forum (IDF)

RenaissanceRe has long been active in promoting risk mitigation and disaster preparedness to save lives and increase the economic resiliency of cat-exposed communities. Our goals are to help develop new insurance markets and give people and governments incentives to mitigate risks. Ultimately, these efforts hope to reduce the severity and frequency of claims our clients receive, create demand for our products, and are simply good corporate social responsibility.

The IDF was formed in April 2016 following the UN Sendai Framework which highlighted that the key foundation needed in order to assist emerging nations' uninsured populations, is first helping them in understanding risk. Therefore the IDF initiative grew out of the climate change underpinnings of Sendai. RenaissanceRe played a key leadership role in the creation of the IDF, alongside the United Nations, World Bank and insurance industry.

IDF aims to:

- Incorporate insurance industry risk measurement know-how into existing governmental disaster risk reduction frameworks.
- Build a more sustainable, resilient insurance market in a world facing growing natural disaster/climate risk.

Today in the developing world, more than 90% of economic costs of natural disasters are uninsured; this is known as the Protection Gap. The IDF Mission is to better understand and utilize risk measurement tools that will help governments apply that knowledge at multiple levels in order to better deploy governmental resources targeting resilience to protect people and their property.

The Risk Modelling and Mapping Project (RMMP)

The RMMP is a sub-group of the IDF co-chaired by Ian Branagan, Group Chief Risk Officer and Senior Vice President, RenaissanceRe Holdings Ltd and Alanna Simpson (Global Facility for Disaster Reduction and Recovery - GFDRR, World Bank).

The RMMP team has focused on understanding the "problem space" of why there is currently limited collaboration across government, intergovernmental, academia and the insurance industry to work to close the insurance protection gap in developing countries.

Efforts have focused on discussions with the insurance industry, especially through the Lloyd's Disaster Risk Facility initiative that RenaissanceRe was instrumental in setting up. This initiative involves several syndicates providing a pot of capital for under-insurance, which currently stands at $400mn.

Work carried out so far has established there is currently:

- Duplication of activity and inefficient use of resources and capabilities – resulting in persistent "reinvention" of models, platforms, data and information.
- Highly variable understanding of risk modelling capability and risk assessment development amongst all parties.
- Poor communication and uptake of approaches proven to work due to competition between parties.
- Inconsistent development of data, models, methods and language - resulting in reduced confidence in risk modelling outputs and a reduced ability to coordinate, share and communicate about risk.
- Ignorance of models, data and platforms developed and available if deployed 'by someone else"
- Poor access to - and sharing of - high quality hazard, exposure, risk and historical loss data where it does exist. Serious gaps in exposure and vulnerability data in developing countries.
- Challenges with bridging the communication gap and mis-alignment of interests between public and private sector.

To overcome these challenges, the RMMP team is proposing the creation of a "neutral collaboration platform" which will bring intergovernmental organisations (e.g. World Bank and United Nations), academia, the insurance industry and governments together to overcome the challenge of limited data availability in two or three pilot countries.

This collaboration platform would focus on bringing the strategic advantages of all partners to the table, for example, with intergovernmental organisations facilitating dialogue with government agencies on the risk modelling and insurance protection gap; risk modelling experts from academia, the insurance industry and intergovernmental organisations bringing their expertise and data to the table to undertake the analysis; and the government to engage in exploring potential insurance options.

The advantages of this approach would be to:

- Determine and quantify the opportunities of collaborative versus individual institutional action.
- Facilitate a simpler vehicle for discussions between insurance companies, the broader risk modelling community and the intergovernmental organisations.
- Enable harmonization of language, approaches and standards for risk modelling that promote rather than restrict innovation within this field.
- Facilitate efficiency of risk models and platforms whereby consolidated toolsets, models and vernacular can be used on both the demand and supply side.
- Reduce competition between various actors and move towards the creation of data as a public good.
- Build a library of questions on the impact of natural hazards, from the local to national level – and for each question, develop guidance on the data needed to answer these questions and the methodologies available. For example, for flood at a local level the following questions might be relevant:
    - What is the return period of a flood for this part of the country?
    - How high should defences be built to protect against a 1:100 year flood
    - What type of improved construction standards would protect more lives and what is the cost-benefit?
    - How much rain is expected in the next month?

While these questions are at the local level, the same data that is needed to answer these questions is also needed to build catastrophe models.

Technological solution

RMMP proposed that OASIS is used as the technological solution underpinning the collaboration platform, given that this is a fully open source solution that can bring together academic and insurance modelling capabilities, open data, and there are existing standards and operational frameworks which the RMMP can build upon.

Oasis is an open source cat modelling platform, also supported by SCOR, AXA, and Lloyd's along with other industry leaders.

However, to make this work, the following actions are needed:

1. Establishment of a simple secretariat of RMMP partners which brings together all parties together at least twice a year – propose alternating London and Washington DC for these meetings;
2. Attainment of resources to fund partners to undertake risk modelling on the OASIS platform, where all outputs are made fully open.
3. Identification of two or three countries who are actively interested in the insurance gap
4. Interviewing a range of individuals and organisations from around the world to find out what are the key questions they see as pivotal in managing extreme weather, hazard and climate risks.
5. Getting consensus from a selected set of experts from academia, business and government for a set of standards for the hazard data, tools and techniques that respond to these questions. Standards would act as a focus for local, global academics and donor agencies to support efficient development of key datasets at a local level with a direct benefit to end users.
6. Publishing and providing training material on the key issues for the production of this risk data.

Next steps

- Further consultation at the 2016 Understanding Risk Forum, which took place 16 - 20 May 2016 in Venice, Italy, on the development of a neutral collaboration platform.
- Expansion of the RMMP to include partners who are interested in contributing data, knowledge, expertise, and/or resources to the collaboration platform.
- Establishment of a work plan for the next 12-24 months.

Evidence also applies to principle(s): 1, 2.2, 3, 6.1

Source(s): RenaissanceRe Syndicate Management Ltd.

2.1.13 Lloyd's / The Market / Tokio Marine Kiln / Social contribution through participation in international initiatives

The Tokio Marine Group contributes to a safe, secure and sustainable future as a signatory to and participant in the United Nations Global Compact (UNGC), the United Nations Environment Programme Finance Initiative (UNEP FI), Principles for Sustainable Insurance (PSI) and the United Nations Principles for Responsible Investment (PRI).

In addition, through participation in the Disaster Risk Reduction Private Sector Partnership (DRR-PSP) of the United Nations Office for the United Nations Office for Disaster Risk Reduction (UNISDR), ClimateWise and Geneva Association's Extreme Events and Climate Risk Working Group, the Tokio Marine Group is working to resolve the issues of climate change and natural disasters and mitigate their damage.

At the Third UN World Conference on Disaster Risk Reduction held in March 2015 in Sendai, Tokio Marine contributed to the success of the conference and a more resilient society by presenting the results of industry-academia collaborative research with Tohoku University (including the development of stochastic risk assessment method for earthquake-induced tsunamis), promoting global sharing and dialogue regarding insurance and risk management knowledge, unveiling disaster prevention solutions and other efforts.

Forward planning

Ongoing participation in international initiatives.

Evidence also applies to principle(s): 1.1, 1.2, 1.3, 2.2, 4.1, 4.3

Source(s): TKM Annual report[67], Geneva Association[68].

2.2 Promote and actively engage in public debate on climate change and the need for action.

2.2.1 Lloyd's / The Corporation of Lloyd's / Lloyd's City Dinner hits the headlines

John Nelson, Chairman, and Mark Carney, Governor of the Bank of England, made media headlines at the 2015 City Dinner, held for the first time in the underwriting room in the Lloyd's building, when they highlighted the potential perils of climate change for insurers. The report launched by the Band of England during Carney's speech, 'The impact of climate change on the UK insurance sector', mentions five reports from the Corporation of Lloyd's.

The Corporation of Lloyd's contributed to workshops held as part of the ClimateWise 'Climate change roundtable series', and through discussions and input to PRA requests that were reported against last year.

At the event, Nelson spoke of the growing mistrust of business among populations around the world, amplified since the 2008 banking crisis by a steady diet of negative business behaviour, including excessive remuneration, a lack of customer focus and corruption.

To tackle this "trust deficit", capitalism must get back to its true purpose, he said. It "must demonstrate that it is an engine of economic growth for all; not for an exclusive minority".

Insurance, he argued, has demonstrated its social purpose but "despite this, we at Lloyd's, and in the insurance industry, cannot afford to be complacent. We have to understand the need to improve and change."

He highlighted some of the work the Corporation has been carrying out in this regard including modernisation, innovation and promoting diversity.

He then spoke about regulation, describing the Solvency II experience as "particularly wearing and costly – unnecessarily so", although he also praised both the PRA and the FCA for "in very large part, doing an excellent job and acting in Lloyd's best interests".

Acknowledging that the Lloyd's market was in good shape, he concluded by saying that though he saw threats ahead, he also saw great opportunities and was looking forward to the challenges ahead.

Nelsons opening speech is available on the Corporation of Lloyd's website.

Carney, who spoke after Nelson, warned the financial services sector about the looming threat of stranded assets.

The Governor said that the vast majority of oil and gas reserves already discovered could now be "stranded" if new rules on carbon emissions are enforced by governments.

Climate change action could make vast reserves of oil, coal and gas “literally unburnable”, meaning that investors could face “potentially huge” losses,” he said.

“The exposure of UK investors, including insurance companies, to these shifts is potentially huge.”

He added that "climate change will threaten financial resilience and longer term prosperity. While there is time to act, the window of opportunity is finite and shrinking."

Mark Carney's speech: Breaking the tragedy of the horizon - climate change and financial stability is available from the Bank of England website, along with a recording of the speech from the event.

Lloyd's City Dinner (Figure 8)

Broadcasting live on a webcast, the speeches received over 200 viewers. The event was attended in-person by over 150 business and insurance leaders, government officials and ambassadors.

On the back of this event, the Corporation of Lloyd's, along with other ClimateWise signatories, signed an open letter to the PRA in support of the report launched by Carney. The letter called for more action on building resilience to climate change, which is described in case study 2.2.2.

Forward planning

Beale and Nelson are examples of Corporation staff who commit to engagement activities throughout the year as part of the aim to remain a responsible global corporate citizen through sharing Corporation ethical principles, knowledge and expertise.

Evidence also applies to principle(s): 1.1, 1.2, 1.3, 2.1, 6.1

Source(s): Lloyd's.com news story[69], Bank of England[70]

2.2.2 Lloyd's / The Corporation of Lloyd's / Calling for action on building resilience to climate change

John Nelson, Chairman of Lloyd's, and Mark Carney, Governor of the Bank of England, made the headlines at this year's Lloyd's City Dinner, held for the first time in the underwriting room in the Lloyd's building, when they highlighted the potential perils of climate change for insurers. On the back of that, the Corporation of Lloyd's, along with other ClimateWise signatories, signed an open letter to the PRA in support of the report launched by Carney, which called for more action on building resilience to climate change.

The PRA report, 'The impact of climate change on the UK insurance sector', is one of the first examples globally of an insurance regulator examining the impact that climate change risk could have on the insurance industry and its customers.

The letter was published in the Financial times, and signed by the below ClimateWise members:

- Andrew Kendrick, President, ACE European Group.
- Charles Philipps, Chief Executive Officer, Amlin.
- Dominic Christian, Executive Chairman, Aon Benfield.
- John Spencer, Non-Executive Chairman, ArgoGlobal - Syndicate 1200.
- Maurice Tulloch, Chief Executive Officer, Aviva UK & Ireland General Insurance.
- Andrew Horton, Chief Executive Officer, Beazley.
- Phil McNeilage, Chief Executive Officer, Cunningham Lindsey.
- Bronek Masojada, Chief Executive Officer, Hiscox.
- Torbjörn Magnusson, President & Chief Executive Officer, If P&C.
- Andrew Roberts, Chief Executive Officer, Innovation Group.
- Inga Beale, Chief Executive Officer, Lloyd's.
- Stephan Coward, President of Technical Risk, Navigators.
- Richard Murphy, Chief Executive Officer, Renaissance Re.
- Stephen Hester, Chief Executive Officer, RSA Insurance Group.
- Gary Shaughnessy, Chief Executive Officer, Zurich UK.

The letter was also highlighted in a press release by ClimateWise and received national and international media coverage.

Evidence also applies to principle(s): 1.1, 1.2, 1.3, 6.1

Source(s): Lloyd's.com news story[71], ClimateWise[72], FT Letters[73], Storify[74]

2.2.3 Lloyd's / The Corporation of Lloyd's / Maintaining momentum beyond Paris: what next for international & UK climate policy?

Insurance can play a key role in enhancing global resilience to climate change. That was the message from Inga Beale, Chief Executive Officer, Lloyd's, speaking at an event on 12 January 2016, co-hosted by the Corporation and Aldersgate Group.

The event, entitled "Maintaining momentum beyond Paris: what next for international & UK climate policy?" and held at One Lime Street, brought together business leaders, NGOs and policy makers to discuss next steps for the UK after the COP21 global climate agreement.

Featuring a keynote address by Amber Rudd, Secretary of State for Energy and Climate Change and introductory remarks from Dame Fiona Woolf DBE.

Speakers at Maintaining momentum beyond Paris (Figure 9)

Beale set out the impact climate change is having on the industry, saying: "Since the 1980s the number of registered weather-related loss events has tripled. Inflation-adjusted insurance losses from these events have increased from an annual average of around $10bn in the 1980s to around $50bn over the past decade."

Beale then went on to highlight some of the ways the insurance industry is already working in the area of climate change and building resilience, including the example of the eight Lloyd's syndicates which announced a disaster resilience facility for developing economies with £400m of capacity in November 2015.

Rudd gave her view of the importance of the Paris agreement but warned that a lot of work would need to be done to achieve the COP21 aim of restricting global temperature increase to below 2°C.

In terms of decarbonising energy, Rudd said the UK Government was not turning its back on the green economy but nor would it "pile the pain on consumers".

"Subsidies for the renewable energy should be temporary, not part of a business plan," she said before stating her belief that markets would drive down operational costs and stimulate the development of new technology.

Following Rudd's thoughts, the event's panel comprising Matthew Knight, Director of Strategy at Siemens UK; Sarbjit Nahal, Managing Director, Climate Finance, BAML; Anna Turrell, Head of Public Affairs, Nestle UK; and Inga Beale, Chief Executive Officer, Lloyd's – set out their views on what next for business.

When asked by the Chair, Martin Wolf – the FT's economic editor – what the Government could do to help the insurance industry in terms of policy, Beale suggested that Solvency II rules around capital weightings could be changed to make it easier for insurance companies to invest in infrastructure projects.

The panel took questions from the floor touching on a wide range of topics including fossil fuel subsidies, whether gas cookers would be around in 20 years and the changing transport habits of young Americans.

In conclusion, Wolf said that though Paris was much better than it might have been, agreement shouldn't be confused with solving the problem: “Everyone’s efforts need to be ratcheted up.”

Impact

The event was attended by over 200 people, and was the second-most prominent topic on the Corporation of Lloyd’s social media tracking during January 2016. Tweets covering this topic often used the hashtag “#BeyondParis” and can be found online.

Forward planning

Beale is one example of Corporation personnel who commit to engagement activities throughout the year as part of the aim to remain a responsible global corporate citizen through sharing ethical principles, knowledge and expertise.

Evidence also applies to principle(s): 1.1, 1.2, 1.3, 2.1, 6.1

Source(s): Lloyd’s.com news story[75], Aldersgate Group[76]

2.2.4 Lloyd’s / The Corporation of Lloyd’s / Driving momentum forwards for COP21

In October 2015, Inga Beale, Chief Executive Officer, pledged the Corporation’s support for the Target Two Degrees campaign, which aims to raise awareness about the need to tackle global warming. Launched by Insurance Europe, the European insurance and reinsurance federation, the campaign called on people to support a worldwide commitment to limit the increase in global warming to 2°C.

The pledge was covered on the Lloyd’s.com website and internal Corporation intranet, along with a link for readers to sign up to the initiative. Over 2,000 signatories were recorded by Insurance Europe in the build up to the COP21 talks. This is one example of a initiatives that the Corporation of Lloyd’s is a member of and uses to promote and engage on climate change action and messaging.

In November 2015, Beale signed an open letter from the coalition of CEO Climate Leaders, comprising CEOs from 78 companies with operations in over 150 countries and territories. The CEO Climate Leaders group is facilitated by the World Economic Forum, and believes that the private sector has a responsibility both to engage in global efforts to reduce greenhouse gas (GHG) emissions, and to help lead the global transition to a low-carbon, climate-resilient economy. To read the open letter, click here. A one page advert was placed in the New York Times to highlight the statement.

In November 2015, Beale signed the Climate Risks Statement, a call by 68 insurers and reinsurers in the Geneva Association – which the Corporation of Lloyd’s is a member of – reaffirming commitment to progress on climate resilience and adaptation. The group collectively represents an estimated $1.2trn of premium volume and manages total assets of more than $11trn.

Ahead of Paris, the group reaffirmed that it is “more committed than ever to playing an instrumental role in implementing the objectives to manage and reduce the risks associated with our changing climate”. To read the full statement, click here.

Following this, on the 3 December 2015, James Walmsley, Senior Manager, Government Policy and Affairs, at the Corporation, attended a ‘Special Session on Climate Change and the Insurance Sector’ in Paris organised by the OECD and Geneva Association. The meeting took place concurrently with the COP21 summit and explored the potential contribution of the (re)insurance sector to climate change mitigation and adaptation measures—in particular, the role of the insurance sector in a climate change agreement; managing the financial risks of extreme events in a changing climate; investing in the transition to a low-carbon economy; and, the role for regulators in addressing climate change risks. A review of the session can be found on the Geneva Association website, click here.

The Corporation of Lloyd’s announced the launch of the Lloyd’s Disaster Risk Facility in the run up to COP21 as part of the Corporation’s commitment to help developing economies build resilience against natural catastrophes. This project is described in case study 3.4.1. Details of the initiative were sent to the Geneva Association, which covered the initiative as part of its ‘COP21 Paris Agreement: What Does It Mean for the (Re)insurance Sector?’ post-Paris report.

In December 2015, John Parry, Director, Finance, signed the Paris Pledge for Action, on behalf of the Corporation in his role as ClimateWise sponsor. This formed part of Parry's schedule of activities in the run up to COP21. Parry attended a high-level reception at the British Ambassadors' residence in Paris on Monday 30 November 2015, to mark the start of COP21. The reception provided an opportunity for friends and associates of the Cambridge Institute for Sustainability Leadership – of which HRH the Prince of Wales is Patron – and the Prince's Accounting for Sustainability project, to mark His Royal Highness's speech to the opening plenary and to celebrate the opening of the United Nations Framework Convention on Climate Change (UNFCCC) COP21 talks.

Evidence also applies to principle(s): 1.1, 1.2, 1.3, 2.1, 6.1

Source(s): Insurance Europe[77], Lloyd's news story[78], CEO Climate Leaders[79],[80], New York Times[81], Geneva Association[82], [83], Paris Pledge for Action[84]

2.2.5 Lloyd's / The Corporation of Lloyd's / Science and modelling

The Corporation of Lloyd's continues to work towards improving the analysis and quantification of less or non-modelled regions and risks, including climate and environmental issues. Last year the Corporation reported against continued promotion of the Catastrophe Modelling and Climate Change report. The Corporation continues to promote the work and generate interest in the findings, which has included the event described below.

Trevor Maynard, Head of Exposure Management and Reinsurance, Lloyd's, was invited to speak at a session on 25 April 2015, of the All-Party Parliamentary Climate Change Group (APPCCG) on 'The Insurance Sector and Climate Change', to talk about the work as an example of Corporation activities.

The APPCCG set out the following aim for the session: 'to discuss how the insurance industry is preparing for more climate change related events, how UK citizens' insurance policies could be affected by climate change and how some insurers are decarbonising their investments to mitigate against future climate changes.'

Maynard's talk used the ClimateWise principles as the structure for the presentation, using Corporation and Market activity to demonstrate how research is generated and used to inform industry strategy and planning, through to action. The session was chaired by Lord Redesdale, Vice-Chair, APPCCG, and included fellow ClimateWise members who promoted the event to their networks:

- Maurice Tulloch, Chairman, Global General Insurance and Chief Executive Officer, Aviva UK & Ireland.
- Matt Cullen, Assistant Director, Head of Strategy, Association of British Insurers.
- Trevor Maynard, Head of Exposure Management and Reinsurance, Lloyd's.
- Dr Swenja Surminski, Senior Research Fellow, Grantham Research Institute on Climate Change and the Environment.
- Jonathan Hoare, Director of Policy & Investor Networks, ShareAction.

Maynard spoke regarding global schemes that aim to create a more sustainable and socially conscious insurance sector, including the Geneva Association and the London Climate Change Partnership. Maynard concluded by speaking about the efforts the industry is making in response to these risks such as food security and climate change within catastrophe models. This included awareness raising projects such as Lloyd's City Risk Index and Marsh's homeowners guide to flooding, and highlighting the fact that the Corporation of Lloyd's pools its voting rights in companies with other groups to create internal change which has led to 21 positive changes in environmental, social and governance risks.

The event was attended by 34 people from various sectors, and a summary of the event can be found online, here.

Evidence also applies to principle(s): 2 .1, 4.3

Source(s): Policy Connect[85], The Insurance Sector and Climate Change[86]

2.2.6 Lloyd's / The Market / Amlin / Working with leading public bodies

The Amlin Group is affiliated with the Geneva Association, the leading body representing the interests and requirements of the Insurance Industry as a whole. One of the current topics of the Geneva Association is extreme events and climate risk. In May 2015, Charles Philipps, Group Chief Executive Officer, attended the Annual General Assembly in Singapore.

In November 2015 Piero da Camino Soligo, Chief Risk Officer (CRO) at Amlin AG prior to the acquisition (and now subsequently CRO at MS Amlin AG), attended the 11th Chief Risk Officer Assembly in Zurich to discuss the latest developments in Risk Management.

Evidence also applies to principle(s): 1.3, 1.4, 2.1, 6.1

Source(s): Amlin

2.2.7 Lloyd's / The Market / ArgoGlobal / Industry Contribution to Debate on Climate Change

Argo Group is a member in various national and international trade associations, (i.e., the Chartered Property Casualty Underwriter Society ("CPCU"), United Nations FI Insurance Commission, the Risk Management and Insurance Society and Property Casualty Insurers Association of America (PCI)); as well as insurance industry initiatives such as 'ClimateWise', that take an active role in monitoring and discussing issues surrounding climate change and global warming. Argo Group attended various workshops including one organised by Lloyd's and the World Bank Group on disaster risk financing.

During 2015-2016 Argo Group representatives attended a number of 'ClimateWise' events and Argo Group is supporting a new initiative to establish an International Insurance Leaders Advisory Council for Climate Change. The purpose of this Council is to bring leaders from the insurance industry together with global regulators to coordinate a more systematic response to Climate Change within the financial services sector.

Forward planning

During 2016 Argo Group has increasingly moved the focus of its corporate sponsorships towards partners with strong sustainability credentials. Argo Group is supporting the Artemis Racing team, the Swedish challenger for the 35th America's Cup. Artemis' operations base at Morgan's Point is a high-technology centre thoughtfully designed to minimize strain on Bermuda's natural resources. Argo Group is also working with the new Formula-E Team Aguri, which has established and maintains a sustainable and team-driven innovation message intended to differentiate its racing program from that of other popular racing programs, such as Formula One.

Evidence also applies to principle(s): 1.1, 1.3, 2.1, 6.1

Source(s): ArgoGlobal – Syndicate 1200

2.2.8 Lloyd's / The Market / RenaissanceRe Syndicate Management Ltd / CEO Letter of support

RenaissanceRe Syndicate Management Limited (former) CEO, Richard Murphy, participated as a signatory on the ClimateWise letter of support for the Prudential Regulatory Authority's (PRA) Climate Risk report in September 2015. The letter was published in the Financial Times letters page on Thursday 1st October with the story picked up widely by the press and social media channels.

Evidence also applies to principle(s): 2.1, 6.1

Source(s): RenaissanceRe Syndicate Management Ltd.

2.2.9 Lloyd's / The Market / RenaissanceRe Syndicate Management Ltd / HRH ClimateWise Roundtable

RenaissanceRe Syndicate Management Limited CEO Hugh Brennan (appointed as CEO as of 1 January 2016), supported ClimateWise by attending the Roundtable meeting with HRH The Prince of Wales in February 2016. The aim of this meeting was to reflect on the recent work between ClimateWise and the Bank of England that informed their report into the likely impact of climate change for the UK insurance sector.

At the Roundtable ClimateWise proposed, and was subsequently accepted, to establish an industry leaders council that would continue to directly support the engagement by insurance with global regulators and guide our own work and research on the crucial interface between insurance, climate change and regulation.

RenaissanceRe have nominated Stephen Weinstein, SVP Group General Counsel, to participate on the Insurance Advisory Council. Stephen serves as RenaissanceRe's Chief Legal Officer, with responsibility for legal, regulatory, government affairs and compliance matters on a global basis. He also currently serves as Chairman of RenaissanceRe's Risk Sciences Foundation, which was created to support advanced scientific research in natural catastrophes, the development of risk mitigation and adaptive techniques to safeguard communities, efforts that reduce the economic turmoil following disasters, and organisations that preserve coastal and other risk-exposed habitats. The Foundation promotes education, preparation, adaptation, and mitigation of catastrophic risks. Stephen's participation as a representative for RenaissanceRe on the ClimateWise Insurance Advisory Council, is expected to involve attendance of two formal meetings per year, plus additional engagement on an ad hoc basis when necessary or relevant.

Evidence also applies to principle(s): 1, 2.1, 6.1

Source(s): RenaissanceRe Syndicate Management Ltd.

2.2.10 Lloyd's / The Market / Tokio Marine Kiln / Promote and actively engage in public debate on climate change and need for action.

As a core member of ClimateWise, Tokio Marine Kiln (TMK) has contributed towards the research carried out by the University of Cambridge on climate change. For example, in March 2016, TMK's Chief Risk Officer participated in a one-on-one interview with the Cambridge Institute of Sustainability Leadership (CISL) on how senior executives think about the strategic implications of climate change, identify any gaps between how the Market currently behaves and what the executive think will need to happen in the future and examine how businesses within the Lloyd's Market are equipped to make any required changes.

From time to time, TMK shares its views with the public through its website and other social media (e.g. Twitter / LinkedIn) on the topic of climate change. For example, in October 2015, TMK's model evaluation manager provided his insights on how insurers predict weather and risk and the implications on the insurance market. In June 2016, in the run-up to the World's Environmental Day, TMK's Head of Innovation shared his thoughts on how insurance can help climate change in his article “Going Green”. One of the innovative products which is underwritten by TMK to encourage green behaviour and work against climate change include carbon credit insurance.

TMK also has representatives who participate in panels for industry events on emerging risks, including climate change. Some of these industry events include the AIRMC conference (on Willis and Lloyd's panels) and the Internet of Things conference.

Forward planning

TMK intends to continue promote and actively engage in public debate on climate change and the need for action.

Evidence also applies to principle(s): 1.1, 1.2, 2.1, 3.1, 4.3

Source(s): TKM[87], [88], Twitter[89], LinkedIn[90]

3 Support climate awareness amongst our customers

The Corporation of Lloyd's shares its views on climate risk publically through reports, events and communications materials. Through ClimateWise the Corporation of Lloyd's is calling for regulations to help insurers to rebuild sustainably after a catastrophe.

Discussions and engagement

The issue of climate change can leave people with a feeling of helplessness; but action can be taken both to reduce carbon emissions; and to adapt to the coming changes. The insurance industry is well placed to share its thinking and establish collaborative partnerships with governments and other service providers if it is to solve the problem of underinsurance, according to a new report from industry think-tank, the Geneva Association. The Global Insurance Protection Gap report, whose working group is co-chaired by Inga Beale, Chief Executive Officer, Lloyd's, building on the 2012 Global Underinsurance Report, and highlighting the threat underinsurance poses to economic development and considers ways to measure the gaps that exist in protection and their root causes.

Insurance solutions

Research presented by the Intergovernmental Panel on Climate Change (IPCC) suggests that the developing world is likely to be adversely affected by climate change, yet in many cases insurance options needed to evaluated and reduce risk are not available. The Corporation of Lloyd's believes that insurance solutions, if carefully implemented, can help stabilise emerging or small economies.

3.1 Inform our customers of climate risk and provide support and tools so that they can assess their own levels of risk.

3.1.1 Lloyd's / The Corporation of Lloyd's / Market Intelligence

The Market Intelligence (MI) team in London began conducting research on overseas markets in 2004, designed to shape key strategic decisions such as the establishment of a licence in China and the Singapore platform. While in depth reports were produced, these were primarily for internal purposes, meaning that there was no unified method of sharing information on developments more broadly with the Lloyd's market.

A decade on, the MI team[91] has established itself as the one-stop-shop for information on the economy, international insurance markets and Lloyd's business globally using data with a country of origin basis (ie Lloyd's data by territory is based on the domiciled of insured). Data is also complemented with local market statistics and macroeconomic indicators in its Compare Countries tool. Where there is information on climate change it is provided within the reports.

Forward planning

The Vision 2025 commitment to increase access to emerging markets has also contributed to an increased focus on the MI product range. At present, the Corporation of Lloyd's estimate that 8% of commercial insurance business originates in countries that the International Monetary Fund (IMF) classifies as "emerging/developing". Research that Corporation of Lloyd's conducted in 2014 suggests that by 2025, 25% of commercial lines could originate from such markets with premiums potentially worth around $380bn.

Evidence also applies to principle(s): 1.1, 1.2, 1.3, 6.1

Source(s): Lloyd's Market Intelligence[34,92]

3.1.2 Lloyd's / The Market / Amlin / Customer awareness

Amlin subscribes to the services of Weathernet, a UK based company that specialises in weather and climate information. Weathernet allows Amlin to get an early indication of when a storm will potentially hit. As soon as such an indication is received, a task force is set up to identify potential customer impact using our mapping tools. This was set up with the anticipation of a bad winter due to the El Nino effect.

The team ensure we have the optimal response for our customers. They work with brokers and coverholders to identify customers affected. They then ensure that loss funds, loss adjusters and Amlin staff are available to deliver the right support to our customers. Examples include accelerated claims payments, investment in flood defences and people on the ground quickly.

Additionally to make their customers aware Amlin issued a communication to all its UK household brokers to both raise awareness and minimise the damages. The latter was achieved by the addition of a guide to the communication on how to appropriately prepare their property for winter.

Following the success of this approach we are implementing further improvements to our response and early warning service for customers ahead of the 2016 winter season.

Evidence also applies to principle(s): 1.1, 6.1.

Source(s): Amlin.

3.1.3 Lloyd's / The Market / ArgoGlobal / Promote Customer Awareness

Argo Group intends to continues to take advantage of opportunities for communicating about climate change issues and initiatives with its stakeholders including brokers, customers, suppliers and other insurance professionals through its employees' active involvement in industry-wide initiatives such as those sponsored by the Chartered Property Casualty Underwriter Society ("CPCU") and the Risk Management and Insurance Society.

Specifically, Argo Group has presented data and information at the 2015 CPCU annual conference for the purpose of raising insurance industry awareness of the potential impacts of climate change.

Evidence also applies to principle(s): 1.1, 1.3, 6.1

Source(s): ArgoGlobal – Syndicate 1200

3.1.4 Lloyd's / The Market / CHUBB / CHUBB Environmental Products and Services

CHUBB is among the largest and most advanced global underwriters of environmental liabilities and pollution risk with environmental risk units in North America, Europe, Asia and Latin America. We have made a commitment to developing insurance products and risk management services that facilitate market based solutions to current and pending environmental and climate related issues.

CHUBB's products and services, which fall primarily into the areas of Environmental Risk, Renewable Energy and "Green" initiatives, touch on virtually all lines of coverage worldwide. The full range of environmental and sustainability property and casualty products and services include:

- Carbon Capture and Storage (CSS) Insurance
- Emissions Reduction Project Insurance
- Environmental Risk Products (including environmental Professional Indemnity, Premises Contractors, Tank Safe, Offshore, Construction, Healthcare, Transportation & Business Interruption)
- Global Weather Insurance
- Green Property Insurance

- Political Risk and Trade Credit
- Renewable Energy Construction, Technical Lines, Energy and Marine Insurance.

The use of these products and services allow for the direct and indirect reduction of GHG emissions in many instances. For example, Chubb's Green Property Insurance is a stand-alone property policy that provides coverage for commercial businesses that want to rebuild to "greener" standards in the event of a loss. Also, Chubb's Renewable Energy Construction, Technical Lines, Energy and Marine Insurance programme combines the product and risk management expertise from a number of Chubb's industry groups and allows for development of clean efficient alternative sources of energy.

CHUBB's specialist environmental products provide coverage for first and third party environmental damage, property damage and remediation costs caused by pollution for fixed site premises, customer operations or insured business. CHUBB is fully aware that specialised environmental risks present a unique combination of scientific, political and financial factors that require specific technical expertise and local knowledge. CHUBB has bolstered its environmental underwriting staff and launched several multiline products that meet strong demand.

CHUBB also introduced its Hazardous Material/Waste Transportation product line, which offers safety and claims services for hazardous material and hazardous waste transporters.

Other products innovations include the Global Premises Pollution Liability (PPL) and Contractors Pollution Liability (CPL) policies for multinational companies. The PPL and CPL programme combines insurance with technical support to help businesses, operations and contractors reduce their environmental exposures.

The company also expanded its product line to include crisis management coverage, which handles the cost of services to maintain and restore public confidence following an environmental catastrophe.

CHUBB is fully aware that specialised environmental risks present a unique combination of scientific, political and financial factors that require specific technical expertise and local knowledge. As environmental regulation and awareness have increased, coverages for environmental liabilities are growing in demand, not only from traditional "polluting" industries, such as energy and chemical companies, but also from other organisations that own land or have potential liability. These include governments, real estate owners and developers, manufacturers, agricultural entities and global consumer brands. CHUBB monitors more than 3,400 environmental regulations awaiting attention from legislators and regulators around the globe, all with the potential to alter how commercial clients conduct their business. These include both new initiatives as well as increased enforcement of existing laws and regulations.

To meet strong and growing demand, CHUBB has bolstered its environmental underwriting staff and introduced many innovative products. CHUBB issues environmental policies in more than 74 countries around the world.

In response to the growing awareness of the role of GHG emissions in climate change, CHUBB created the CCS and Emission Reduction Project insurance products for organisations involved in the harvesting or reducing of carbon dioxide and other GHSs. CCS and emissions reductions projects present unique risk profiles and heightened technical, political and financial risk.

CHUBB's Environmental Risk business continues to experience significant increases in submission activity, policies bound and gross written premiums. The company's core environmental products continue to be launched through CHUBB Global Markets at Lloyd's in London, North America, Canada, Asia, Far East, Europe and Latin America.

Green Initiatives

The renewable energy sector is another major product area for CHUBB, particularly in light of the increased global attention on climate change. The desire to develop clean, efficient alternative sources of energy is leading to the planning and construction of renewable energy projects around the world.

These projects take many different forms: biomass/biofuel, biogas, energy from waste, fuel cell, as well as solar, wind and hydro energy. CHUBB addresses risks that occur in the two main phases of a typical renewable energy project - construction and operation. Construction risks range from delay in start-up to public or employer liability, whereas operation risks range from business interruption to premises pollution.

CHUBB provide Cleantech Insurance Solutions:

The Cleantech segment sits within the Custom Industry Solutions (CIS) area within our business. Other segments in

CIS include Info Tech, Life Science, Entertainment and Package.

The Cleantech segment provides bespoke insurance solutions to companies who are creating new technology and driving innovation within the Cleantech eco system. This is a global segment within CHUBB with dedicated Underwriters, Risk Engineers and Claims Examiners who specialise in handling Cleantech clients.

CHUBB's bespoke insurance solutions cover a cleantech company as they move from differing stages of development from small start-ups, including research and development, pilot projects through to commercialisation. Cleantech clients face differing exposures through the development or lifecycle of their business. CHUBB's challenge is to ensure that we keep our coverage relevant. Other areas that we recognise that client's face differing exposures are in complex supply chains, globalisation of their product, intellectual property rights and environmental liability. Our Risk Engineers are able to provide clients with risk management advice in all of these areas.

Any company involved in the following activities would fall within our Cleantech segment;

- Deriving power from renewable sources
- Creating energy efficiency
- Addressing the scarcity of natural resources

CHUBB's appetite is generators of renewable energy, energy efficiency and management of natural resources; in essence, those doing more with less resource. Recent clients include companies who create carbon capture technology systems and companies creating energy storage solutions for renewable energy utilising electric vehicle batteries.

CHUBB has joined Cleantech Associations and sponsored European events to enable direct access to the local Cleantech ecosystem. This also enhances our product development work because we can translate this understanding of the client's exposures to new coverage within the bespoke product offering. This ensures that our insurance solutions tailored for this segment remain relevant in this fast paced innovative space.

Associations and Sponsorship - we have entered into the following;

- The Cleantech Group - sponsorship of the European Forum 2016
- Cleantech Scandinavia - Sponsorship of the Nordic Cleantech Open 2016 & 2017
- Membership - UK Renewable Energy Association

In terms of the UK Renewable Energy Association, our aim is to offer insurance risk management advice to their members via dedicated sessions.

Bio Gas and Solar Package

We are also in the process of launching a new product in the UK that will cover companies owning and investing in renewable energy projects, predominately utilising anaerobic digestion and solar technology. This will be a seamless package solution as a project moves from construction to operation and will also cover their Environmental Liability.

CE Expands Environmental Offering in Germanic Region; Launches CHUBB Umwelt (Environment) Plus

CHUBB launched of CHUBB Umwelt (Environment) Plus, expanding its product offering to help its clients fill the gaps in their insurance environmental risk cover in Germany. CHUBB Umwelt Plus offers comprehensive protection against environmental risk as it combines coverage for traditional German market offerings such as environmental impairment liability, environmental contamination with environmental damage under the EU environmental liability directive and a global standard premises pollution liability coverage in a single policy. The new product can be purchased both on a standalone basis or combined with other CHUBB liability insurance products, while its menu structure means that different coverage areas, combining first party and third party insurance, can be included as needed. Additionally, CHUBB Environmental Plus includes features such as:

- A simplified, flat-rate risk declaration
- Extended cover for damage to land by the policyholder
- First and third party business interruption insurance as a result of contamination
- Coverage for multinational subsidiaries of German companies, with the potential for locally admitted underlying policies in over 50 countries

Importantly, the new product does not include a special “trigger” in the form of an accident or a break down in production line that is needed to activate the policy; it provides cover for normal operation conditions too. CHUBB Group’s Germanic Region’s response to this new product was: "With CHUBB Umwelt Plus we want to help our clients close the gaps in their environmental insurance cover and provide both them and our brokers with a complete, market-leading solution that allows for effective environmental risk management.” - See website for more information.

Storage Tanks Present Environmental Risks for Owners and Operators

CHUBB Advisory Addresses Ways to Overcome New Regulatory and Financial Obstacles

The enhanced TankSafe® is a fully-automated internet-based system for commercial underground and aboveground storage tank insurance. It is designed specifically to make an otherwise painstaking process both easy and efficient, from submission through policy and financial responsibility certificate issuance. It combines aboveground and underground coverage in a single policy and is provided on an admitted basis. For CHUBB TankSafe clients, customised storage tank risk control services are available through ESIS Health, Safety and Environmental Services, including Spill Prevention Control and Countermeasures (SPCC) Plans and underground storage tank management systems.

Benefits:

- Simple online application process
- Real-time rating and formal quote generation
- Instant policy and financial responsibility certificates issuance
- Easy electronic account management

Coverage:

- Third-party bodily injury and property damage claims resulting from storage tank incidents involving scheduled storage tanks
- Corrective action costs resulting from storage tank incidents involving scheduled storage tanks
- Policy/Certificate satisfies federal and/or state requirements for financial responsibility (where applicable)
- Written on admitted basis or non-admitted basis. Enhanced coverage terms and conditions:
- Coverage Territory
- Definitions of “additional insured”, “first named insured” and “remediation costs”

CHUBB Online Quoting Platform for Environmental Liability Risks

The CHUBB Online Environmental product is designed to offer broad, flexible and affordable protection for environmental risks arising out of a client’s entire business operations, whether undertaken at their own premises or at third party locations.

Product Highlights:

- Immediate quotations available
- Instant binding and issuance of policy documentation
- Focus on rapid referral response time
- Product designed to fill gaps in cover in traditional property and liability policies
- Responds specifically to claims arising out of the European Environmental Liability Directive
- Original inception date is also the retroactive date, increasing the value of gradual cover as the policy renews.

Cover:

- Remediation costs imposed by regulators
- Third party liabilities including bodily injury, property damage and nuisance, trespass and obstruction
- Losses arising from transportation of products or waste
- First party business interruption
- Legal costs and expenses
- Cover for sudden & accidental and gradual pollution

CHUBB Launches Renewable Energy Environmental Protection in the UK and Ireland

The renewable energy sector is another major product area for CHUBB, particularly in light of the increased global attention on climate change. The desire to develop clean, efficient alternative sources of energy is leading to the planning and construction of renewable energy projects around the world.

These projects take many different forms: biomass/biofuel, biogas, energy from waste, fuel cell, as well as solar, wind and hydro energy. CHUBB addresses risks that occur in the two main phases of a typical renewable energy project - construction and operation. Construction risks range from delay in start-up to public or employer liability, whereas operation risks range from business interruption to premises pollution.

CHUBB launched the CHUBB Renewable Energy Environmental Protection, the first dedicated environmental policy for companies in the renewable energy industry in the UK and Ireland, as CHUBB continues to invest in its environmental risk capabilities.

CHUBB Renewable Energy Environmental Protection covers the full spectrum of environmental risks faced by renewable energy companies, providing seamless coverage, from the start of construction of renewable energy plants through to their operation. It is available to energy producers in every renewable sector, namely solar, onshore and offshore wind, tidal, hydro, waste-to-energy, biofuel and landfill gas extraction. Key coverage features include:

- New and historical pollution risks
- First party business interruption cover upon completion and operation of the facility
- Automatic coverage for on-going maintenance post construction
- Biodiversity damage up to the full policy limit as standard
- Ability to accommodate lenders' clauses, subject to internal legal review
- Ability to provide either owner or contractor controlled programmes
- First party replacement costs to include "green" improvements
- Transportation liability as standard for materials transported during construction
- Pollution condition definition to specifically include odour

Loss mitigation and crisis management costs

In addition to these market-leading product features, the cover is supported by a team of highly qualified environmental scientists and engineers, backed up with crisis management support for all risks, ensuring that companies are best equipped to respond when they suffer a loss and minimize its impact on their business.

Emma Bartolo, Environmental Risk Manager, in the UK and Ireland for CHUBB, said:

"While renewable energy and environmental risks have been in the news for many years now, still many brokers and their clients in the sector are still unaware of the environmental risk exposures that they face and with increasing regulation and third party costs, they could potentially face expensive and damaging claims. What they will get with CHUBB's Renewable Energy Environmental Protection is the peace of mind that they have comprehensive, market-leading cover and benefit from the experience of our specialist underwriting and claims teams."

Energy and Marine Insurance

The use of energy and marine insurance products and services allows for the direct or indirect reduction of GHG emissions in many instances. For example, CHUBB's Renewable Energy Construction, Technical Lines, Energy and Marine Insurance programs combine management expertise from a number of CHUBB industry groups and allow for the development of clean and efficient alternative sources of energy.

Evidence also applies to principle(s): 1.1, 1.3, 3.1, 3.2, 3.3, 3.4

Source(s): CHUBB.

3.1.5 Lloyd's / The Market / CHUBB / Value added Engineering Services

For companies intent on managing environmental risk proactively, there are a multitude of opportunities for reducing exposures and lowering loss costs. Devising the right strategy is crucial but choosing engineering resources with the proven ability to get the job done is just as important. Succeeding on both counts can produce significant improvements in a business's bottom line performance.

CHUBB Environmental Risk offers insureds a built-in opportunity to enhance existing risk management programmes with access to a global network of best-in-class engineering consultants. We call upon these same industry experts to conduct the majority of our environmental due diligence work. CHUBB Environmental Risk would like its insureds to take advantage of these value-added services to improve and enhance their risk management practices, at no additional cost.

Benefits

- Helps reduce the frequency and severity of potential environmental claims
- Assists insureds in implementing a proactive approach to potential environmental exposures
- Places industry-leading engineering services at the disposal of our insureds in a cost-effective way
- Provides access to a panel of engineers and consultants familiar with local laws and environmental nuances regardless of the industry segment, operations performed, or territory

Highlights

Among the broad range of bundled/unbundled environmental engineering and risk minimisation services available for CHUBB Environmental Risk insureds are the following:

- Evaluation of existing waste management protocol/ disposal site selection
- Evaluation of existing mold, asbestos and lead management plans
- Evaluation of existing underground storage tank management programmes
- Evaluation of spill prevention, control and countermeasure (SPCC) plans
- Mock regulatory audits for point source pollutants into surface waters, air pollutants and solid waste pollution (for compliance with the National Pollutant Discharge
- Elimination System (NPDES) and the Resource
- Conservation and Recovery Act (RCRA))
- Training (mould awareness, underground storage tank programmes management, 24 HAZWOPER for hazardous waste operations, etc.)
- Storage tank operator training
- Mock regulatory compliance audits
- Environmental awareness refresher training
- Sub-contractors selection guidance
- Contract language evaluation
- Mock project site regulatory compliance audits

Consulting Services

CHUBB clients also receive a full complement of traditional environmental consulting services, including industrial hygiene assessments; regulated and hazardous materials management and remediation oversight; environmental due diligence for the real estate and finance markets; and Leadership in Energy and Environmental Design (LEED) and regulatory compliance consultation.

Occupational Safety and Health Administration (OSHA) compliance training programmes and services are also provided, with programmes in asbestos, lead-based paint and microbial management, and water intrusion prevention.

Accredited compliance staff are also available to augment clients' environmental and safety personnel at their locations as necessary to meet their health, safety and the environment (HSE) objectives.

Evidence also applies to principle(s): 1.1, 1.3, 3.1, 3.2, 3.3, 3.4

Source(s): CHUBB.

3.1.6 Lloyd's / The Market / CHUBB / CHUBB Crisis Management

The potential physical risk effects of climate change –the frequency and severity of natural catastrophes, particularly those involving high winds and flooding – present potential positive financial implications for CHUBB. Clients are provided with insurance protection from the impact of weather events that may be more frequent or severe due to climate change. Therefore CHUBB's business volume and pricing - in catastrophe-exposed product lines such as property and casualty and crop insurance coverage – could increase.

Coverages such as property catastrophe, crop, and business interruption insurance are existing, well-established businesses for CHUBB and the company continues to invest in these businesses and developing solutions to help clients manage the physical risks posed by climate change. For example, due to heavy catastrophe losses in the U.S., CHUBB Tempest Re, CHUBB's reinsurance unit, added to its extensive property catastrophe reinsurance product line by offering traditional aggregate protection for its clients' loss retentions in combination with structured reinsurance programmes for their losses above those levels, as well as writing reinstatement premium protections. Also, as part of its CHUBB Green suite of environmental products, CHUBB now offers Global Weather coverages to help clients insure against unpredictable weather conditions. Within CHUBB's US-based Excess Casualty business, coverage was enhanced by offering $2.5 million dollars of additional limits to eligible customers to manage threats directly related to catastrophic weather events.

CHUBB Adds Crisis Management Services to its European Environmental Risk Proposition

CHUBB recently expanded its environmental risk insurance proposition to add crisis management cover, as part of its strategy to support the evolving environmental cover needs of companies in Europe. The market-leading proposition now covers the costs of counsel and other expert services for businesses as they try to maintain and restore public confidence following a serious environmental incident.

In CHUBB's recent Emerging Risks Barometer, companies across the Europe, Middle East and Africa (EMEA) region ranked environmental risk as the second most likely emerging risk to have a financial impact on their business in the next two years.

CHUBB will partner with an assistance company to provide its clients with specialised crisis readiness and response services that will allow them to streamline their communications and processes, have access to critical specialist resources when facing a serious environmental incident and as a result to help preserve their reputation and bottom line. A key feature of CHUBB's crisis management coverage for environmental risks includes responsive crisis management services cover. At CHUBB, we believe that managing environmental risk successfully is about more than issuing an insurance policy. In particular, the reputational aspect of a serious environmental incident in the age of the 24-hour news cycle and social media is more important than ever before for businesses and needs dedicated expertise. By expanding our environmental risk proposition with crisis management services we can now offer our clients and their brokers comprehensive insurance cover combined with the reassurance of access to critical services that can help them navigate the immediate aftermath of a serious environmental incident.

Evidence also applies to principle(s): 1.1, 1.3, 3.2, 3.3, 3.4

Source(s): CHUBB.

3.1.7 Lloyd's / The Market / Navigators Underwriting Agency Limited / Customer segmentation within ClimateWise

Navigators has previously advocated a separation of focus within ClimateWise of insurance entities that deal primarily with personal lines insurance (homeowners, motor, travel, etc) and those dealing with commercial lines insurance (industrial, oil and gas, power plants, marine) so that relevant and related focus and actions can be evidenced and reported. As a Marine and Energy specialist insurer Navigators sits within the second group.

It is felt that this would also be beneficial when demonstrating and reporting on progress towards meeting

ClimateWise principles, and below we provide an update against the business lines described in our previous submission.

Solon Underwriting

Navigators in the previous reporting period, entered into a commercial arrangement with Solon Underwriting Limited, where through our Lloyds Syndicate 1221, we underwrite coverage provided by Solon on an All Risks basis for Recycling and Waste Facilities in the European Union. This area of business continues to perform well.

Limits of coverage provided makes this product ideally suited to small privately run businesses, supporting waste recycling initiatives in the member states, providing a valued risk transfer mechanism for this growing business sector.

Upstream Energy

Navigators continues to provide financial security to Upstream operations and construction projects in the light of greater regulatory requirements on a worldwide basis to provide a higher degree of environmental protection in oil/gas well design, well drilling and production operations and well/platform decommissioning.

The fall in oil prices throughout the 2015 reporting period has reduced significantly the number of new conventional oil exploration opportunities and further impacted interest in alternative hydrocarbon energy forms such as gas hydrates, and carbon sequestration projects. Navigators do however expect signs of recovery over the last 6 months of 2016 and into 2017.

Navigators involvement in the ongoing shale oil and shale gas developments in the USA are, whilst playing a fundamental role in energy security in this region, supporting greater efficiency of energy use and transportation. Whilst oil and gas prices have deterred new production opportunities in this reporting period, a large number of midstream processing plants continue to be commissioned, supported by Navigators through construction and into operation.

Downstream Energy

Environmental compliance with regard to airborne, aqueous and solid emissions and that of fuels and product specifications from the refinery and petrochemical sector continues to play a major role of the operational needs of our clients in this sector. In this reporting period we continue to see this with producers in developing countries who in turn have tightened their own environmental legislation, or who seek to export fuels into markets such as Europe and North America.

Provision of All Risks insurance coverage to the Biodiesel sector has largely remained static in the 2015 period.

Navigators continue to play a Contract Leader role in an Underwriting Facility arrangement to specifically support the US Midstream sector, which amongst others are increasing export of natural gas liquids (NGLs), and specifically ethane, much in demand on a global basis to improve the economic and environmental viability of petrochemical and power production operations.

Power Generation

Navigators continue to support operations where cleaner feedstocks such as biomass and gas are being introduced to meet regional emissions targets, especially with regard to management of carbon dioxide.

Construction Projects

Whilst there are few significant new developments in this reporting period, there remain a large number of projects we support with carbon footprint reduction goals. These include refinery expansion projects which have significant environmental driven content to reduce emissions, and alternative fuel projects in the Power sector with technology developments allowing smaller operators greater access to alternative fuels, with a net effect of emissions reductions.

Environmental Liability

In the last reporting period Navigators had in London recruited an Environmental Liability team, and had commenced underwriting a wide coverage international Environmental Liability product, providing financial security for waste producers and waste management companies alike. We continue to see growing business interest and demand for such products.

Evidence also applies to principle(s): 1.4, 3.2, 3.3, 3.4

Source(s): Navigators Underwriting Agency Limited.

3.1.8 Lloyd's / The Market / QBE / QBE's approach to underwriting

Environmental, social and governance ('ESG') issues, particularly environmental risks, are reflected in QBE's approach to underwriting across the business. QBE recognises the impact climate change can have in terms of potential claim activity as well as the potential for extending and adapting our product lines and services in response to the changing world. Early identification is the key to managing these risks. It is also central to instilling confidence in our customers that QBE has the capability to assess the risks they face, and to recommend mitigation actions to manage exposures.

More broadly, QBE has a strong track record in developing products and services which encourage better risk management and that improve community understanding in relation to risk, insurance and ESG issues.

QBE's Risk Solutions offering is the UK market leader in providing a broad suite of services to encourage better risk management. The product focuses on reducing risk, including environmental risk.

Evidence also applies to principle(s): 3.2

Source(s): QBE[93]

3.1.9 Lloyd's / The Market / Tokio Marine Kiln / Inform our clients on risk management

Tokio Marine Kiln (TMK) participates in various industry conferences associated with risk management. One recent example is the annual event hosted by the Association of Risk Managers in France (AMRAE). Attending the conference in Lille this year has provided TMK with the opportunity to engage with the local participants on emerging risks including climate change.

In certain product areas where TMK has leading expertise, we continue to work with our customers on risk management. Renewable energy is one key area where we have access to extensive technical data and the risk management best practices and key lessons learnt from new technologies are shared in conferences / workshops for customers. UAS is another area where TMK has partnered with Resource UAS on training and risk management of RPAS.

Forward planning

TMK intends to continue its participation in key industry events on risk management and climate change.

Evidence also applies to principle(s): 1.1, 1.2. 1.4, 2.1, 2.2

Source(s): Lloyd's.com[94]

3.2 Encourage our customers to adapt to climate change and reduce their greenhouse gas emissions through products and services.

3.2.1 Lloyd's / The Market / Amlin / Customer awareness

MS Amlin recognises that the Energy landscape is forever changing and that renewables will continue to play an ever increasing role in meeting global energy demand. We have taken the first steps into building a renewables book and through developing our understanding and knowledge of the underlying risks we will grow our portfolio in-line with the Energy landscape.

Evidence also applies to principle(s): 1.1, 6.1.

Source(s): Amlin.

3.2.2 Lloyd's / The Market / CHUBB / CHUBB Plants 25,500 trees in ninth year of American Forests' Sponsorship

CHUBB has announced its renewed support of American Forests' Global ReLeaf® programme with the selection of national and international forest restoration projects. In 2016 CHUBB sponsored the planting of 25,500 trees, representing one for each environmental insurance policy written globally by CHUBB in 2015. Since 2007, CHUBB has sponsored the planting of more than 112,240 trees. CHUBB's support of the American Forests programme complements the company's environmental programme goals, which include the promotion of a healthy and sustainable environment through corporate philanthropy.

CHUBB is committed to reducing carbon emissions from its own operations. In 2015, a companywide goal to reduce greenhouse gas (GHG) emissions by 10 percent per employee from 2012 to 2020 was announced. This commitment follows the successful achievement of the company's first emissions reduction goal, which was 8 percent per employee from 2006 to 2012.Additionally, CHUBB is working to implement building efficiency projects in its offices across the globe.

"We are proud to be able to work with American Forests to support their Global ReLeaf programme, now in its 26th year of helping protect and restore both national and global forest lands. CHUBB's support of this programme further symbolises the ongoing commitment we make toward minimising the company's carbon footprint." - Craig Richardson, SVP, CHUBB Environmental Risk

"In acknowledgement of Earth Day, I am pleased to announce that CHUBB Environmental has continued its partnership with American Forests in donating one tree for every insurance policy bound for an environmental client. We have supported American Forests since 2007 and throughout this time span have planted 112, 240 trees around the world.

This year, American Forests will plant approximately 2.7M trees in 67 domestic and global reforestation projects. For 2015, our CHUBB Environmental contribution includes 25,500 trees distributed among the following tree planting projects:

- Spruce Beetle- Colorado
- Salmon River- California
- Eureka Basin- Montana
- Lower Rio Grande, Texas
- Virginia Longleaf- Virginia
- Purple Wing – Michigan
- Honduras
- Panama
- Philippines

This builds on the work last year when 11 American Forests 2015 Global ReLeaf projects were supported in the following areas:

- California (Yuba River Reforestation ReLeaf Project) – This project will restore 200 acres in California's Tahoe National Forest with 32,000 conifers to help re-establish watershed areas that have been damaged by insect infestations and disease outbreaks. This forest restoration will improve hydrologic conditions that are especially important in California's Sierra Nevada Mountains.
- Florida (Box-R Longleaf Pine ReLeaf Project) – The longleaf pine ecosystem once covered an estimated 90 million acres of the southeastern United States. Today, just 2 million acres remain – less than 3 percent of the historic range. This project will reforest 70 acres with 35,000 trees to portions of its native range in Gulf County, FL.
- Minnesota (Superior Moose Habitat ReLeaf Project) – Over the last two decades, Minnesota's moose population has declined dramatically. In 2013, just 4,000 moose were left. This project is planting more than 100,000 diverse species of trees in Superior National Forest, Minnesota's primary moose range, to increase stand complexity and encourage species diversity.
- New Mexico (Valles Caldera National Preserve ReLeaf Project) – The 2011 Los Conchas Fire and 2013 Thompson Ridge Fire burned more than 53,000 acres within the Valles Caldera National Preserve. This project is reforesting 1,000 acres with 50,000 trees to restore riparian areas damaged by the wildfires and help the ecosystem adapt to climate change.
- North Carolina (Ledge Creek Watershed ReLeaf Project) – This project will reforest 23 acres in Granville County, NC with 12,000 shortleaf pine trees to reforest abandoned hay fields and improve a watershed that provides drinking water for more than 1 million people.
- Texas (Lower Rio Grande Valley National Wildlife Refuge ReLeaf Project) – In its 18th year, this project is reconnecting forest fragments by reclaiming agricultural land to bolster habitat for wildlife in one of the most biologically diverse places in North America. Approximately 20,000 trees will be planted across 226 acres.
- Washington (South Summit Restoration ReLeaf Project) – This is the first year of restoration on national forest lands in the Carlton Fire Complex of 2014, the largest wildfire on record in the state of Washington. Through this project the Okanogan-Wenatchee Forest will receive 112,600 ponderosa pine and western larch trees to help restore the watershed areas damaged by fire.
- West Virginia (Greenbrier River Riparian ReLeaf Project) – In an effort to restore the ecological functions of the trout streams in the Greenbrier River located in Monongahela National Forest, WV, this project is reforesting impaired riparian zones to cool stream temperatures. Fifteen acres will receive more than 3,000 tree plantings to help provide much needed cover for the sensitive aquatic species in this area.
- Brazil (Araripe Manakin Habitat ReLeaf Project) – The Chapada do Araripe Plateau, located in the state of Ceara in northeastern Brazil, harbors a small area of unique humid forest habitat that is currently threatened by destruction as the result of encroachment from a growing city. This project is reforesting approximately 10 acres with more than 15 native tree species to restore habitat for the rare and critically endangered Araripe manakin.
- Indonesia (Sumatran Orangutan Habitat ReLeaf Project) – This project will plant approximately 27,000 trees across 50 acres to provide habitat for the critically endangered Sumatran orangutan, which is struggling to survive in this area.
- Mexico (Forest for Monarchs) – Since 2006, this long-term project has planted hundreds of thousands of trees in Mexico to provide migratory monarch butterfly habitat. This year's planting will provide 25,000 new plantings across more than 330 acres in Michoacán, Mexico.

American Forests (founded in 1875) protects and restores urban and rural forests, has served as a catalyst for many of the most important milestones in the conservation movement, including the founding of the U.S. Forest Service, the national forest and national park systems and thousands of forest ecosystem restoration projects and public education efforts. In the past two decades, American Forests has planted more than 45 million trees in forests across the United States and in 44 countries, resulting in cleaner air and drinking water, restored habitat for wildlife and fish, and the removal of millions of tons of carbon dioxide from the atmosphere.

More information can be found in the press release here and for American Forests, please visit www.americanforests.org

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Evidence also applies to principle(s): 5.1, 5.3, 5.4

Source(s): CHUBB.

3.2.3 Lloyd's / The Market / QBE / 'Paperless' business activities

QBE believes that to be most effective, ESG initiatives should be seen as best practice for operational excellence. QBE focuses on areas and opportunities where we see a social or environmental benefit as well as a business benefit. It is important that our efforts make sense for all our stakeholders including customers, employees, regulators and investors. One specific climate related action undertaken by QBE is the adoption of 'paperless' business activities wherever possible by QBE EO's Investigation Services (Claims), which was outlined in more detail in the 2015 Lloyd's ClimateWise report:

> *QBE European Operations established an Emerging Risks Group (ERG) in 2007 in order to better co-ordinate the process for identification and management of emerging risks.*
>
> *QBE recognises the impact climate change can have upon a business in terms of potential claim patterns but also the potential for extending and adapting our product lines and services to take account of the changing world. Early identification is the key component in managing these risks to enable mitigation actions to be embedded to control exposure.*

The use of paperless IT solutions includes the provision of Apps to access office systems remotely, to provide necessary teleconferencing facilities for meetings where needed and to enable mobile devices including smart phones and tablets to capture and record documents as necessary online for sharing with clients.

Evidence also applies to principle(s): 3.2

Source(s): QBE[95]

3.3 Seek to increase the proportion of non-life claims that are settled in a sustainable manner.

3.3.1 Lloyd's / The Market / Hiscox / An industry approach to sustainable claims

ClimateWise has identified sustainable claims management as a key area where an industry or system approach will be the most effective way to make progress. In 2010, they worked with the University of Cambridge Institute for Sustainability Leadership (CISL) to develop sustainable claims management guidance.

The aim was to recommend how the insurance industry as a whole could increase the sustainability of insurance claims. The resultant report focuses on domestic property claims, taking into account the lessons learnt from similar initiatives within the motor and commercial property sectors. It concluded that a sustainable claims process requires:

- Identification of priority areas to reduce environmental impact;
- A sustainable claims management plan to reduce environmental impacts;
- Communication, appropriate to your business, with contractors, suppliers and customers on opportunities to reduce environmental impact; and
- Standardised annual reporting on progress.

Our vendor management group introduced 'environmentally responsible procurement criteria for suppliers and service providers' into the request for quotation process, including questions on the supplier's own supply chain standards and evidence of third-party certified environmental management systems. This has been used for selection of professional services in the claims process and we will continue to extend it to other contracts as they are re-tendered.

Reducing the impact of claims assessment From a claims perspective, Hiscox partners share our desire to minimise their environmental impacts. For example, Hiscox Claims are actively working with loss adjusters to keep travel to a minimum and to encourage use of public transport, mirroring Hiscox staff travel practices, to reduce the environmental impacts of their travel. Hiscox Claims are also investigating use of tablets by claims consultants, replacing paper when out of the office on customer visits. Further information on Hiscox work in this area can be found in our independent submission.

Evidence also applies to principle(s): 2.1, 2.2, 4.1, 4.2

Source(s): Hiscox.

3.3.2 Lloyd's / The Market / Tokio Marine Kiln / Sustainable claims settlement

Tokio Marine Kiln (TMK) is working towards increasing the proportion of non-life claims that are settled in a sustainable manner. In certain product lines such as Aviation, there are strict guidelines throughout the Aviation industry with regards to the wreckage disposal and clean-up following an incident. TMK's loss adjusters are cognisant of the impact of an Aviation disaster/claim and the impact on the environment and would anticipate any potential effects or impact on the environment to be included within a report. Another example is motor, where TMK would look seriously at any damage to our environment by our customers and take appropriate action to resolve immediately.

Forward planning

TMK is currently reviewing the requirements of the claims management process in order to improve efficiency and reduce paper consumption throughout our UK and continental European offices.

Evidence also applies to principle(s): 1.4, 3.1, 3.2, 4.3, 5.2, 5.4

Source(s): Tokio Marine Kiln

3.4 Through our products and services assist markets with low insurance penetration to understand and respond to climate change.

3.4.1 Lloyd's / The Corporation of Lloyd's / Collaboration and innovation key to closing the global protection gap

In the last reporting cycle the Corporation of Lloyd's covered the Global Insurance Protection Gap report, which builds on Lloyd's 2012 Global Underinsurance Report and was co-chaired by Inga Beale, Chief Executive Officer, Lloyd's. The report highlighted the threat underinsurance poses to economic development and considers ways to measure the gaps that exist in protection and their root causes.

In July 2015, the next report in the Geneva Association's 'protection gap' workstream was released – '*Insuring Flood Risk in Asia's High-Growth Markets*'. The report was guided by Board members Beale and Michel Liès, Chief Executive Officer, Swiss Re, who co-chair the subject. Trevor Maynard, Head of Exposure Management and Reinsurance, also provided comments that were acknowledged within the report.

The report outlines the rapid pace of economic growth and urbanisation in Asia and the projections for its acceleration in the coming decades, and suggests solutions involving insurers and capital markets as well as local governments to address this rapidly growing through. The region's economic rise has translated into a massive increase in asset values and their concentration in areas prone to flood risks.

Climate change model projections indicated that precipitation extremes in warmer climates are more likely to occur as warmer oceans create a warmer and wetter atmosphere that contains more energy. One result is that flood events in Asia could continue to increase, not least as a result of rising sea levels. By the end of the century, according to the World Bank and OECD, 147-216 million people in Asia are projected to live on land that may be below sea or regular flood levels. Indeed, by 2070, Asia is expected to account for 50% of all global assets exposed to flood risk.

Beale commented on the findings in a Lloyd's.com news article, saying "the insurance and reinsurance industry can play a significant role in helping to identify, assess and mitigate flood risks. It also has an important role compensating firms and individuals for losses incurred, helping rebuild infrastructure and communities. A precondition of this support has to be a conducive regulatory and free trade environment that enables the industry to provide insurance cover."

The Corporation of Lloyd's has continued this work in a number of case studies illustrated within this report. See 1.1.6, 1.2.1, 1.3.1, 1.3.3, 2.1.2, 2.1.6 and 3.4.2 for examples.

Evidence also applies to principle(s): 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 3.4., 6.1

Source(s): Lloyd's.com news story[96], Global Insurance Protection Gap report[97], Insuring Flood Risk in Asia's High Growth Markets[98],[99]

3.4.2 Lloyd's / The Corporation of Lloyd's / Disaster Risk Finance

In November 2015, eight Lloyd's market syndicates joined forces to develop new solutions to help developing economies tackle underinsurance and improve their resilience against the economic impact of natural catastrophes.

Emerging economies across Latin America, Africa, and Asia currently contribute 40% to global GDP, yet represent only 16% of global insurance premiums. In the event of a natural catastrophe, this level of underinsurance has been seen through events like the Haiti earthquake and Hurricane Ivan to damage growth and hamper economic development.

The eight Lloyd's syndicates have committed capacity of $400m towards solutions that address natural catastrophe risks in emerging and developing economies. Key to its effective deployment is well designed risk sharing initiatives and the diversification of risk.

The initial group includes Beazley, Chaucer, Hiscox, MS Amlin, Nephila, RenaissanceRe Syndicate Management, Tokio Marine Kiln and XL Catlin. However, membership is open to the entire Lloyd's market and other managing agencies are welcome to participate.

The group issued an open invitation to work with international organisations including but not limited to the World Bank and the British government's Department for International Development. It aims to strengthen existing ties with several current global initiatives, such as the Insurance Development Forum described in case study 2.1.2.

The group plans to engage with governments, municipalities, and non-governmental organisations, in addition to their existing client base.

Tom Bolt, Director, Performance Management, said in the press release that: "this collective initiative means the Lloyd's market can help provide the insurance solutions needed to build resilience to natural hazards and promote risk awareness around the world. We are keen to work closely with organisations across the globe to help protect economic growth in developing countries."

The Corporation can and does support the market with such initiatives through raising awareness of what the market can offer with the organisations who are involved in this area. The Corporation can act as an initial point of contact for anyone stakeholders who are interested in finding out more.

The below information was released as part of the press release to provide context to the announcement:

> *The Facility membership is open to the Lloyd's market, and aims to provide clients and intermediaries with access to the combined expertise and capacity of a range of Lloyd's managing agents who are committed to developing innovative solutions for populations which suffer some of the most serious losses, yet which currently have little or no access to insurance. The Facility anticipate counterparties to include governments, municipalities, and non-governmental organisations in addition to Lloyd's usual and valued client base.*
>
> *The ability to measure the frequency and impact of natural hazards around the world has been transformed thanks to the wealth of data generated and captured by new digital technologies and systems. This data allows insurers to understand risk exposures with a higher degree of accuracy and build the insurance solutions that cover the right risks, in the right places, and crucially, responds at the right time.*
>
> *Crisis management and disaster response are significant parts of what we excel in at Lloyd's but with most of*

the world being either uninsured or underinsured we see too many disasters where the (re)insurance industry suffers little loss and does not play a significant part in the rebuilding.

Today's emerging markets across Latin America, Africa, and Asia contribute 40% to global GDP, yet represent only 16% of global insurance premiums. This disparity suggests large-scale underinsurance. Corporation research estimates that there is a global insurance gap of around $170 billion US dollars in terms of premiums - premiums which are needed to protect economies against their catastrophe exposures. In a study of 42 countries in the 2012 'Lloyd's Global Underinsurance Report', this work illustrated that 17 of these countries could be considered underinsured against their exposures, with eight of these countries situated in Asia.

In September 2015, the Corporation launched the City Risk Index, which was produced in partnership with the Centre for Risk Studies, based at the University of Cambridge. This index considers 18 hazards faced by 301 major global cities and shows that over the next 10 years some $4.56trn of GDP is at risk – much of is thought to be reducible through appropriate risk management or via risk transfer.

The formation of this facility confirms that there is significant interest in the Lloyd's market to offer such risk transfer.

Impact and forward planning

The UK Prime Minister, David Cameron, set out a package of climate change support for the Commonwealth's small island countries at the Commonwealth Summit that welcomed the Disaster Risk Facility in the press release.

The Corporation of Lloyd's and DFID continue to work together in this area, and on 10 May 2016, held an event along with the World Bank at One Lime Street to exploring how disaster risk finance can be used as a tool to build resilience in emerging economies.

The evening spotlighted the evidence-base for disaster risk finance in developing countries, launching the findings of a three year research project implemented by the Disaster Risk Financing and Insurance Program (DRFIP) - a joint initiative of the World Bank Group's Finance and Markets Global Practice, and the Global Facility for Disaster Reduction and Recovery - and funded by the Department for International Development's Humanitarian Innovation and Evidence Program.

The Disaster Risk Finance Impact Analytics Project weaves together catastrophe risk modelling, insurance, and disaster risk management with academic disciplines ranging from actuarial science and financial economics, to development economics, public finance, and behaviour economics. The resulting robust methodologies are designed to help better guide investment in disaster risk finance projects from a development perspective.

The event was attended by over 120 people, with copies of the slides distributed to those who were unable to attend, and the programme featured senior staff from all parties.

John Parry, Lloyd's Director of Finance, ClimateWise and CSR sponsor delivered the introduction and welcome from the Corporation of Lloyd's, and was followed by comments from Samuel Maimbo, Practice Manager, Finance and Markets Global Practice, World Bank Group. A keynote speech was delivered by the Rt Hon Desmond Swayne MP, Minister of State for International Development, before moving to the presentation section of the evening that covered 'Disaster Risk Finance as a Tool for Development: Toward Better Evaluation and Evidence'. The event finished on a panel discussion on 'The evidence base for risk finance solution as a tool for development problems', and was comprised of:

- Stefan Dercon, The University of Oxford and Department for International Development
- Olivier Mahul, Global Lead and Program Manager, Disaster Risk Financing and Insurance Program, World Bank Group
- Robert Muir Wood, Chief Research Officer, Risk Management
- Brendan Plessis, Executive Vice President, Head of Emerging Markets, XL Catlin

The event was live tweeted by staff from each group and attended by trade press, which resulted in an opinion piece by Parry appearing in Insurance Day on 'How we prepare for and respond to catastrophes is an important issue for governments, communities, and insurers'. This piece covered the event, the Corporation of Lloyd's views on the topic, and the announcement of the partnership renewal with international disaster relief agency – RedR – for another three years with a £450,000 donation. A link to the article has been provided in the sources below.

Evidence also applies to principle(s): 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 3.1, 3.4, 6.1

Source(s): Lloyd's press release[100], Prime Minister's Office[101], Twitter[102], Insurance Day[103]

3.4.3 Lloyd's / The Corporation of Lloyd's / Lloyd's supports SolarAid in East Africa

In 2014-2015 reporting the Corporation of Lloyd's covered work in East Africa in partnership with SolarAid[104] – a charity selling solar lights in Africa – through which the Corporation funded three projects in Kenya, Tanzania and Malawi. This programme was developed as part of the Corporation of Lloyd's 'Lloyd's Together' initiative, and results were presented to the Corporation in May 2016. Project tracking and impacts are highlighted below.

Kenya background

In Kenya, only 20% of the population has access to electricity[105]. Much of the population relies on kerosene for lighting and, as well as being very expensive, this has obvious environmental and health impacts. This problem is compounded in rural areas and, without light, opportunities for earning, learning and socialising are severely limited.

Lloyd's is funding a School Campaign in the western area of Homa Bay which aimed to introduce over 1,000 solar lights into the community showing families, through trusted head teachers, the transformational effect a solar light can have on a child's education. This was estimated by SolarAid to:

- Provide 1,272,000 extra study hours to children.
- Save £240,000 for families.
- Avert 1,130 tonnes of carbon dioxide emissions.
- Improve the health of 5,900 people.

SolarAid attended a Meet the Market event in Kenya on 23 June 2015 where they took a box to informing companies about their work and how to engage with the scheme.

Impact

Funding from the Corporation of Lloyd's enabled SolarAid's social enterprise SunnyMoney to conduct its flagship community distribution model – Schools Campaigns. Schools Campaigns have been lauded by Business in the Community as a hugely successful market catalysing activity, due their success in creating awareness, trust and demand. By working with trusted community leaders – head teachers – they are able to sell at volume in remote, rural and sparsely populated areas.

The model is a hybrid of charity and business – and the members of Schools Campaign are able go where conventionally financed companies cannot turn a profit and create supply and demand for the first time; lighting up lives in the process. Creating supply and demand stimulates a market, so that private enterprises can "crowd in", serving customers in the long-term as they then recycle sales revenue back into their mission, reaching ever further across the continent.

In total, Corporation of Lloyd's funding has helped SolarAid conduct schools campaigns in Busia district, selling a total of 2,081 lights, between June and August 2015. This includes 30 solar home systems and over 1,000 sun king eco lights.

What SolarAid learned assisted by Corporation of Lloyd's funding:

> "*We saw more demand for mid-range and top end products, like solar home systems, showing how successful our model is in building trust in new technology.*
>
> *As the UK's Department for International Development decided to fund our work in Siaya, Lloyd's funding helped expand our geographical footprint further and expand into neighbouring Busia County, on the border with Uganda.*"

Long term trends include:

- The solar power market has taken off since 2014 and the start of Corporation of Lloyd's funded activity.
- Since Corporation of Lloyd's funding in 2015, Kenya has become the fastest growing pico-solar market.
- To date, SolarAid have sold almost half a million - over 470,000 - solar lights in Kenya.

Tanzania background

Only 24% of the population in Tanzania has access to electricity, which means around 36 million people are living without power. 63% of families rely on kerosene for lighting and rural Tanzanian households spend around 25% of their income on lighting. Without light, opportunities for earning, learning and socialising are severely limited.

Lloyd's aims to build on the recent success of the School Campaign in the Chato District of the north-westerly Geita Region through introducing over 1,000 solar lights into the community which is estimated by SolarAid to:

- Provide 1,240,000 extra study hours to children.
- Save £106,000 for families.
- Avert 308 tonnes of carbon dioxide emissions.
- Improve the health of 3,100 people

Impact

SolarAid conducted a school campaign in Mbeya, making solar lights available for the first time. In total, it sold 834 lights in total throughout June 2015. Initially it planned to distribute in Chato district, in the Geita region of North Western Tanzania but went to Mbeya in the South West instead, to expand its reach even further.

What SolarAid learned assisted by Corporation of Lloyd's funding:

> "*This is one of the last places in Tanzania where we hadn't sold lights – thanks to funding from Lloyd's we truly reached the last mile in distribution!*
>
> *More demand for higher capacity products means that families are increasing their energy access, on their own terms now rather than waiting for grid expansion that will never come.*"

Long term trends include:

- In Tanzania SunnyMoney have now achieved nationwide coverage – selling lights everywhere but Zanzibar.
- Tanzania was where SolarAid first conceived the idea of schools campaigns and the first country it has withdrawn from.
- It is where SolarAid first accomplished its mission – it is widely credited with catalysing the market.
- SolarAid has sold, in total, over 800,000 lights and reached 16% of all people living off-grid
- This means that it reached the tipping point required for the market to take off, and private companies to serve demand even in rural areas.
- Now Tanzania is Africa's leading solar market and SunnyMoney have handed over to Arti energy, leaving a lasting energy legacy beyond charitable funding. Arti Energy plans to continue to distribute lights but also to ensure warranties are honoured if anyone's light was faulty or they wanted to upgrade. The private sector is servicing demand, even in remote places.

Malawi background

Nearly a quarter of a million people have been affected by the devastating floods that ripped through Malawi in January 2015.

230,000 people who were forced to flee their homes have been unable to return and rebuild their lives. SolarAid have provided 500 portable solar lights to emergency relief camps in Chikwawa and Nsanje, the worst hit districts. The solar lights aim to improve the living conditions and safety at the camps for women and their children.

Impact

Corporation of Lloyd's funding has helped SunnyMoney Malawi embark on its first programme of humanitarian assistance. With partners CONCERN Universal and GOAL Malawi, 10,000 solar lights were distributed to people affected by the severe flooding, living in camps in Nsanje – including 500 funded directly by the Corporation of

Lloyd's.

What SolarAid learned assisted by Corporation of Lloyd's funding:

"*This experience – seeing the impact of a small but mighty light in this context, has led us to develop a new humanitarian strategy. Although our core focus will always be on building sustainable markets so people can buy their own lights, and invest in solar, we also have seen first-hand how a small light can have an even mightier impact in humanitarian settings. As a result, we have sent lights to health workers in Sierra Leone, to post-earthquake Nepal, and even to the "Jungle" in Calais.*"

Long term trends include:

- In total SolarAid has sold over 131,000 lights in Malawi.
- Malawi is the poorest country it works in – by far. Malawi is also the poorest country in Africa not at war with itself. The portable solar market is very far behind Kenya and Tanzania, and SunnyMoney remain the only key player and national distributor.
- In a recent report published by the Overseas Development Institute, it was noted that:

> *"To date, around 100,000 pico-solar products have been sold, equivalent to a market penetration of about 3%. The bulk of these products have been sold through the NGO backed distributor SunnyMoney… The biggest player in the country is SunnyMoney, which is wholly owned and financially backed by the charity SolarAid".*

Forward planning

This project builds on the Vision 2025 plan to be known around the world for Lloyd's integrity and is a place where talented, diverse and socially responsible employees feel proud to work.

The project also forms part of the Corporation of Lloyd's work in supporting climate awareness, and the ongoing aim to demonstrate that Lloyd's is a responsible global corporate citizen through its ethical principles and practices, and by sharing knowledge and expertise.

Evidence also applies to principle(s): 1.1, 1.3, 1.4, 5.4, 6.1

Source(s): Lloyd's 2015 Annual report[106], Lloyd's Vision 2025[1], Lloyd's Together[107], Lloyd's ClimateWise report 2014-2015[108]

3.4.4 Lloyd's / The Market / Amlin / Engaging with the market

Amlin underwrites catastrophe schemes and reinsurance in developed and third world regions. We believe our role is to provide key recovery services and to this end a payment on account scheme is in place with key brokers in order to provide fast settlement in the wake of major catastrophe events. This was made possible by the modelling capability developed by Amlin over several years, which is underpinned by our close relationship with reinsurance brokers to ensure that clients have the most up to date modelling and assessment of their risk.

Amlin strives to adopt the latest climate view of risk at all times, such as:

- The increased frequency and intensity view of hurricane activity in the Atlantic Ocean Basin, driven by higher sea surface temperatures in the tropical North Atlantic and by associated changes in atmospheric circulation;
- The investment by Amlin UK in the latest Mapflow technology to enable underwriters to analyse UK flood risk probability and thus provide clients with the optimum cover for their commercial property.

Amlin is interested in providing commercial insurance policies to tackle environmental issues, as an example we have developed specialist insurance for the recycling and waste reprocessing industries and the transport of hazardous chemicals. Amlin also provides marine liability insurance against accidental pollution during transport of materials to recycling or disposal sites between ports within Europe.

In the UK the Government, and the ABI, have sponsored the launch of a Flood Reinsurance scheme known as Flood Re. The purpose of this fourfold:

- Enable flood insurance to be available and affordable;

- Increase availability and choice for Customers;
- Allow for the development of better flood protection;
- Create a level playing field for new entrants and existing insurers.

The P&C division of Amlin has joined as a member so that customers of Amlin can be offered the benefit of Flood Re.

The Amlin Group Reinsurance division have written 3% off the proportional facility protecting Flood Re against abnormal incidences of flood events. In addition, at present Amlin is one of eight carriers supporting a disaster relief pool and is actively looking to get involved in similar future initiatives.

In terms of sponsorships Amlin has partnered up with Andretti to support the electric car Formula-E series, which promotes the development in practical usage of electric cars worldwide[109]. Formula-E is the highest class of competition for single-seater, electrically powered racing cars, and will serve to push the limits of this technology, increase our knowledge of it, and encourage development and experimentation. It is designed to drive innovation in transport solutions that are more environmentally positive and relevant to future transport needs. As seen from traditional racing series some of these developments will eventually find their way to commercial everyday use.

Evidence also applies to principle(s): 1.3, 1.4, 2.1, 6.1

Source(s): Amlin

3.4.5 Lloyd’s / The Market / Beazley /Shelterbox

Beazley has partnered with Shelterbox, a disaster relief charity, since 2013 to help provide emergency shelter and vital supplies to communities overwhelmed by disaster and humanitarian crisis. In 2014 we supported Shelterbox in developing an app which helps measure the impact of disasters to improve planning for future operations, including climate-related ones. In 2015, due to the number of natural disasters occurring, Shelterbox did not have a specific large project to work on, so our donation was channelled to Fiji, where the most powerful storm ever recorded in the South Pacific hit the islands in February.

Shelterbox responded with the deployment of 491 Shelterboxes and 401 Shelter Kits. Beazley’s donation supplied 17 Shelterboxes, supporting 170 families, or 270 Shelter Kits to help families to rebuild their homes.

Forward planning

Our partnerships with Shelterbox and other charity partners (World Child Cancer and Cancer Research Institute) come to an end this year, and we are currently reviewing new partnership opportunities. We are keen to ensure that our partnerships are aligned with our areas of expertise and business interests, so that we can make a meaningful contribution to their activities beyond our financial donation.

Evidence also applies to principle(s): 1.1, 1.3, 6.1

Source(s): Beazley.

3.4.6 Lloyd’s / The Market / CHUBB / CHUBB Environmental Reporting

At CHUBB, we recognise our responsibility to provide solutions that help clients manage environmental risks, to reduce our own environmental impact and to make meaningful contributions to environmental causes.

CHUBB 2015 Environmental Report

The CHUBB annual Environmental Report outlines the full scope of our commitment and activities to address environmental concerns. The company also includes an Environmental Statement in its annual report.

Highlights of the CHUBB 2015 Environmental Report include:

- An infographic featuring CHUBB's recent environmental milestones (See, right)
- CHUBB's perspective on climate change risk
- CHUBB industry-leading environmental products and services
- CHUBB's new goal to reduce greenhouse gas emissions
- The report features information about:
- CHUBB initiatives to reduce greenhouse gas emissions;
- developing innovative insurance products for current and pending environmental and climate-related issues; and,
- preserving sensitive lands and habitats around the world through philanthropy

Climate change is an important and serious issue for the global insurance industry because it is our business to provide security against many of the property-related risks posed by such change. With CHUBB having operations in 54 countries, CHUBB's business and operating models are exposed to the full impact of global climate change. At CHUBB, we recognise that a changing climate affects everyone — our customers, employees, shareholders, business partners and the people who live and work in the communities we serve. Therefore, climate change is integrated into aspects of CHUBB's short and long-term strategies.

In our operations, we continue to focus on reducing our carbon footprint around the world. In September 2014, CHUBB established a new companywide goal to reduce greenhouse gas (GHG) emissions by 10% per employee from 2012 to 2020. The commitment follows the successful achievement of the company's first emissions reduction goal, which was 8% per employee from 2006 to 2012. In 2015, CHUBB reduced its emissions per employee by 5% from a 2012 baseline; about halfway towards achieving the goal.

The environment is also a priority in our corporate philanthropy. Around the world, grants from CHUBB's charitable foundations are helping to preserve sensitive lands and habitats, finance "green-business" entrepreneurs and educate farmers on growing sustainable crops.

CHUBB's Corporate Environmental Programme is now in its ninth year. We continue to be at the forefront in addressing environmental issues and the implications of climate change for all areas of our business. We are proud of the progress we have made and are committed to taking further steps to make meaningful improvements in the environment.

The full CHUBB Environmental Report 2015 can be viewed online here.

Philanthropy

Chubb has a rich history of fostering philanthropic engagement in the communities where our employees live and work. We are proud to invest in the wellbeing of our local communities through volunteerism, grants, sponsorships, matching gifts and scholarship programmes.

Chubb supports communities around the world through our established philanthropic entities and via company-sponsored volunteer initiatives.

In 2015, the combined foundations of ACE Group and the Chubb Corporation made grants and matching gifts of more than $7.4 million to support innovative initiatives around the globe.

Chubb is a firm believer that positive contributions to the fabric of our communities return long-lasting benefits to society, our employees and our company. The Chubb Charitable Foundations primarily focus philanthropic support in the areas of education, poverty and health and the environment.

In addition, Chubb encourages the development of local and regional initiatives that reflect our employees' commitment to the needs of the communities in which they live and work. Through national campaigns, local volunteer initiatives and other programmes globally, Chubb supports employee giving and volunteerism.

Environmental Solutions

CHUBB has been a pioneer in developing advanced environmental insurance solutions, including coverages for premises-based exposures, contractors' and project pollution liability, and renewable energy and environmental clean-up projects, as well as "green building" consulting services and a property policy that enables greener rebuilding after a loss.

Carbon Emissions Reductions

The primary objective of CHUBB's environmental programme is to measure, record and reduce greenhouse gas (GHG) emissions in the company's own operations. CHUBB will continue to deploy the approaches it has used successfully to date, including installing energy-efficient lighting and equipment and more efficient use of office space.

Recognition

In 2015, CHUBB achieved a CDP disclosure score of 99 and a performance score of B, earning it a spot on the CDP Carbon Disclosure Leadership Index. In 2014, CHUBB earned a CDP disclosure score of 93 and a performance score of B. CHUBB was also one of just nine insurance companies – out of more than 330 ranked – to be cited as a leader for its climate risk disclosures by Ceres.

Employee Involvement

To engage our employees worldwide in our environmental efforts, CHUBB promotes the formation of employee volunteer committees that address the environmental impact of their local operations by taking steps such as powering off office equipment, reducing waste through recycling programmes, and participating in volunteer clean-up activities in local communities.

Internal Blog

CHUBB staff actively blog within an internal Jive site; a new popular page created by teams within CHUBB, named "CHUBB Green" is followed by staff globally providing opportunity to post carbon footprint tips, interesting articles and local community events. The site promotes the importance and the need to reduce a carbon footprint. The space is intended as a resource for all things Green at CHUBB and as an interactive forum

More information can be found here: http://www.acegroup.com/about-ace/philanthropy/

Evidence also applies to principle(s): 1.1, 1.3, 5.1, 5.2, 5.3, 5.4, 6.1

Source(s): CHUBB.

3.4.7 Lloyd's / The Market / Tokio Marine Kiln / Supporting developing economies build resilience against natural catastrophes

On 27 November 2015, Tokio Marine Kiln is one of the eight Lloyd's syndicates, who have joined forces to participate in the Lloyd's Disaster Risk Facility. The eight Lloyd's syndicates have committed capacity of US$400m towards solutions that address natural catastrophe risks in emerging and developing economies.

The group has issued an open invitation to work with international organisations including, but not limited to, the World Bank and the British government's Department for International Development. It will also look to strengthen its existing ties with several current global initiatives such as the Insurance Development Forum created by the International Insurance Society. The group plans to engage with governments, municipalities, and non-governmental organisations, in addition to Lloyd's usual, valued client base.

Forward planning

TMK looks to offer its specialist underwriting expertise and insurance capacity in this facility.

Evidence also applies to principle(s): 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 3.2, 4.3

Source(s): Lloyd's press release[110]

4 Incorporate climate change into our investment strategies

The Corporation of Lloyd’s believe that we should use our shareholder power to influence the behaviour of the companies in which we invest – and persuade them to respond more effectively to the impact of climate change.

Communicating our beliefs

The Corporation uses its position as a shareholder to promote better management of climate change amongst the companies we invest in. John Parry, Director, Finance, is also the internal ClimateWise sponsor, and is involved in activities that generate action.

Throughout the reporting year details of the principle 4 case studies from past reporting has been used to illustrate to external partners and stakeholders the range of activities that Corporation and Market members take part in this area. See case study 5.4.5 for more details.

Shareholder power

Since 2008, the Corporation has engaged Foreign & Colonial to engaging with companies in which Lloyd’s Central Fund invests and to exercise Corporation voting rights in pursuit of environmental, social and governance issues. Foreign & Colonial seek to encourage positive action on climate change and the long-term value protection this inevitably brings. This typically includes asking for better management of emissions and for the development of enhanced climate change strategies.

Over the 2014-2015 reporting cycle, Foreign & Colonial voted 154 times in respect of the Lloyd's Central Fund’s equity investments. They engaged with 62 investee companies across 25 different countries on Lloyd’s behalf, leading to 25 instances at 21 companies where environmental, social and governance practices were reformed or improved.

4.1 Evaluate the implications of climate change for investment performance and shareholder value.

4.1.1 Lloyd’s / The Corporation of Lloyd’s / Further evidence of the link between ESG factors & company performance

Lloyd’s Treasury and Investment Management (LTIM) continues to employ the services of an overlay manager (previously F&C, who are now BMO) to engage with companies in which Lloyd’s Central Fund invests and to exercise the Central Fund’s voting rights in pursuit of environmental, social and governance (ESG) issues.

The overlay manager typically asks for improved measurement, monitoring and management of emissions and for the development of enhanced climate change strategies.

Last year, BMO began to explore how it might be able to isolate and track the direct impact of its engagement and voting activities on the financial performance of a company over the long term. Given the difficulty associated with stripping out the impact of other performance drivers, which are often correlated with the engagement levels of a company, BMO expects this project to last for an extended period of time. However, BMO has shared a climate-themed engagement which it aims to result in a positive impact for certain energy extractive companies that have a stronger positioning in natural gas, over those whose portfolios are heavier on crude oil or thermal coal.

Evidence also applies to principle(s): 4.2, 4.3, 6.1

Source(s): Lloyd’s

4.1.2 Lloyd's / The Corporation of Lloyd's / Level & Impact of Engagement

In the last reporting cycle the Corporation of Lloyd's reported against the overlay manager previously F&C, who are now BMO voting 154 times in respect of the Central Fund's equity investments. BMO engaged with 62 companies (across 25 different countries) in which the Central Fund is invested, leading to 25 instances (at 21 companies) where ESG practices were reformed/improved.

In 2015, LTIM's overlay manager, BMO, voted at 129 company shareholder meetings in respect of the Central Fund's equity investments. BMO engaged with 82 companies in which the Central Fund is invested, leading to 41 instances, at 28 companies, where the approach to ESG issues was changed, as a result of the engagement. The below is an example of one of these instances.

Engagement tracking

Actions	2014	2015
Voting	154	129
Companies engaged	62	82
Instances of ESG practices reformed/improved	25	41

Evidence also applies to principle(s): 4.2, 4.3, 6.1

Source(s): Lloyd's

4.1.3 Lloyd's / The Market / Amlin / Encouraging appropriate disclosure on climate change from the companies in which we invest

MS Amlin manages its investments on a multi-asset multi-manager basis. A rigorous selection process ensures that our selected sub-advisors share our belief that superior longer-term investment returns are achieved through investing in companies that embrace their social, environmental and corporate governance (ESG) responsibilities, in line with the United Nations' Principles for Responsible Investment (UNPRI), which we encourage our sub-advisors to sign up to. Whilst currently 85% of our sub-advisors are UNPRI signatories, we monitor the ESG and Social Responsibility Investment activities of all our sub-advisors.

Evidence also applies to principle(s): 4.2, 4.3, 6.1

Source(s): Amlin

4.1.4 Lloyd's / The Market / ArgoGlobal / Climate Change and Business Operations

During 2015-2016, Argo Group continued to develop and refine its internal sustainability policy that is intended to apply to corporate risk management and investment practices. Argo Group's approach to sustainability includes the following three parts:

- Environment and Climate Change
- Corporate Social Responsibility and Community Involvement
- Diversity and Inclusion

Climate Change has been classified by Argo Group as one of its emerging risks, and it is regularly monitored by the corporate risk management function for the primary purpose of assessing the potential impact of climate change on Argo Group's business operations, insurance products and clients.

Argo Group has also established an Enterprise Risk Management (ERM) framework, and climate change is included within that framework as a part of the comprehensive risk categorisation. The interpretation and application of the Sustainability Policy, of which Climate Change is a significant aspect, is part of the remit of the Argo Group Enterprise Risk Management (ERM) Steering Committee. A Sustainability working group coordinates the day-to-day activities associated with the Argo Group Sustainability Plan.

The Argo Group risk management function is also consulted if it is expected that an environmental issue may have a potential impact upon its business operations and/or insurance products. The intended purpose of such consultation is to identify and discuss potential options for the mitigation, reduction and/or avoidance of risk resulting from an environmental issue.

Evidence also applies to principle(s): 4.2, 4.3, 6.1

Source(s): ArgoGlobal – Syndicate 1200

4.1.5 Lloyd’s / The Market / Hiscox / Industry research

The Hiscox Investment Team are proactive in evaluating the implications of climate change on our investments. The team have analysed specialist environmentally and ethically-focussed funds to assess their various approaches to ESG issues, concluding that there are wide differences in approach to this complex issue, both the investment areas identified as unsuitable for such investments and in the approach taken, with some funds favouring absolute exclusion of specific sectors and other funds supporting an approach of engagement leading to change.

Previous analysis of the economics of climate change and the potential impact on Hiscox has included consideration of the Stern Review on the Economics of Climate Change (UK), the Jorgenson (et al) report on the US Market consequences of Global Climate Change (US), the Garnaut Climate Change Review (Australia), the Mercer Climate Change Report and a number of academic papers exploring social discounting and mitigation costs.

The Cambridge Institute for Sustainability Leadership ‘FinanceHub’ provides a central information point for current industry research and thinking on inclusion of climate change in investment decisions.

Key papers of relevance to Hiscox include:

- A student project report, with direct Hiscox Investment and Facilities Management contributions, studying whether greater knowledge sharing across leading insurance companies can help reduce climate-related
- risk and drive sustainable investment. This research found knowledge sharing to be positively associated with reducing climate related asset risk and increasing sustainable investment;
- A Towers Watson paper entitled ‘We need a bigger boat: sustainability in investment’.
- A Cambridge Programme for Sustainability Leadership paper, ‘What could excellence in incorporating low carbon decision-making in insurance and reinsurance investment strategies look like?’;
- A paper by UNEP FI, Global Compact and The Principles for Responsible Investment;
- ‘New Angle on Sovereign Credit Risk, E-RISC: Environmental Risk Integration in Sovereign Credit Analysis’ by the United Nations Environment Programme Finance Initiative (UNEP FI);A ‘Fiduciary responsibility: legal and practical aspects of integrating environmental, social and governance issues into institutional investment (“Fiduciary II”)’, an AMWG follow-up to the ‘Freshfields Report’.

Further information on Hiscox work in this area can be found in our independent submission.

Evidence also applies to principle(s): 1.1, 2.1, 4.2

Source(s): Hiscox.

4.1.6 Lloyd's / The Market / QBE / QBE is a Signatory to United Nations Principles for Responsible Investment

QBE is a signatory to United Nations Principles for Sustainable Insurance, and a voluntary participant in the Carbon Disclosure Project (CDP) which reports on climate change data for investors.

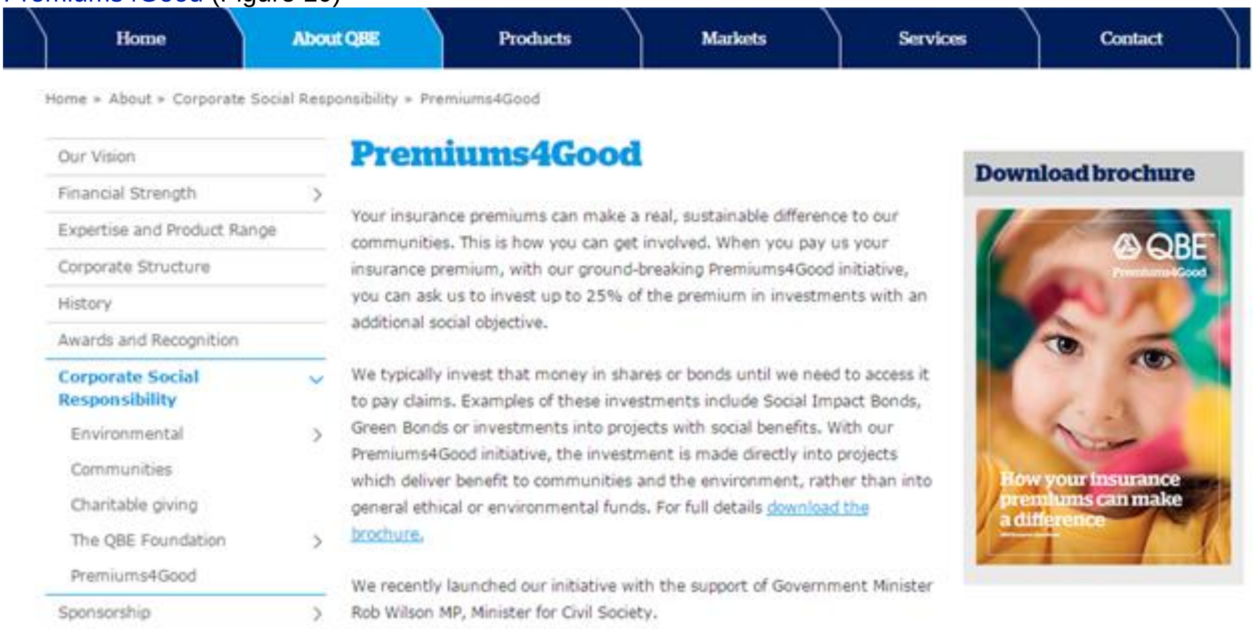
2015 was the first full year in which QBE was a signatory to the UN's Principles for Responsible Investment ('UN PRI'). These principles provide a framework under which QBE formally integrates and tracks environmental, social and governance ('ESG') considerations, such as environmental and social impacts of business practices or stakeholder expectations, throughout QBE's investment process.

Premium4Good Initiative

QBE is also an active investor in green bonds, which are a funding source of eligible development programs that are designed to address the challenges of climate change.

QBE invests a portion of premium in environmental (and social) investments, under the Premiums4Good Initiative, launched in 2016 (for QBE European Operations on 22 March 2016), which will see a strong portion of premiums invested in investments with additional social objectives, which includes green bonds. The event was launched at the Old Library with the support of Government Minister Rob Wilson MP, Minister for Civil Society and Richard Pryce, CEO, QBE European Operations, and an overview video of the event is available on our website for all to see:

Premiums4Good (Figure 10)



Watch the video online at the Premiums4Good webpages.

Under the Premiums4Good Initiative, clients in EO can elect that 25% of their premium is invested into investments with additional social objective. In addition to green bonds, investments include social impact bonds and other social investments. With the Premiums4Good initiative, the investment is made directly into projects which deliver benefit to communities and the environment, rather than into general ethical or environmental funds.Green bonds mean an investment into projects with environmental benefits such as renewable energy, waste management and water conservation.

To be transparent and give clients reassurance, QBE have established an investment committee, the Classification of Social Investments (COSI) Committee, with an inaugural meeting held on 9 December 2015. The Committee comprises six members; three from QBE and three from external organisations (Big Society Capital, Philanthropy Australia and Impact Investing Australia). Investments can only count toward our Premiums4Good total if confirmed by this committee.

Investment Feedback

QBE is committed to transparent reporting, which shows the investments made and projects that benefitted.To give clients that reassurance, we have established an independent committee to confirm those investment decisions as being appropriate for the product. The inaugural meeting for the Classification of Social Investments (COSI) committee was held 9 December 2015. The committee comprises six members; three from QBE and three from external organisations (Big Society Capital, Philanthropy Australia and Impact Investing Australia). As at 28 February 2016, the value of our investments were as follows:

- High Impact: US$208m
- Moderate Impact: US$23m

Investments can only count toward our Premiums4Good total if confirmed by this committee. All of the investments we highlight in this update have been validated by that independent committee.

QBE is committed to sharing details of the investments we have made with the funds committed as a result of our Premiums4Good initiative. We hope you find the stories in this booklet a powerful illustration of the good that has been done by our collective action to support deserving causes and organisations.

Next steps

If customers would like to join the growing number of clients participating in our Premiums4Good initiative, all they need to do is let us know at the time they next renew their policy by contacting us at:

PremiumsForGood@uk.qbe.com

Social impact bonds

QBE is a leader in promoting action on ESG issues through socially responsible investment. This is reflected in our sponsorship of socially responsible investment products through our stated intention to invest $100 million in social impact bonds over the next three years. Social impact bonds are social policy-driven investments that pay a return based on the performance of a social service provider improving a specific social outcome. The key participants in social impact bonds are governments, social service providers (generally not for profit organisations) and private sector investors with a focus on areas of social and welfare services.

Social impact bonds have the potential to benefit the whole community as achievement of the targeted outcome should reduce the need for, and therefore government spending on, acute social or welfare services. Part of the resultant public sector savings are then used to repay investors' principal and make additional reward payments (the return on investment), the level of which is dependent on the degree of improvement achieved.

Green bonds

QBE is also an active investor in green bonds, which are a funding source for eligible development programs that are designed to address the challenges of climate change. Examples of green bonds, included in the QBE's latest Investment Feedback include the following:

- IFC Green Bond – a green bond issued by the International Finance Corporation (IFC). Proceeds invest exclusively in renewable energy, energy efficiency and other climate-smart projects in developing countries.
- TenneT – the green bond issued by TenneT, a leading European electricity transmission operator with activities in the Netherlands and Germany. It is 100% owned by the Dutch government. Proceeds from this bond will be exclusively used for projects that transmit renewable electricity from offshore wind power plants into the onshore electricity grid using direct current technology or alternating current technology.

Evidence also applies to principle(s): 4.2, 4.3

Source(s): QBE, Sustainability Review[111], Premiums4Good brochure[112], Premiums4Good investor feedback[113]

4.1.7 Lloyd's / The Market / Tokio Marine Kiln / Implications of climate change for investment performance and shareholder value

Tokio Marine Kiln's ultimate parent, Tokio Marine Holdings Inc. (ticker: 8766) is listed on the Tokyo Stock Exchange. Given the Group's ongoing focus on CSR, the Tokio Marine Group has been selected for inclusion in global socially responsible investing (SRI) indexes as of July 2015. The SRI indices include Dow Jones Sustainability Indices, FTSE4Good Index and Euronext Vigeo World 120.

In addition, the Tokio Marine Group, has been selected for inclusion for two consecutive years since the establishment of the JPX-NIKKEI 400 index in 2014. This index is composed of companies with high appeal for investors, which meet the requirement of global investment standards, such as efficient use of capital and an investor-focused management perspective.

The Tokio Marine Group is also a signatory to, and participant in, the United Nations Principles for Responsible Investment (PRI). PRI signatory organisations, Tokio Marine Asset Management and Tokio Marine & Nichido, have made clear their endorsement and acceptance of "Japan Stewardship Code", a set of principles for responsible institutional investors, and engage in constructive dialogue for the sustainable growth of investee companies.

Forward planning

The Tokio Marine Group intends to maintain its ongoing focus on CSR and its inclusion in the relevant indices.

Evidence also applies to principle(s): 2.1, 2.2, 4.3

Source(s): Tokio Marine Kiln[114]

4.2 Incorporate the material outcomes of climate risk evaluations into investment decision making.

4.2.1 Lloyd's / The Corporation of Lloyd's / An increase in investment manager commitment to ESG issues

Lloyd's Central Fund is invested across a range of different asset classes. For some of these investments, the role of investment manager has been outsourced to external firms.

Four of the eight external investment managers of Central Fund assets are now signatories to the UN-supported Principles for Responsible Investment (UNPRI). The first principle requires managers to incorporate ESG issues into their investment analysis and decision-making processes and holds them accountable for this.

LTIM directly manages the Central Fund's investment-grade fixed income assets and invested in Green bonds for the Central Fund at the end of 2015. Green bonds are a financial instrument for organisations to raise capital for projects or activities that benefit the economy, environment or society.

Along with investing in Green bonds, LTIM has also limited the purchases of investment grade bonds in the oil and gas sector.

Evidence also applies to principle(s): 4.1, 4.3, 6.1

Source(s): Lloyd's

4.2.2 Lloyd's / The Corporation of Lloyd's / Ongoing investment manager commitment to ESG issues

In the last reporting cycle the Corporation of Lloyd's reported against work by its external investment managers, which provided two examples, of engagement with companies over ESG issues. In the first example, engagement resulted in positive change within the company. In the second example, the lack of any commitment to change has led the investment manager to liquidate the investment:

- Engagement by the investment manager (along with other shareholders) was responsible for the audit committee of a company becoming totally independent.
- Hong Kong China Gas created a 'New Energy' division focusing on coal to liquid and other sources of energy in China. The investment manager took the view that these types of fuel were unlikely to be economic in a world of carbon or water being priced properly (these types of fuel are inefficient in terms of energy and water needed to create usable fuel) or of low energy prices. The investment manager felt that this development resulted in a substantial weakening of the franchise. The manager engaged with the company but without success and therefore decided to sell its investment.

This year, the Corporation of Lloyd's has chosen to focus on another of LTIM's external investment managers, who is an advocate for sustainable investment and regards themselves and their clients as active owners of the companies they invest in. The Manager believes it is their obligation to engage with companies where they have concerns over their approach to sustainability and governance issues.

Furthermore, as part of BMO's on-going commitment, it is carrying out a number of new projects for 2016, on behalf of its clients and LTIM.

Evidence also applies to principle(s): 4.1, 4.3, 6.1

Source(s): Lloyd's

4.2.3 Lloyd's / The Market / ArgoGlobal / Investment Strategy

Argo Group operates its investment management function through a series of outsourced arrangements using investment managers. To the extent that Argo Group's external investment management firms consider the impact of climate change on those parts of the Argo Group portfolio under their management, Argo Group by extension, is considering the impact of climate change on its investment portfolio and its investment management guidelines and strategy.

The nature of carbon-based extractive industries, such as coal, and the potential impact of their operations on climate change, is recognised by Argo Group. Investment in coal extractive industries currently represents less than 0.1% of the Argo Group portfolio, a level that is not anticipated to increase in the future.

Forward planning

Argo Group has included a review of its investment strategy within its 2016 sustainability plan. This review will involve an exercise to define which sectors represent high-carbon industries, to further analyse Argo Group's asset holdings with respect to these high-carbon industry sectors and to develop a longer-term investment strategy with respect to these types of asset class. Argo Group recognises that, should a shift occur towards a lower carbon economy, there is a potential for high-carbon industry asset values to decrease to a level such that they potentially could become stranded assets.

Evidence also applies to principle(s): 4.1, 4.3, 6.1

Source(s): ArgoGlobal – Syndicate 1200

4.2.4 Lloyd's / The Market / CHUBB / Climate Change and Biodiversity: Commitment to Bee Protection

The Earth's climate is changing and the impacts are already being felt by biodiversity and wildlife habitats across the planet. It is widely recognised that climate change and biodiversity are interconnected. Climate is an important environmental influence on ecosystems. Climate changes and impacts of climate change affect biodiversity and ecosystems in a variety of ways.

Over the past few years, the bee population has decreased and in some parts of the world there are no longer any bees. By gathering nectar, wild and domestic bees take part in 80% of pollination worldwide. A single bee colony can pollinate 300 million flowers each day. Seventy out of the top 100 human food crops, which supply about 90 percent of the world's nutrition, are pollinated by bees. The impact of climate change on a particular species can ripple through a food web and affect a wide range of other organisms. Biodiversity and pollinators are interdependent. The disappearance of bees and the subsequent damage to the plants which are depending on them would be disastrous.

CHUBB France sponsors Un Toit Pour Les Abeilles – 'A Roof for Bees' (Figure 11)

Increasing bee colonies can help provide a surviving chance to these important insects. By CHUBB sponsoring "parrainer des ruches pour sauver les abeilles" (hives to save bees) will enable creation of new bee colonies. CHUBB recently began building a relationship with Un Toit Pour Les Abeilles and plans to sponsor Un Toit Pour Les Abeilles who has the ambition to protect and save the bees and support beekeepers.

CHUBB's sponsorship enables the creation and development of 4 new bee colonies (with approximately 40,000 bees per beehive); this initiative will promote the importance of saving our bees. CHUBB receives 400 customised 125g honey pots a year along with an information letter, both of which are distributed internally and externally. The company has organised client, broker and employee honey tasting and visits to the beehives with aim to educate the significance of the bee species, the function of a beehive, importance behind the initiative and how they as an individual can save bees. The visits, other organised events and continued promotion aim to increase awareness of the environment, climate change and the effects of an extinct species. The project lays foundations for similar initiatives to be taken up by other CHUBB offices globally, as well as contributing increasing biodiversity, the reduction of climate change and the awareness of climate change.

Evidence also applies to principle(s): 4.1, 4.3, 6.1, 6.2

Source(s): CHUBB.

4.2.5 Lloyd's / The Market / CHUBB / CHUBB ALERT Application

Another innovative product is CHUBB Environmental Risk's CHUBB ALERT application, which facilitates more rapid dispatching of incident-response contractors as well as real-time monitoring of clean-up costs. This programme has demonstrated it can both reduce environmental damage and lower claim costs by as much as 20% to 25%. CHUBB's

Environmental Risk department received an award from the Business Insurance Innovation Awards Program for the CHUBB ALERT program.

CHUBB's product line also includes catastrophe management coverage, which handles the cost of services to maintain and restore public confidence following an environmental catastrophe. Outside the U.S., the company's core environmental products continue to be launched through

CHUBB Global Markets at Lloyd's in London, and interest has surged in various regions. In 2014, environmental liability insurance products for storage tanks were introduced in the United Kingdom and Australia.

Evidence also applies to principle(s): 4.1, 4.3, 5.1, 5.2, 6.1, 6.2

Source(s): CHUBB.

4.2.6 Lloyd's / The Market / CHUBB / CHUBB donates to LIPU for the preservation of the Venice lagoon

Venice, Italy - 6 October 2015 - CHUBB announced that the CHUBB Foundation International will donate €48,000 to the environmental charity LIPU for its work to protect and restore the natural habitat and biodiversity of the Venice lagoon. The donation was awarded during the 2015 FERMA (Federation of European Risk Management Associations) Forum which takes place in Venice, and reflects CHUBB's commitment to helping others manage environmental risk as well as contributing to environmental causes in the markets in which it operates.

With the grant from CHUBB, LIPU will be able to work in the Ca' Roman Nature Reserve, in the Venice lagoon to help protect the biodiversity and rare fauna and flora of the area from the effects of human activities. Among other things, LIPU will minimise the foot traffic in areas where indigenous flora species grow, protect the nesting sites of birds such as the rare nightjar, and better monitor the park to reduce illegal activities such as vegetation harvesting, trespassing and hunting.

Orazio Rossi, Country President for CHUBB in Italy, said:

"We are proud to partner with LIPU on this important project to protect and restore the biodiversity of one of the most important, but also sensitive, nature reserves in Italy. Environmental issues are a key priority for us at CHUBB. We provide solutions that help clients manage their environmental exposures across Italy and Europe region and we recognise our own responsibility to reduce our environmental impact, as well as to make meaningful contributions to local environmental causes."

Danilo Selvaggi, LIPU Director, said:

"Tourism, industry and other human activities are putting huge pressures on the Ca' Roman Nature Reserve in the Venice lagoon, an area of exceptional beauty and importance as the nesting ground for birds, such as the Oystercatcher, and local flora, unique to the Venice area. Our work in the reserve, which begun in 1992 in collaboration with the Venice Municipality and the Veneto Region, ensures that we minimise the pressure on the natural environment and we reverse the effects of human activities as much as possible. In a time of pressure on public finances, companies can help fill the gap when it comes to protecting the environment. CHUBB's donation is an example of the critical role business can play achieving this goal."

Click here to find out more about LIPU and its work on the Venice lagoon.

Evidence also applies to principle(s): 4.1, 4.3, 6.1, 6.2

Source(s): CHUBB.

4.2.7 Lloyd's / The Market / Tokio Marine Kiln / Ongoing investment manager commitment to ESG issues

Tokio Marine Kiln outsources the management of its investment portfolio to several external investment managers. One of its managers takes into consideration ESG issues into its investment process. This approach begins with the belief that ESG factors are often a signal of, or proxy for, management quality – particularly over the long term.

The investment manager does not expect ESG to be the sole consideration for making investment decisions, and assesses a variety of factors to build and monitor a portfolio of appropriate investments for clients. Generally, the fixed income investors consider material ESG factors as they relate to an issuer's creditworthiness. More specifically, the investment grade credit research team of the investment manager includes ESG information alongside credit ratings and internal research opinions in regular research communications to active fixed income portfolio managers. Where applicable, the investment manager considers any factor that in their judgment will affect the creditworthiness of companies over time, which includes the financial impact of non-financial factors. These may include board leadership, management quality, and mitigation of risks (e.g., physical risks, reputational risk, regulatory risk and legal risks). These risks may come from climate change, social trends, consumer behaviour, or government intervention.

Forward planning

TMK is working with the external manager on the possibility of monitoring ESG and carbon related metrics in its risk analytics and monitoring platform.

Evidence also applies to principle(s): 4.1, 4.3

Source(s): BlackRock[115]

4.3 Communicate our investment beliefs and strategy on climate change to clients and beneficiaries.

4.3.1 Lloyd's / The Corporation of Lloyd's / Reporting

LTIM's progress against Principle 4 is published on Lloyds.com as part of the Corporation of Lloyd's commitment to the ClimateWise principles.

Forward planning

In the last reporting year, the Corporation reported against its plan to raise awareness of responsible investment within the Lloyd's market in conjunction with Lloyd's broader Corporate Social Responsibility (CSR) initiatives, and aimed to organise a Lloyd's Investment Forum event to do this.

This year the Corporation is able to report that LTIM is in the process of organising a 'Lloyd's Investment Forum' to raise awareness of the topic within the Lloyd's market. The event has been confirmed for 10 October 2016 and current plans aim to cover a key note speaker followed by a panel discussion.

LTIM is looking to include on the panel representatives from both the fixed income and equities space, along with stakeholders from groups along the lines of the UN PRI. The discussion will aim to raise debate about how the Lloyd's market can take a more long-term sustainable view in their assessment of all investments.

Evidence also applies to principle(s): 1.1, 1.3, 2.1, 2.2, 4.1, 4.2, 6.1

Source(s): Lloyd's

4.3.2 Lloyd's / The Market / Amlin / Accountability to our stakeholders

We engaged Deloitte LLP to carry out limited assurance on the compilation of our 2015 carbon footprint in accordance with the International Standard on Assurance Engagements 3000.

The independent assurance statement, together with the basis of reporting and results summary which features in the annual report which is published on our website. Similarly our Carbon Disclosure Project and ClimateWise submissions are available online.

Evidence also applies to principle(s): 6.1

Source(s): Amlin.

4.3.3 Lloyd's / The Market / Hiscox / Communications strategy development

Hiscox recognises the importance of good communication with our customers and stakeholders and we use different mechanisms to achieve this communication. We have reviewed our major shareholders and peers attitudes to climate change, based on our history of direct communications with them or on publicly available information on their investment decisions.

In 2015-16, we continued to implement a proactive approach to communicating with customers and shareholders on these subjects, based on our findings. We also regard this Climate Report as a key method of communicating our approach to climate change risk in our investments.

Forward planning

Hiscox is still developing our approach to including climate change in our investment decisions. In 2016-17, we will seek to:

- Compile further assessments of investment fund manager governance and ESG performance;
- Continue with our current investment strategy, as defined in our 2016 review;
- As ongoing work we will:
    - Continue to improve the level of information available on the Hiscox website;
    - Conduct the next planned review of climate change and investment in 2019, following our three year cycle; and
    - Continue to support Tech Track 100 and offer appropriate insurance to their listed companies.

Role of the insurance industry

We believe that there is a wider insurance industry role to:

- Bring together insurers and investment houses in order to facilitate an industry approach to including climate change issues in investment decisions;
- Raise the profile of climate change and investment with stakeholders.

Further information on Hiscox work in this area can be found in our independent submission, here.

Evidence also applies to principle(s): 4.1, 4.2

Source(s): Hiscox.

4.3.4 Lloyd's / The Market / Tokio Marine Kiln / Reporting

Tokio Marine Kiln and the Tokio Marine Group continue to report CSR related activities in the respective annual reports.

For the Tokio Marine Group, CSR represents a way of realising our corporate philosophy, and working to help resolve social issues leads to the sustainable growth of the group. Based on this, we have formulated the "Tokio Marine

Group CSR Charter" to pursue the genuine practice of CSR in all our business activities, from products and services to respect for human rights and dignity, protection of the global environment, contribution to local communities and societies, governance and stakeholder engagement.

In the new Mid-Term Business Plan "To Be a Good Company 2017", together with the aforementioned four initiatives for sustainable growth, we have set "providing safety and security", "protecting the Earth" and "supporting people" as our core CSR themes, and we will further foster the practice of CSR in our corporate culture by encouraging each employee to participate proactively in CSR with the aim of continuing to be of service to society as we continue to grow.

As part of the Tokio Marine Group, the "Good Company" culture is embedded within Tokio Marine Kiln. This starts with our business philosophy: we are in business to provide high quality insurance coverage that is tailored to our clients' needs and to pay valid claims fairly and quickly. In the annual insurance market survey 'London Claims 2015 Full Year Report' our Claims team scored consistently well ahead of the market average in all areas of service metrics. It is very satisfying that our Claims Team truly embodies our approach of doing business the right way and being a Good Company.

But being a Good Company goes beyond that: we aim to make a positive contribution to the communities that we live and work by providing clear leadership and acting responsibly in our marketplace, workplace, community and environment. TMK has supported a range of good causes, focussing on building strong partnerships with organisations that make a real and substantial difference to people all over the world. In 2015, we supported London's Air Ambulance as our UK charity of the year and Médicins Sans Frontières as our International charity of the year to help people rebuild lives in disaster areas. Since 2012, TMK's employees have volunteered in and sponsored the Street Child, Sierra Leone marathon. Our sponsorship in 2012 happens to mark the 50th anniversary of Independence for Sierra Leone. We have also contributed towards climate related disasters including the Nepal and Japan earthquakes and Canadian wildfires.

Forward planning

TMK and Tokio Marine Holdings Inc. intend to maintain their ongoing CSR disclosures to the public and is committed to a range of good causes in helping climate change.

Evidence also applies to principle(s): 1.4, 2.1, 2.2, 3.3, 3.4, 4.1, 4.2, 5.2, 5.3, 5.4, 6.1, 6.2

Source(s): Tokio Marin Annual report[116], TMK[117], [118]

5 Reduce the environmental impact of our business

As a major player in the global economy, it is important that the Corporation of Lloyd's acts responsibly. This is covered explicitly by corporate social responsibility (CSR) activities undertaken in a number of areas, and also applies to business practices. At Lloyd's the Corporation see CSR as encompassing social, ethical and environmental issues and to date has seen:

- Over 200 years of charitable giving.
- Over £1m given by Lloyd's charities last year.
- In 2015, over 2,500 employees from across the Corporation and Market volunteered through Lloyd's Community Programme.

CSR received high positive ratings in the 2016 Corporation employee survey, with:

- 96% agreeing 'Lloyd's is a responsible business in relation to the community'.
- 94% agreeing 'Lloyd's is a responsible business in relation to the way it conducts business'.
- 92% agreeing 'Lloyd's is a responsible business in relation to its people',
- and 89% agreeing 'Lloyd's is responsible business in relation to the environment'.

High level actions and results include:

- Zero waste from the Corporation of Lloyd's UK operations goes to landfill.
- Over 85% of waste from Lloyd's UK operations is recycled and the general waste used as fuel for power generation that has resulted in savings of over 40% in waste management costs.
- Lloyd's purchases 100% renewable electricity for the Corporation of Lloyd's offices in London and Kent. The saving in electricity from 2008 to 2015 for the London office is 18%.
- Lloyd's has reduced the water pressure in the London office toilets which has helped generate an 8% saving in water usage compared to 2014.

The Corporation of Lloyd's and Market are now almost four years in to Vision 2025, with the aim of ensuring that Lloyd's – Corporation and Market – remains the global centre for specialist insurance and reinsurance in 2025 and beyond. This road map, developed through close collaboration with the market is broken down into rolling three year plans.

For 2016 the focus has been on making significant progress in initiatives already underway, and the 2016-2018 CSR strategy focuses on four priority areas highlighted in the following sections[119].

The CSR strategy is championed by the John Parry, Director, Finance, with contributions from other members of the Corporation Executive Team on a range of projects.

What success looks like:

Vision 2025
Lloyd's will be known around the world for its integrity and will be a place where talented, diverse and socially responsible employees feel proud to work.

Interim milestone (to end 2018)

Lloyd's is a responsible global corporate citizen through its ethical principles and practices, sharing of knowledge and expertise, and positive contribution to social and environmental issues.

Achieving the goals

Corporation's role

- To maintain and oversee Lloyd's minimum standards in respect of conduct and ethics, and compliance and reputation.
- To improve the environmental impact of Lloyd's operations and support social investment programmes in London and globally.
- To encourage market firms to support action on relevant social and environmental issues.

Managing agents

- To maintain high standards of integrity and conduct and to operate in line with Lloyd's minimum standards and all regulatory requirements in respect of the conduct of business.
- To ensure the board and senior leaders of a managing agency understand it is their responsibility to establish the ethical culture of their organisation.
- To have regard to the impact of the managing agency's operations on the community and the environment.
- To engage with Lloyd's CSR initiatives, such as the Lloyd's Community Programme and ClimateWise, where aligned with their own plan

In the Corporation of Lloyd’s recent employee survey, 94% of employees felt that the Corporation of Lloyd’s was a responsible organisation in relation to the way we conduct business[120].

Lloyd’s has a number of initiatives in place to uphold high standards of conduct and ethics within the Corporation of Lloyd’s:

- Lloyd's Code of Conduct sets out the Corporation of Lloyd’s expectations of our employees and is included as part of the induction process for new joiners
- Lloyd's has a Speaking Up policy to which provides a mechanism to enable employees to voice any concerns they may have in a responsible and effective manner. It also periodically carries out a Speaking Up policy survey to assess awareness and views towards speaking up on issues of concern such as suspected crime, discrimination or ethical issues
- Authors of all Lloyd's board papers are required to outline any material social, ethical and environmental implications of their proposals to the board
- Lloyd's is a member of the Institute of Business Ethics
- Lloyd's is an accredited Living Wage Employer. The Corporation of Lloyd’s pay levels for direct employees and on-site contractors meet or exceed the living wage requirements set out by the Living Wage Foundation

Corporation actions for 2016 in pursuit of this objective

- Undertake activities to support an ethical culture and business conduct standards within the Corporation and market.
- Respond to changing legal and regulatory responsible business requirements.
- Initiate disaster resilience initiatives and promote emerging risk management to relevant stakeholders.
- Maintain momentum on Lloyd’s social and environmental programmes in the UK and internationally.

2016 KPIs outlined in the 2105 Annual report[121] are to:

- Receive recognition by external stakeholders for Lloyd’s responsible business approach.
- Maintain positive rating by Corporation employees for Lloyd’s responsible business approach (85%+ positivity in employee survey).

5.1 Engage with our supply chain to work collaboratively to improve the sustainability of their products and services.

5.1.1 Lloyd’s / The Corporation of Lloyd’s / Sustainable procurement

Being a responsible business in the marketplace is about achieving success by treating customers and suppliers fairly and with respect. For the Corporation of Lloyd’s this means using its position to work collaboratively with the Market and other partners on important social, ethical and environmental issues.

The Corporation has made a public commitment with formal actions to ‘Undertake activities to support an ethical culture and business conduct standards within the Corporation of Lloyd’s and market’, and as such the sustainable procurement expectations are publically available on Lloyd’s.com for all to see.

The Corporation’s strategy also considers issues in relation to our supply chain, including training for relevant staff, developing sustainable procurement guidance and incorporating questions in our tender process on environmental, social and ethical impacts for potential suppliers.

When a supplier is invited to tender for a contract with the Corporation they are asked to provide information on aspects of their CSR activity, including diversity and equality commitments, along with environmental policies:

Environment

The Corporation of Lloyd's encourage suppliers to use products which can be re-used, recycled, used in an energy efficient manner and which causes minimal environmental damage at all stages of the supply chain, whilst maintaining value for money and quality.

Employee Relations / Code of Conduct

The Corporation of Lloyd's expects its suppliers to uphold at all times the minimum commitments relating to labour standards, which meet the four 'core' International Labour Organisation (ILO) conventions on labour rights:

- Freedom of association and the effective recognition of the right to collective bargaining.
- The elimination of all form of bonded labour and compulsory labour.
- The effective abolition of child labour.
- The elimination of discrimination with respect to employment and occupation.

And which meet the four 'non-core' ILO conventions on labour rights:

- Workers should have safe and hygienic working conditions.
- A living wage should be paid.
- Working hours should not be excessive.
- Abuse and intimidation should be prohibited.

Health and Safety

The Corporation of Lloyd's expects its suppliers to comply with the requirements of the Health and Safety at Work etc. Act 1974 and all associated health and safety regulations and to confirm how this will be achieved.

Equality and Diversity

The Corporation of Lloyd's expects its suppliers to comply at all times with current relevant anti-discriminatory legislation (including but not limited to race relations; sex discrimination; equal pay; disability discrimination; age discrimination).

The Corporation of Lloyd's expects its our suppliers to comply at all times with relevant Codes of Practice published by the Equal Opportunities Commission, the Commission for Racial Equality, and the Department for Work and Pensions.

Anti-Bribery and Financial Crime

The Corporation of Lloyd's expects its suppliers to comply at all times with current relevant anti-bribery and financial crime legislation and to have in place relevant policies detailing the scope, implementation, review and communication of any anti-bribery practices.

Modern Slavery Act

The Corporation of Lloyd's expects its suppliers to comply with the UK's Modern Slavery Act of 2015 and to have in place due diligence procedures for both internal compliance and within their own supply chain.

During Tender

The Corporation of Lloyd's integrates sustainability factors into its tenders. In instances where sustainability factors have more of an impact on the products and services being procured, the Corporation of Lloyd's may follow up with a supplier site visit or request further clarification at presentation stage etc.

Evidence also applies to principle(s): 5.2, 5.3, 5.4, 6.1

Source(s): Lloyd's supplier responsibility[122], Lloyd's Annual report 2015[123]

5.1.2 Lloyd's / The Market / Tokio Marine Kiln / Sustainable procurement

Since 2010, Tokio Marine Kiln (TMK) introduced a co-ordinated programme to support a high level (c. 65% by weight) recycling of office waste. We continue to monitor performance using metrics such as recycling rate and waste generation and use this information to better understand the sources of waste and opportunities to improve performance.

TMK will consider the associated environmental impact (e.g. source of materials used, options for end of life management, associated energy consumption etc.) when purchasing new furniture and fixtures. As demonstrated during our office move in at the end of 2014, we will continue to, where appropriate, donate redundant office furniture and equipment to charities for beneficial reuse.

TMK's in-house Catering Manager aims to source as much food as possible locally (e.g. local fruit and in season). Where this is not possible, we use a delivery service which uses electric vehicles for delivery. Deliveries have also been coordinated for the new office (20 Fenchurch Street). Reduced deliveries mean that we can reduce our impact on the environment going forward and also support employment within the local community. Where practical, TMK will purchase paper manufactured using sustainably sourced pulp (e.g. recycled content or FSC certified pulp).

We have engaged an external consultant (AECOM) to support and document our Environmental Reporting on an on-going basis. The support and reporting includes monitoring of key environmental impact areas associated with our principle office at 20 Fenchurch Street and our three UK IT Data Centres.

Forward planning

Ongoing monitoring and prioritisation of initiatives to minimise environmental impact.

Evidence also applies to principle(s): 5.2, 5.3, 5.4

Source(s): Tokio Marine Kiln facilities management, BREEAM, ESOS and AECOM reports are available upon request.

5.2 Measure and seek to reduce the environmental impact of the internal operations and physical assets under our control.

5.2.1 Lloyd's / The Corporation of Lloyd's / Energy and environmental policy statement: BS EN ISO 14001:2004, BS EN ISO 50001:2011

The Corporation of Lloyd's recognises and accepts its responsibility to protect the environment and prevent pollution arising from our activities, products and services in accordance with all applicable environmental legislation and other requirements to which the Corporation subscribe.

The Corporation approach to Environmental management is based on the key clauses of BS EN ISO14001:2004 whereby emphasis is placed on:

- Environmental Policy
- Planning
- Implementation and Operation
- Checking

- Management Review

The Corporation approach to Energy management is based on the key clauses of BS EN ISO50001:2011 whereby emphasis is placed on:

- Management Responsibility
- Energy Policy
- Energy Planning
- Implementation and Operation
- Checking
- Management Review

The Corporation recognises the need to focus on continual improvement its environmental and energy management and performance. The Corporation aim is to encourage a positive culture which promotes sustainable business practices. To ensure this is achieved care for the environment and improved energy performance is actively promoted throughout the organisation through the provision of information, training, instruction and supervision.

The Corporation operates a 'low blame' culture whereby employees are openly encouraged to report potential environmental and energy performance concerns without fear of reprisal to ensure the root causes of environmental and energy incidents are identified thus enabling measures to be put in place to eliminate their occurrence.

Emphasis is placed on effective management ensuring a systematic approach to the identification of environmental aspects and impacts and energy usage and the allocation of financial and physical resources to control them. In order to deliver these responsibilities the Corporation undertakes to:

- Maintain a proactive approach to manage the Corporation's significant aspects including setting targets for improved waste and energy management;
- Ensure that aspects and impacts assessments are being carried out on an on-going basis with employees participating in the process as appropriate.
- Provide sufficient information, instruction, training and supervision to enable employees to prevent the occurrence of pollution incidents and achieve continual improvement in environmental performance;
- Provide Corporation stakeholders with information instruction, training and supervision as appropriate to prevent the occurrence of pollution incidents;
- Undertake through the Environmental Working Group (EWG) to consult with employees and stakeholders on issues relating to the environment and energy usage and ensure access to competent advice;
- Ensure safe arrangements for the use, handling, storage and transport and disposal of articles and substances;
- Ensure compliance with all relevant Environmental legislation and other requirements associated with the Corporation's UK and overseas operations;
- Arrange for the effective planning, organisation, control, monitoring and review of preventive and corrective measures; and
- Commit to reporting on environmental and energy performance through the EWG.

This Policy is communicated to all staff working under the control of the Corporation and aims to be made available to the public and other interested parties on request.

Forward planning

Inga Beale, Chief Executive Officer, takes overall responsibility for the environment and energy usage including the formulation, development and implementation of the Environmental and Energy policy within the Corporation and requires the co-operation and support of all managers, employees, tenants, contractors and visitors in its implementation.

Beale aims to ensure that the Policy is reviewed periodically in support with relevant staff – at least every two years – to ensure that it remains relevant and appropriate to the organisation.

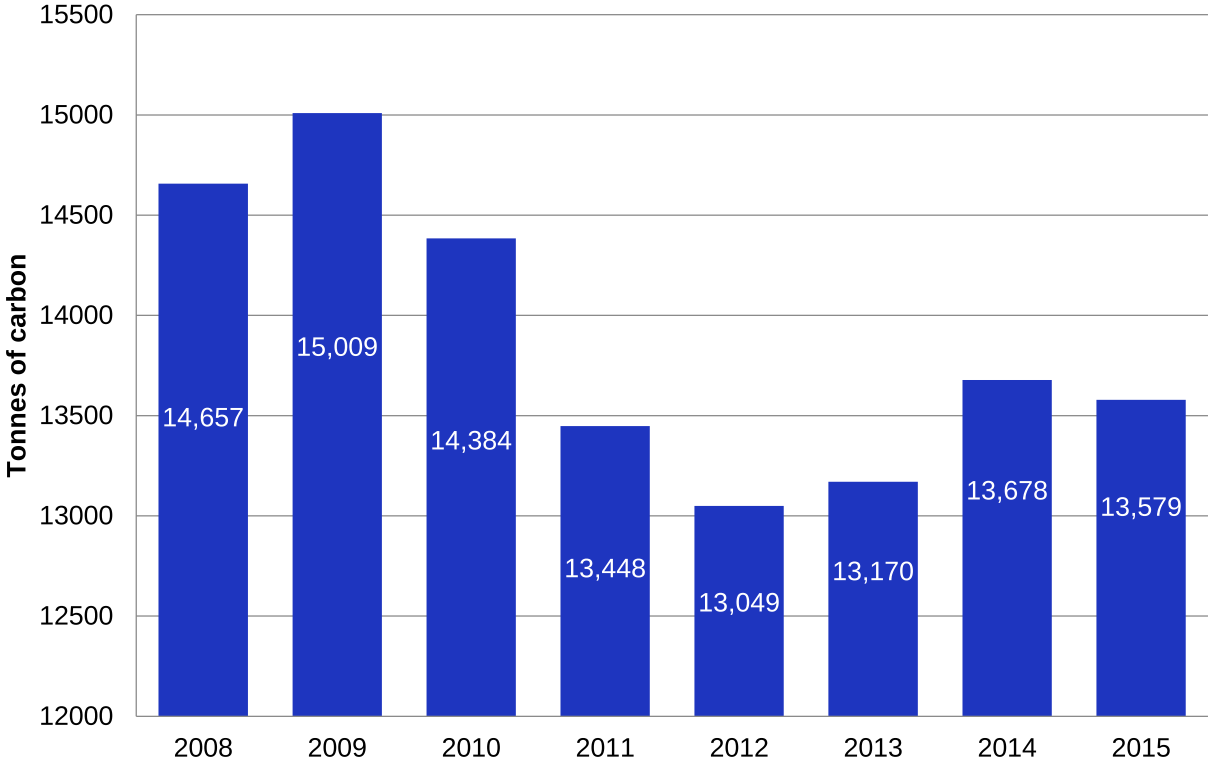
Evidence also applies to principle(s): 5.2, 5.3, 5.4, 6.1

Source(s): Environmental and Energy Policy Statement September 2015[124]

5.2.2 Lloyd's / The Corporation of Lloyd's / Emissions tracking

As part of the Corporation of Lloyd's commitment to the environment, we have been tracking our greenhouse gas (GHG) emissions since 2008.

Eight year carbon footprint trend (Figure 12)



The Corporation works in partnership with Carbon Smart – environmental consultants contracted by the Corporation – to calculate the GHG emissions Corporation global operations. These figures are disclosed publically each year in the Lloyd's annual report. The environmental performance covers all Corporation entities that meet the criteria of being subject to control or significant influence, and includes 100% coverage of contracted staff worldwide.

2015 marks the third year in which the Corporation has reporting the GHG emissions inventory of the international offices in addition to that of the UK, and sees those offices continuing to engage with their resource consumption.

The calculations were performed using the principles set out in the WRI GHG Protocol and follows the Department for Rural Affairs (DEFRA) guidelines on how to report.

Methodology

The GHG accounting and reporting followed the principles of relevance, completeness, consistency, accuracy and transparency. Carbon Smart apply these principles when collecting, reviewing and performing the GHG emission calculations as part of: defining organisational and operational boundaries, verifying the integrity of data, checking the data audit trail and finally performing the calculations.

The data for 2015 was collected, verified and calculated in accordance with the requirements of the following standards:

- World Resources Institute (WRI) Greenhouse Gas (GHG) Protocol (revised version).
- Defra's Environmental Reporting Guidelines: Including mandatory greenhouse gas emissions reporting guidance, October 2013.
- The UK and international office emissions have been calculated using the Defra 2015 issue of the conversion factor repository.

- Emissions associated with air travel meet the reporting requirements for carbon offsetting with Natural Capital Partners, air travel emissions include the application of an 8% uplift factor to take into account indirect routing. The reported air travel emissions do however exclude the impact of radiative forcing as there is currently scientific uncertainty over the multiplier and its appropriate factor.

Emissions extrapolation methodology for the international offices

Emissions for the international offices have been calculated using an extrapolation. Actual resource consumption data is collected from 11 of the largest international offices. This enables a figure of tCO^2e to be arrived at for each emissions source. The carbon emissions for non-reporting offices were then extrapolated based on employee numbers.

Results

While overall the carbon footprint of both the UK and global offices has seen an increase, the One Lime Street electricity consumption has seen a decreased of 2%, exceeding the 2015 target for a 0.5% decrease in electricity consumption at this location. In a Grade 1 listed building, many years in to ongoing projects, this target is considered a realistic aim with very few areas left to improve unless technology develops.

This 2% reduction was been achieved through a reduction in emissions from electricity in the UK and a reduction in overall emissions from international offices.

The following case studies from the Corporation of Lloyd's illustrate a selection of initiatives across different parts of the organisation, and a full breakdown of the action plan has been provided to the reviewers for reporting.

Forward planning

This plan comes in part from the Environmental Working Group, which meets every four months to develop and monitor progress against an environmental action plan for the Corporation.

This group is composed of representatives from the following Corporation teams: Operations, Property Services, IT, Catering, Exposure Management, Supplier Management, and Corporate Social Responsibility, and is sponsored by Shirine Khoury-Haq, Director, Operations. The primary objective for the group is to measure and seek to reduce the environmental impact of the internal operations and physical assets under the Corporation of Lloyd's control. The Environmental Action Plan focuses on energy consumption, waste, transport and procurement.

Evidence also applies to principle(s): 5.1, 5.3, 5.4, 6

Source(s): Reduce environmental impact[125], Lloyd's GHG emissions[126], Lloyd's 2015 Annual report[127]

5.2.3 Lloyd's / The Corporation of Lloyd's / Raising the bar in our working environment

For the first five years of its programme the Corporation of Lloyd's focused the majority of initiatives on One Lime Street, as this is where the impacts that the Corporation can control are mostly located. The building is the youngest Grade 1 listed building in the UK, which brings inherent challenges in being able to implement physical solutions to reduce emissions.

The results of these achievements at One Lime Street can be seen in the statistics, as the recycling rate is now 85%, with 15% general waste, and zero waste to landfill. These facts were communicated to staff globally during a week of activities centred on the United Nations World Environment Day on 5 June 2016. This was done through a series of internal blog pieces, presentations, and pop-up stands that are illustrated in case study 5.4.5.

Other achievements at One Lime Street recorded over this reporting cycle include:

- The recycling rate has increased 34% since 2011.
- Recycling in 2015 saved the equivalent of 33 London buses full of carbon.
- If all the paper consumed in 2015 was stacked one on top of the other, it would reach to the top of the One Lime Street building 8 times. Using the paper recycling bins in the building has saved the equivalent of 535

trees.

- In 2015 over 260,000 glass bottles were recycled, saving enough energy to power 780 light bulbs for a year.
- Last year the Corporation reported on the reduced electricity consumption at One Lime Street of over 16% compared to the baseline year of 2008. This year the Corporation saved an additional 2%, taking the reduction total to 18%.

The Corporation sees connections between different aspects of the CSR campaigns implemented. For example, one programme of work is a language coaching initiative trialled with Principle Cleaning. English is the second language for most of the cleaning staff and both parties had been looking for ways to help the cleaners improve both their English and their confidence to speak to other staff within the building to improve waste management. In 2015, 19 members of cleaning staff signed up to the scheme and were paired with volunteers. The Corporation is currently looking to expand this further, and this is one example of projects communicated during internal strategy days. See case study 5.4.1 for more details on strategy days.

Over the past two years of reporting the Corporation has covered the planning, installation and results of integrating a food macerator as one of the many examples of initiatives the Property Services team leads:

> *The cost of disposing of food waste at the Lloyd's building is approximately £10,000 per annum. In some cases, due to the weight of the waste (mostly water content) the bins used are not full when removed. The catering team has proposed the installation of a food waste macerator to help reduce this disposal waste. A reduction in the number of bins removed from site by the contractor would cut the annual waste disposal costs by 60-70%; the macerator reduces the volume of food waste by up to 80% and the mass by up to 60%. This would reduce waste collection costs, and thereby energy consumption, by up to 80% and would also save on energy use as its compact design and short processing time ensure low operating costs and minimum use of kitchen floor space.*
>
> *This has since been installed and integrated into our system. Our food waste is taken to the Truck Dock and put through a special machine which macerates and dewaters it. This reduces the volume meaning fewer collections are needed, which in turn helps to reduce our Carbon Footprint. Once taken from site it is made into compost and is separated because it contaminates the other two streams.*

In 2015, One Lime Street food waste generated enough energy to power over 8 homes for an entire year, an increase from the 7 homes the Corporation of Lloyd's reported against last year. The food is sent to an anaerobic digestion plant, which produces biogas for energy.

Continuing this theme, all the coffee grinds generated from the Coffee House, Gallery 11 meeting rooms and One Under Lime are collected by an external organisation who deliver them to Bio-Bean, who are the first company in the world to industrialise the process of recycling waste coffee grounds to advanced biofuels and biochemicals. Bio-Bean works within the existing energy and waste infrastructure, developing sustainable products and solutions to displace conventional fuels and chemicals.

To date the Corporation has recycled 2 tonnes of waste coffee grounds, which translates as:

- 13.6 tonnes of CO2 saved (the equivalent of planting 90 trees)
- 1600kg of solid fuel
- 400kg of liquid fuel

Further details about the scheme can be found on the Virgin Media Business VOOM 2016 website, where a 2 minute pitch video gives an overview of the scheme. At the time of reporting, Bio-Bean had just been awarded first place in the 'Grow pitch' category.

The Corporation also operates 'Meat Free Friday' on a monthly basis, where it does not offer any meat on the restaurant menus or fillings for its 'Grab'n'Go' snack range in the One Lime Street Coffee House. Working lunch platters also fall within this scheme.

Forward planning

Corporate Social Responsibility is one of the strategic priorities and is championed at a senior level. To help the Corporation and Market progress towards the strategic CSR objectives, the Environmental Working Group (EWG) meets three times a year to plan and action projects.

The group is sponsored by Shirine Khoury-Haq, Director, Operations, and is chaired by Jack Kent, Head of Property Services. It has representatives from teams across the Corporation who take responsibility for driving sustainable action within their directorate areas.

Evidence also applies to principle(s): 1.1, 5.2, 5.4, 6.1, 6.2

Source(s): Lloyd's 2014 Annual report [35], Lloyd's Vision 2025[1]

5.2.4 Lloyd's / The Corporation of Lloyd's / Energy management projects

In case study 5.3.1 there are results from the Corporation of Lloyd's energy management plans. As a result of these initiatives there have been decreases in resource use in many areas across One Lime Street, including:

- Total paper consumption in the UK has decreased 6% on 2014. This has led to a reduction in carbon emissions from paper consumption of 3%.
- Scope 1 vehicle emissions have reduced by 42%.
- Total Scope 3 vehicle emissions have decreased 50%.
- As in 2013 and 2014, no waste has been sent to landfill this year resulting in zero carbon emissions from waste
- Water consumption has decreased 9% on 2014. This continues the downward trend in water consumption from 2013 after water efficiency improvements were made.

One example of the range of projects that are evaluated and implemented is described below to illustrate how projects evolve over time, and the Corporation is dedicated to improvements.

Last year the Property Services team undertook two energy saving LED lighting projects to enhance the lighting levels in the Lift Lobbies and the Lower Basement service areas. Both projects were completed at the end of March 2014. The Lift lobby project involved swapping 612 lamps for energy saving LEDs. The 337 fluorescent tubes in the Upper and Lower Basement areas of the building were also swapped and offered a saving and payback of just under two years. Building on this success, projects continue to be scoped and implemented. The longer lifespan and energy saving LED tubes not only enhances the areas but should reduce the need to replace lamps in the future.

One of the major projects the Corporation reported privately last year – and that continues to progress – is the lift project, which has been in the planning stages and identified as an energy management project for a number of years.

The lifts in the Lime Street building have been in service since it opened in 1986. This had resulted in breakdowns and delays, which is unsurprising given their usage, commented Shirine Khoury-Haq, Director, Operations, in an internal blog with statistics provided by the EWG: "On average each passenger lift moves up or down the building 14 times every hour, stopping on three floors, to support an average 6,000 people using the building each day. As the need for efficient lifts is vital for the smooth operation of the building, it was decided set up a programme to modernise Lloyd's lifts. This programme includes the 12 external scenic lifts, the goods lift and the three internal fireman's lifts."

As the building is Grade 1 listed, the Property Services team have been required to ensure refurbishment meets English Heritage standards on a number of components. Much of the design is bespoke to the building, so part of the challenge was for the teams involved to identify off-the-shelf components that could be put together in a bespoke way.

In March 2014, a lift was craned out and sent to Spain to be stripped down and inspected in order to come up with a detailed design that met all of the Corporation requirements. Certain unique components were no longer available from the original manufacturer and other components were sourced from Italy, Germany and the UK where possible. This newly designed lift set the standard for all other lifts, which could be refurbished onsite in workshops that were constructed around the lift shafts to reduce the environmental impact.

This project continues to be supported by other efforts led by Human Resources, and Health and Wellbeing, through the StepJockey scheme, which is backed by the Department of Health. In an effort to reduce lift usage and support employee wellbeing, all six towers of One Lime Street have been rated and labelled for 'calorie burn', and is part of a new health initiative that promotes weight loss, fitness and strength by making better use of the stairs.

Another way the Corporation looks to reduce the carbon footprint is through IT related functions. In the last few years IT has been an area that has reduced carbon emissions noticeably. This has included:

- Replacing physical servers with virtual servers: Over the last few years has seen a move to virtual server use, as it is possible to run up 30 of these on a single physical server, thereby reducing power consumption.
- The use of efficient equipment: The Corporation replaces physical IT equipment on a check and review basis, and modern machines use much less power than older devices. For example, a new desktop PC and monitor draw an estimated 60kW per hour in 2016 compared to about 110kW in 2010.
- Efficient paper usage: New printers were installed in 2009, replacing 290 ‘local’ printers with approximately 35 shared devices. These new printers facilitate the reduction of paper usage by only printing when the user collects their output. Uncollected print jobs are automatically deleted after 10 hours. Additionally, improved behaviour such as double-sided printing has saved nearly 1.5 million sheets in 2015 compared to previous usage. Now that more staff use tablets for meetings and note taking, it is hoped that paper usage will continue to drop as new solutions are provided.
- Equipment reuse and recycling: The Corporation donates unwanted but usable IT equipment to charities or utilises a third-party to recycle unusable equipment to reduce waste going to landfill.
- Flexible working and video-conferencing: Corporation staff are encouraged to use video-conferencing as a replacement for business travel, and new remote-access services have been made available that can reduce physical commuting.

Evidence also applies to principle(s): 3.2, 5.4

Source(s): Lloyd’s

5.2.5 Lloyd’s / The Corporation of Lloyd’s / Carbon offsetting with recognised experts to further risk awareness and action

With the expansion of Lloyd’s global network of offices, emissions from air travel are difficult to reduce – even with an increased uptake in videoconferencing and teleconferencing through services like WebEx and Lync – some conversations need to be had face-to-face.

Therefore the Corporation continues to offset air travel emissions by buying carbon credits for carbon offset projects through Natural Capital Partners, a world-leading provider of carbon reduction solutions. Over 19 years they have contracted more than 20 million tonnes of carbon credits and have been recognised as Best Offset Retailer for six years running. The company works with over 350 businesses in 33 countries to develop offset inclusive carbon reduction programmes which enable companies to increase revenue, manage costs and engage stakeholders.

CarbonNeutral® is the registered trademark of Natural Capital Partners and is a global standard to certify that businesses have measured and reduced their CO^2 emissions to net zero for their company, products, operations or services in accordance with The CarbonNeutral Protocol. Natural Capital Partners is a founding member of the International Carbon Reduction and Offset Alliance (ICROA), which provides leadership and a unified voice in advocating for rigorous offset industry standards.

Building on work reported in 2014 – when the Corporation purchased carbon credits towards an improved water infrastructure project in Malawi and Uganda – in 2015 the Corporation purchased carbon credits towards an improved water infrastructure project in Sub-Saharan Africa and an improved cook stoves project in India. These projects were researched by the Corporation CSR team and chosen for their level of impact and alignment with Corporation activities out of an extensive list of projects.

Malawi

The project in Malawi aims to provide clean and healthy drinking water to communities that do not currently have access to such sources. By providing clean water, safe for human consumption, and maintaining the infrastructure, the project means households use less firewood to purify the water through boiling. The project also helps reduce greenhouse gas emissions from the combustion of firewood that is non-renewable and leads to degradation of the local forests and shrub lands.

The project contributes to sustainable development in a number of ways, including:

- Health and well-being: The provision of healthy water reduces the incidence of disease and resulting fatalities. In Uganda, where the developer supplies 5,700 people with 10 rehabilitated boreholes, it is estimated to reduce 100 cases of diarrhoea and six fatalities per year. Communities are also offered water, sanitation and hygiene (WASH) training to help maintain the quality of the water and ensure it is fit for human consumption. In addition, as the water is safe to drink without further treatment, it no longer needs to be boiled which reduces the indoor air pollution from traditional three-stone fires.
- Climate adaptation: The rehabilitated boreholes provide the communities access to clean ground water, a more stable and constant supply of water compared to surface water, making them less susceptible in case of severe droughts.
- Infrastructure development: The project rehabilitates old boreholes, drills new boreholes and supports local business and engineering teams in delivering maintenance programmes. The programme uses technology that is appropriate for the region, such as African-made Afridev hand pumps, which can be maintained by local mechanics trained under the programme.

The Corporation also supports projects in Malawi through the partnership with SolarAid, and continues to investigate projects that support risk reduction and community knowledge. See case study 3.4.3 for more details on the work with SolarAid.

India

India uses the greatest amount of fuel wood globally with 88% of rural households using sold fuel for cooking. This means that over 900 million people are exposed to indoor pollution on a daily basis. The project in India has distributed 490,000 stoves since 2008. The stoves are designed to make them 60% more fuel efficient and significantly more durable than traditional stoves. The stove's widespread distribution ensures that the health and financial benefits from the reduced pollution, fuel costs and collecting time can be scaled up across India.

The project contributes to sustainable development in a number of ways, including:

- Health and well-being: The improved, efficient cookstoves facilitate an 80% reduction in smoke within the household, significantly reducing the family exposure to harmful indoor air pollution and improving the air quality. Furthermore, the insulated design of the stove delivers a 50% reduction in the time needed for cooking which can be allocated to other tasks and the outside temperature of the stove is reduced which minimises burn risks.
- Economic growth: The distributed Envirofit stoves were originally imported from Kenya and China, but since early 2014 manufacturing also started in India, creating new job opportunities and supporting the national economy. Regional and national demand for the cookstove is created by training distributors and other entrepreneurs who communicate the benefits and maintenance requirements throughout local communities.
- Job creation: The project has created 120 jobs through the sales, distribution and after sales servicing of the stoves, as well as in project partner organisations and 17 full-time job roles directly employed by the project developer.

Forward planning

The Environmental Working Group meets every four months to develop and monitor progress against an environmental action plan for the Corporation of Lloyd's. This group is composed of representatives from teams across the Corporation, including: Operations, Property Services, IT, Catering, Supplier Management, and Corporate Social Responsibility. The primary objective for the group is to measure and seek to reduce the environmental impact of the internal operations and physical assets under the Corporation of Lloyd's control. The Environmental Action Plan is tracked an monitored across the calendar year, and focuses on energy consumption, waste, transport and procurement.

Evidence also applies to principle(s): 3.4, 4.3, 5.1, 5.3, 5.4, 6

Source(s): Reduce environmental impact[128], Lloyd's supplier responsibility[129], Natural Capital Partners[130], Lloyd's to apply for Indian Reinsurance Branch[131]

5.2.6 Lloyd's / The Corporation of Lloyd's / Lloyd's commitment to environmental sustainability recognised at the Clean City Awards

The Corporation is supportive of the landfill tax (£82.6/tonne of waste disposal to landfill) and in 2013 switched to a "zero to landfill" policy. This has resulted in a significant reduction in waste from the Corporation with 85% of the waste from the UK offices being recycled, and general waste used as fuel for power generation in Kent. This has resulted in savings of over 40% in waste management costs. The Corporation's commitment to waste management was recognised again in the City of London's annual Clean City Awards, when it was awarded a Gold award with special commendation for waste management.

The City of London Corporation has been running a Clean City Award Scheme since 1995, which aims to develop partnerships with all types of City businesses by raising the profile of responsible waste management and recognising and rewarding good practice by encouraging businesses to 'Reduce, Reuse and Recycle'. Gold Awards are given to those sites that meet and exceed the requirements of the Scheme: "They are looking into ways of reducing, reusing and recycling their waste and have taken a proactive role in the management of their waste during 2014."

Forward planning

The Corporation team in Property Services and Principle cleaning team do a great job managing the tons of waste that Corporation staff and building tenants produce, both in London and across the internal offices. Handling waste responsibly not only has environmental benefits, but also business benefits. These include reduction in costs, improved company image, improved health and safety and a more pleasant working environment.

Corporation staff aim to submit an application to the awards again this year. Actions and results in this area are driven forwards by Vision 2025 and the network of support in place within the Corporation, from the EWG to the Corporation's Sustainability Champions.

Evidence also applies to principle(s): 3.2, 5.1, 5.4

Source(s): Clean City Awards Scheme 2015[132], Principle Cleaning Services[133]

5.2.7 Lloyd's / The Market / ArgoGlobal / Responsible Corporate Citizen

In support of its commitment to influence the potential negative impact of climate change, Argo Group has now included a climate change as a part of its review and development of its internal sustainability plan that was established during 2015-2016.

A significant investment has continued to be made since 2014 into the use of Video Conference (VC) technology with the aim of enabling meetings with less need for travel. Initial analysis is positive, with an increase in VC usage of 62% between 2014 and 2015, and a resultant reduction of 12% in air travel in the year to September 2015. Reduction on air travel remains an ongoing focus for 2016.

Argo Group continues to underscore its role as a responsible corporate citizen by being sensitive to the implications of climate change, and is making an effort to minimize the environmental impact of its office services, facilities and technology operations. A recycling program has been established in many of our U.S. based office locations and to the greatest extent possible, Argo Group US business entities operate in a "paperless" environment. As the Argo

Group US office leases expire, in accordance with the applicable provisions of our sustainability plan attempts are being made to target “green buildings” for Argo Group US office space leasing purposes, and to also include energy-efficient requirements in lease negotiations and agreements. This has been included as a specific due diligence checklist item for office selection purposes. The Argo Group US office space lighting, HVAC and office equipment system requirements exceed the minimum energy efficiency standards required by applicable “green building” codes.

A recent example of this policy being put in to practice includes the selection of the 101 California Street location in San Francisco, which is a LEED-EB Platinum building with a leading LEED rating of 94. This location has won the San Francisco BOMA Earth Award for outstanding achievement by demonstrating sustainable initiatives and responsible environmental stewardship.

Forward planning

A new initiative for 2016 is the move to ensure recycling of printer toner cartridges throughout the Argo Group’s US offices. Corporate sensitivity to climate change implications also extends to some of the Argo Group US significant third party vendors, who are committed to reducing the environmental impact of their business operations.

Evidence also applies to principle(s): 5.1, 5.4

Source(s): ArgoGlobal – Syndicate 1200

5.2.8 Lloyd’s / The Market / Beazley / New Singapore office

Our Singapore office recently changed locations, moving into CapitaGreen, one of the most environmentally friendly and award-winning buildings in Singapore’s business district.

The building was designed to:

- Minimise solar heat gain
- Irrigate the building’s plants by using water-saving techniques such as harvesting rainwater
- Have greenery on every floor, two sky terraces and a roof garden.
- A cool void at the centre core of the property regulates the building’s temperature effectively with air flowing throughout the building
- A high floor-to-ceiling ratio with a height of 3.2 metres allowing for natural lighting

The building has been awarded the 2015 Best Tall Building Award for Asia & Australasia Region and the MIPIM Asia Bronze award for the Best Office & Business Development category by the Council on Tall Buildings and Urban Habitat.

Additionally:

- 54% of our US offices are in LEED certified buildings
- 88% of global offices recycle toners
- We have reduced packaging material for lunches at Plantation Place South, (PPS, our London office), with a 100% reduction of extra paper bag usage
- Decreased frequency of delivery of stationery to all offices globally
- Use of local taxi services to decrease travel time and carbon emissions
- Reduction in monitor power output across all Beazley offices reducing emissions

Forward planning

We plan to:

- Continue our global awareness of paper usage across our offices to decrease paper usage and necessity of printing.
- Remove waste paper bins by 50% in PPS and roll out a similar initiative globally as appropriate. Replace all halogen lights in PPS with energy efficient LED lights.

- Ensure the new Atlanta, Miami, Farmington and Paris offices are built using appropriate sustainable materials including, where feasible, LED lights.

Evidence also applies to principle(s): 5.3, 5.4

Source(s): Beazley.

5.2.9 Lloyd's / The Market / CHUBB / CHUBB UK 2015 Emissions Report

One of the primary objectives of CHUBB's Corporate Environmental Programme is to measure, record and reduce our own GHG emissions. As an insurance company, CHUBB has a modest environmental footprint. However, we aim to reduce our mark on the environment even further. This includes efforts to reduce the direct and indirect GHG emissions generated from heating, cooling and lighting our offices and from company owned or leased vehicles, as well as the reduction, reuse or recycling of resources.

CHUBB continues to reduce its global environmental impact by encouraging internal operations to manage energy usage through a Corporate Energy Policy that encompasses all European facilities/operations.

In support of the new global reduction goal, Chubb created a targeted plan to address energy consumption at the European level through the Chubb European Group Energy Policy. The CHUBB European Group Energy Policy aims to increase transparency, accountability, and organisational awareness about energy reduction and reducing GHG emissions. Targeted emissions reductions and a clear outline of the company's commitments will encourage innovation and make energy management a priority for the organisation at the European level. The contents of the policy include: a corporate policy statement, short term objectives including a reduction target, a statement of commitment regarding management issues, procurement issues, financial issues and technical issues, and a log to track performance year on year. As an appendix to this document, CHUBB has also designed a checklist for evaluating all new real estate leases, as well as a section that summarises proposed energy efficiency projects.

In coordination with the energy policy, Chubb has invested in energy surveys for one of CHUBB's largest buildings located in London, UK, as well as several other sites including Crawley and Glasgow, UK which occurred during 2015.

The main long term goal of the policy is to increase efficiency of CHUBB's facilities and therefore reduce GHG emissions that are emitted by the company. Another long term goal is to create a framework of objectives that can be used as a model for other regions of CHUBB's business. Lastly, Chubb is interested in formalising tracking and reporting on progress of achieving these energy reduction goals as well as tracking how implemented energy efficiency projects have achieved their calculated energy savings and return on investment. This translates into regular status updates the include stakeholders at the company.

2014 vs. 2015 Emissions Report[f]

Breakdowns	Figures	
UK Facility Emissions	5,730 tCO2e	5,462 tCO2e
Number of UK Employees	1,327 FTE	1,294 FTE
Emissions per Employee	**4.31 tCO2e/FTE**	**4.22 tCO2e/FTE**

During the most recent status update reflecting 2015 operations, the UK reduced emissions by 5% from 2014 and

[f] 2015 emissions have been verified by a third party, a verification document can be provided

globally, the company has obtained a 5% reduction from 2012 per employee.

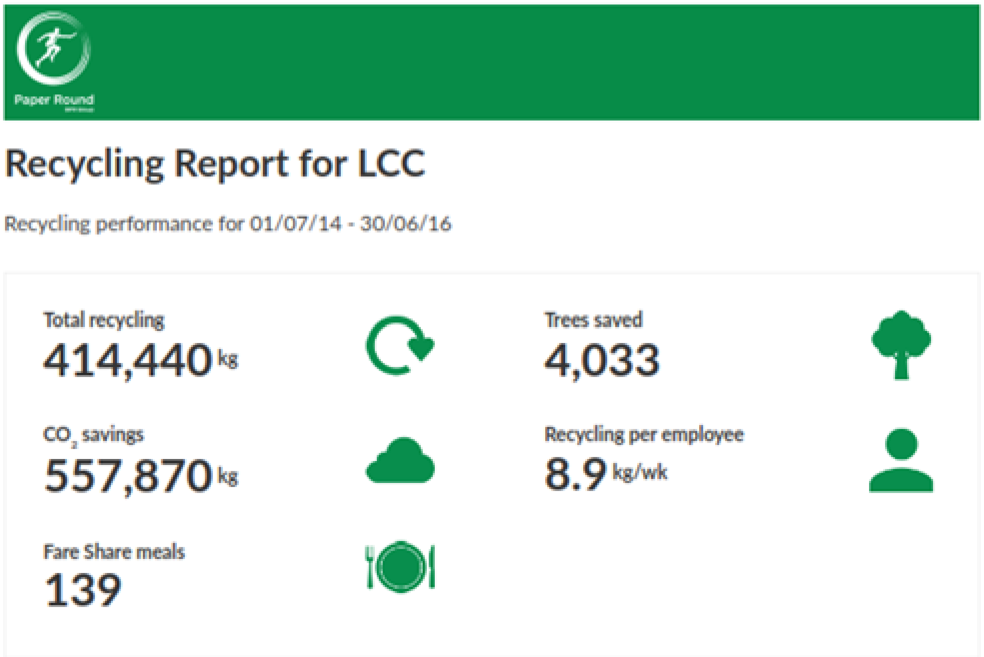
Evidence also applies to principle(s): 5.2, 6.1, 6.2

Source(s): CHUBB.

5.2.10 Lloyd's / The Market / CHUBB / CHUBB UK Offices Recycling Programmes

Chubb initiated a recycling programme in 6 of its' UK office locations. Reporting period between 01 July 2014 and 30 June 2016 equates to the following performance:

Paper Round recycling report (Figure 13)

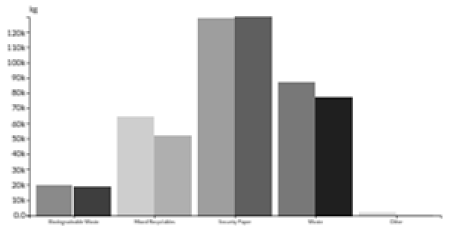


1. Chubb's recycling contract is with 'Waste & Resources Action Programme', WRAP records the number of sacks that they collect from the Chubb's premises. These are converted to weight using average weight scales based upon all our collections.
2. Trees saved' calculation uses a figure of 17 trees saved for every tonne of white paper and 12 trees for every tonne of mixed paper. Cardboard recycling does not save trees, only CO2.
3. 'CO2 saved' calculation uses data provided by Waste & Resources Action Programme (2006). WRAP calculated for each material the energy and therefore CO2 saved by recycling it rather than sending it to landfill. The report shows that recycling one tonne of paper saves 1.4 tonnes of CO2.

WRAP's vision is a world without waste; they work with businesses and individuals to help them reap the benefits of reducing waste, developing sustainable products and using resources in an efficient way. Find out more at the WRAP webpages.

Further results:

Weights of materials (Figure 14)



Material Type	01-07-14 30-06-15 (kg)	01-07-15 30-06-16 (kg)	Improvement
Biodegradeable Waste	19,200	18,405	-4%
Glass	1,680	70	-96%
Mixed Paper	0	125	N/A
Mixed Recyclables	64,328	51,985	-19%
Security Paper	128,751	129,899	1%
Waste	86,675	76,708	-11%
Total materials kg	**300,634**	**277,192**	**-8%**
Recycled kg	**213,959**	**200,484**	**-6%**
Anaerobic digestion kg	**19,200**	**18,405**	**-4%**
Waste to energy kg	**86,675**	**76,708**	**-11%**
Total trees saved	**2,059**	**1,974**	**-4%**
Total kg CO2 saved	**287,404**	**270,468**	**-6%**
Recycling rate	**71%**	**72%**	**1.63%**

Recycling of paper/cardboard, plastics and biopolymers for most indicators assessed provides more environmental benefits than other waste management options. For wood and textiles, more studies are needed to be able to make firmer conclusions regarding the environmental benefits of recycling for these materials. An Executive Summary of the report is available online.

Evidence also applies to principle(s): 5.4, 6.1, 6.2

Source(s): CHUBB.

5.2.11 Lloyd's / The Market / Navigators Underwriting Agency Limited / Reducing our footprint

In last year's reporting, we covered the scheduled move of the London office to new premises. The move took place in December 2015, and the building is of recent construction and is located on a former brownfield site, where reuse of piles gave a 1,000te of carbon savings.

Other construction features include:

- Façade fittings to enhance solar gain control.
- Optimized building fabric thermal insulation values to reduce heating loads in winter.
- Grey and rain water harvesting for toilet flushing.
- Green roofs for attenuation and thermal buffer.
- Measured improvement over building regulations Part L2A 2006 requirements.

- BREEAM 2008 ‘excellent’ rating.

Navigators have an expectation of a significant and continued reduction in our carbon foot-print as a result of this move.

Evidence also applies to principle(s): 6.1

Source(s): Navigators Underwriting Agency Limited.

5.2.12 Lloyd’s / The Market / Tokio Marine Kiln / Reduce environmental impact of the internal operations and physical assets under our control

Tokio Marine Kiln (TMK) has moved to new offices at 20 Fenchurch Street in November 2014. Our Building Project team worked with designers to produce an energy efficient design incorporating LED Lighting, energy efficient lighting control systems, comprehensive building management system, and a refurbishment that used sustainably sourced materials throughout. As part of our fit-out, TMK achieved a BREEAM Excellent rating in 2015.

The building management group, which TMK has a representative on, continues to look at ways to improve the environmental efficiencies of the wider building.

- All drinking water used by TMK is produced (from mains supply) on-site. As such, we do not purchase bottled water, which reduces glass or plastic bottle waste and also adverse impacts associated with delivery.
- Office lighting is movement sensitive, and switches off when no one is in an area.
- TMK employs power saving devices on computers (monitors go off after 20 minutes if unused, and our virtual desktop Wyse terminals consume less than 10% of the power of a standard PC, as well as generating significantly less heat).
- Use of virtual desktops also reduces the amount of hardware required and the amount of space and power required for servers.
- TMK is supporting the change of electricity supply contract to use electricity derived from certified renewable sources.

Within our day-to-day operation, TMK has set all of the group printers to default to duplex copying and we encourage colleagues not to print unless they really need to do so. We have also introduced secure printing, meaning that no print jobs are released unless the user swipes their security pass. This has reduced regular paper consumption considerably. Since 2012, we introduced electronically and secure distribution of board papers. Since 2013, we issued payslips on line, and experimented with reducing the number of legal disclaimers which appear when we print emails, and setting the default print range of emails to just one page. TMK has also replaced paper Christmas cards with e-cards since the last few years. We recognised that these initiatives are ongoing and we continue to review periodically at ways to reduce our paper consumption. We monitor and report our paper consumption / usage.

TMK also works with an external environmental consultant to calculate our corporate carbon footprint. We have also commissioned Energy Savings Opportunities Scheme (ESOS) audits of our offices at 20 Fenchurch Street and also our IT infrastructure at the Sungard data centre (Guildford). We are reviewing the opportunities identified and considering the recommendations made.

Forward planning

Tokio Marine Kiln recognises that whilst unavoidable, travel is a significant source of our corporate greenhouse gas emissions. We are looking for ways to reduce the impact of this. We will be striving to better measure our in 2016 (e.g. reporting of rail travel).

Evidence also applies to principle(s): 3.3, 4.3, 5.1, 5.3, 5.4

Source(s): Tokio Marine Kiln facilities management and BREEAM certificate and ESOS, AECOM audit reports are available upon request.

5.3 Disclose our direct emissions of greenhouse gases using a globally recognised standard.

5.3.1 Lloyd's / The Corporation of Lloyd's / GHG emissions

As part of the Corporation's commitment to the environment, greenhouse gas (GHG) emissions have been tracked since 2007. The Corporation works with Carbon Smart – environmental consultants contracted to support the Corporation in this area – to calculate the GHG emissions from global operations following internationally recognised standards[g]. Disclosed environmental performance covers all Corporation entities that meet the criteria of being subject to control or significant influence of the Corporation of Lloyd's and covers 100% of contracted staff worldwide.

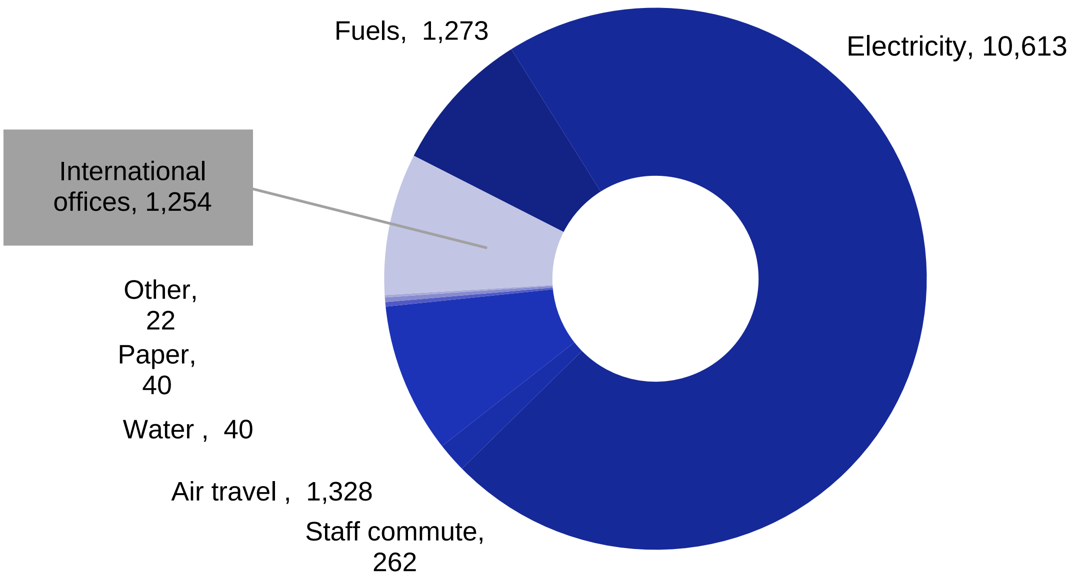
2015 marks the third year in which the Corporation has reported the GHG emissions inventory of our international offices in addition to that of the UK, and sees those initiatives continuing to engage with their resource consumption.

The Corporation's total reported GHG emissions from business activities in 2015 were 14,831 tonnes of CO^2e consisting of:

Lloyd's greenhouse gas (GHG) emissions 2015

	Scope 1 (Tonnes CO^2e)	Scope 2 (Tonnes CO^2e)	Scope 3 (Tonnes CO^2e)	Out Of Scope (Tonnes CO^2e)	Lloyd's Total 2015 GHG Emissions (Tonnes CO^2e)	Lloyd's Total 2014 GHG Emissions (Tonnes CO^2e)
UK	1,276	9,122	3,179	<1	13,577	13,678
International	7	825	421	-	1,254	1,442
Total					14,831	15,120

Lloyd's total reported GHG emissions summary tCO2e from activities (Figure 15)



[g] The methodology used to compile the Corporation of Lloyd's GHG emissions inventory is in accordance with the requirements of the following standards: the World Resources Institute's Greenhouse Gas Protocol (revised version), ISO 14064-part I and Defra's Environmental Reporting Guidelines: Including mandatory greenhouse gas emissions reporting guidance (June 2013)

Total[h] reported emissions by the Corporation have decreased by 2% since 2014. The UK carbon footprint has fallen by 0.7% on 2014 levels; while international offices have seen a decrease of 14% on 2014 levels.

There are a number of positive actions and results in terms of resource management and efficiency improvements that have led to these figures over the last reporting year, including in the UK, the Property Services team continuing to make resource efficiency improvements to key sites. A number of recommendations were identified through the Energy Saving Opportunity Scheme (ESOS), which if implemented aims to continue to see the Corporation continue to improve environmental performance in 2016.

Below is a summary of key achievements for the Corporation over the 2015 calendar year:

- Total carbon footprint including international offices has decreased 2% with international offices now making up 8% of the total footprint.
- UK footprint has seen a decrease of 0.7% predominantly as a result of a 9% reduction in the emissions associated with electricity consumption that has balanced out increases elsewhere.
- UK buildings electricity consumption itself has decreased by 2%. This was driven by energy efficiency improvements and a cooler summer leading to less cooling degree days in 2015. The additional decrease in emissions from UK electricity was driven by decarbonisation of the UK grid, leading to a reduction in the UK conversion factor issued by Defra.
- Emissions per employee also decreased from 7.6tCO2e/employee to 7.2tCO2e/employee in 2015. There was a reduction of 8% in international employees in 2015.

In 2015 the World Resource Institute introduced updates to the Greenhouse Gas protocol stating that organisations should provide two numbers to reflect the emissions from the purchase of electricity, heat, and steam or cooling (scope 2 emissions). Location-based scope 2 emissions are calculated using a conversion factor based on the average grid mix in a given location (issued by Defra in the UK). Market-based scope 2 emissions are calculated using a conversion factor specific to the electricity purchased by the Corporation.

The Corporation's Scope 2 location-based and market-based emissions are shown in the table below:

Corporation of Lloyd's Scope 2 location-based and market-based emissions, 2015

	Scope 2 - Location Based (Tonnes CO^2e)	**Instrument Type**	**Scope 2 - Market Based (Tonnes CO^2e)**	**Instrument Type**
UK	9,122	National grid average emission factor (issued by Defra)	0	Supplier emission factor (100% renewable energy used)
International	825	Various national grid average emission factors (issued by Defra)	825	Various national grid average emission factors (issued by Defra)
Total	9,948		825	

The Corporation's total location-based scope 2 emissions are 9,948 tCO^2e whilst market-based scope 2 emissions are 825 tCO^2e. The reduction is due to the fact that UK sites use 100% renewable energy, which has an associated conversion factor of zero. To avoid confusion and ensure a consistent approach with last year, the Corporation have chosen to report comparative data using location-based emissions in the figures.

A further breakdown of emission performance is detailed below:

- Emissions from electricity decreased by 9% compared to 2014, predominantly as a result of the decarbonisation of UK grid electricity in 2015 reflected in a lower conversion factor issued by Defra. In the UK, actual electricity consumption also decreased 2% compared to 2014 due to a combination of a milder summer and energy efficiency improvements made at the One Lime Street building, including lift upgrades and the installation of LED lighting.
- Air travel emissions saw a significant increase of 65% against 2014. Corporation air travel fluctuated in line with

[h] All totals have been rounded up to the nearest whole number.

business needs and increased activity in emerging markets drove our emissions up in 2015. Mileage travel has increased by 55%, and there is a further 10% carbon impact due to the long haul nature of the flights taken. The Corporation continues to offset air travel emissions by buying carbon credits for carbon offset projects through the Carbon Neutral Company. These projects are described in case study 5.4.2.

- GHG emissions from the Corporation international offices decreased by 13% in 2015 following a continual review of how global GHG emissions were reported. Data accuracy continued to improve in 2015 with more international offices reporting data. The Dubai and Madrid offices submitted data for the first time, bringing the total number of global offices reporting to 11. 64% of international employees are now captured by reporting offices.

For more information on the quality and reliability of the GHG emissions inventory, see the opinion statement issued by Carbon Smart in the sources below.

Evidence also applies to principle(s): 5.2, 6.1, 6.2

Source(s): Lloyd's 2015 Annual report [134], Carbon Smart opinion statement[135], Lloyd's Vision 2025

5.3.2 Lloyd's / The Market / Amlin / Amlin Group Carbon Footprint Reporting

Amlin's 2015 Carbon Footprint calculation is based upon our reporting year of 1 January to 31 December and includes data from Group companies over which financial control was exercised over the full twelve months.

During this period data on energy and water consumption, waste output, business travel and commuting was collected because it was believed to be pertinent to our corporate footprint.

Amlin employ Deloitte to carry out assurance in accordance with the International Standard on Assurance Engagements 3000 (ISAE 3000) on the compilation of our carbon footprint data, and we make an assurance statement[136] with the description of our in-scope operations and methodology.

This is the fifth year that Deloitte has provided assurance services to Amlin, and as Amlin's reporting function matures, the findings we observe are increasingly process-based, with a decreasing number of material data errors. Amlin appointed Cushman & Wakefield, a facilities outsourcer, to manage Amlin's carbon data and calculate the footprint; this has yielded a visibly positive impact on the efficiency of the overall process as well as the quality of the data.

By measuring our Carbon Footprint in a consistent way, we are able to raise awareness within the group, and also ensure that appropriate controls are in place for substantial contributors such as air travel.

Amlin submitted Carbon Disclosure Project (CDP) reporting in 2015.

In 2015, Amlin's UK employees moved into new offices in Chelmsford and London. Both these office moves have meant a considerable amelioration of the energy efficiency measures, compared to the efficiency of the buildings that were previously occupied. These buildings were, amongst other considerations, selected for their low energy consumption. Amlin strives to be a centre of excellence both in the way it conducts its business and by how it contributes to the overall wellbeing of the society it operates in. The move to these buildings is in line with this strategy. Both office buildings carry high rating under the Building Research Establishment's Environmental Assessment Method (BREEAM) 1, which is the world's foremost environmental assessment method and rating system for buildings, setting the standard for best practice in sustainable building design, construction and operation.

BREEAM has become one of the most comprehensive and widely recognised measures of a building's environmental performance. Since its launch, 200,000 buildings have been assessed and over a million registered for assessment. A BREEAM assessment uses recognised measures of performance, which are set against established benchmarks, to evaluate a building's specification, design, construction and use. The BREEAM addresses wide-ranging environmental and sustainability issues and enables developers, designers and building managers to demonstrate the environmental credentials of their building.

Evidence also applies to principle(s): 5.2, 6.1

Source(s): Amlin

5.3.3 Lloyd's / The Market / ArgoGlobal / Operational Boundary

All figures in the table below relate to Exchequer Court, 33 St Mary's Axe, London EC3A 8AA.

ArgoGlobal rents a number of desks in the Room at One Lime Street - these have not been included in the table below because they fall completely within the operational control of the Corporation and have been included within the GHG inventory included in 5.3.1.

Emissions in 2015

	(t CO2e)	Comment
Emissions from refrigeration and air conditioning equipment	0	
ArgoGlobal has no other direct emissions.	-	ArgoGlobal does not own or lease any vehicles
Scope 2 Indirect Emissions - purchased electricity/steam/heat		
Electricity	186.164	
Steam/heat	0	
TOTAL	186.164	
Scope 3 Indirect Emissions - purchased electricity (leased premises)		
Not applicable - all emissions from leased premises are included in Scope 2 above	-	
Scope 3 Indirect Emissions - other sources		
ArgoGlobal has chosen not to report on these emissions at this point in time.	-	

Evidence also applies to principle(s): 5.2

Source(s): ArgoGlobal – Syndicate 1200

5.3.4 Lloyd's / The Market / QBE / Quantum of emissions

BE Insurance Group Limited report global greenhouse gas emissions of 53,737 tonnes carbon dioxide equivalent (tCO2e) for 2015, down from 55,827 tCO2e reported in 2014.

QBE Group is also participant in the annual Carbon Disclosure Project, and the 2015 submission, along with previous reports, can be found here.

Responsibility

Corporate Real Estate Services (CRES European Operations) has primary responsibility for identifying, monitoring, reducing and reporting environmental impacts from QBE European Operation's physical assets and internal activities.

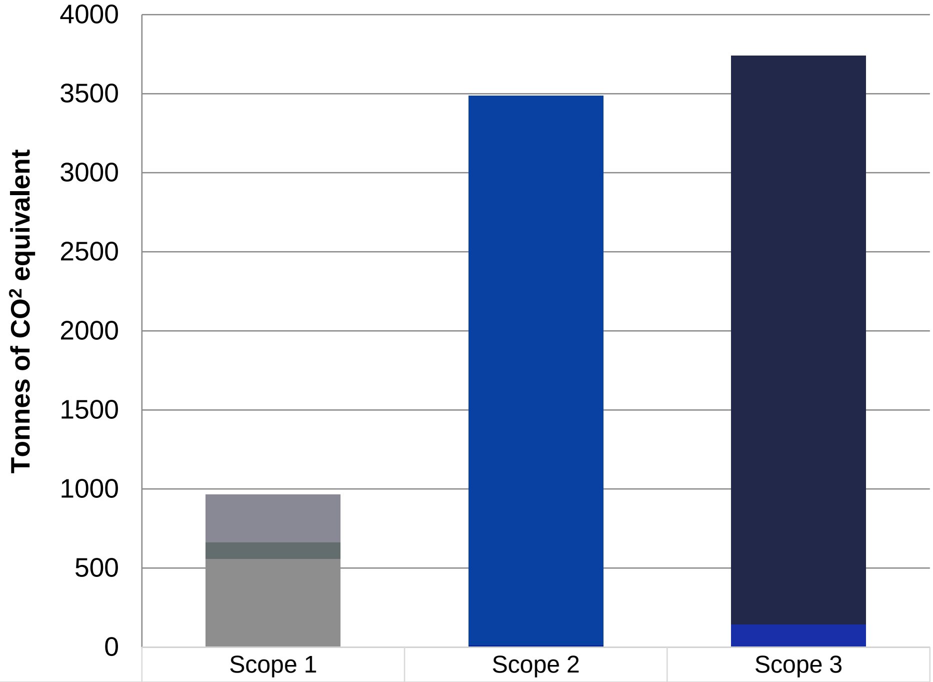
CRES EO has, since 2007 developed and implemented reporting procedures and infrastructure for monitoring and reporting of Environmental Key Performance Indicator (EKPI) data for QBE's European offices. CRES EO collates and reviews data provided by the company's European offices on a quarterly basis. Quarterly reports summarise a range of EKPI, including greenhouse gas emissions, in order to support decision making, identification of opportunities to improve performance and also to provide the data for internal and public disclosure of QBE EO's corporate 'carbon footprint'.

QBE EO report 2015 greenhouse gas emissions of 8,490.99 tonnes carbon dioxide equivalent (CO2e). 2015 emissions are 13% lower than 2014 emission (9,775.39 tCO2e. The reduction in reported GHG emissions from 2014 to 2015 is primarily attributed to the reduction in the QBE EO property portfolio over this time. QBE EO's Scope 1 and 2 emissions fell by 20% from 2014 to 2015 largely as a result of reduced electricity consumption.

Reported greenhouse gas emissions (CO2e) for 2015

2015 GHG emissions are broken down by scope and source below:

QBE European Operations greenhouse gas emissions, January – December 2015 (Figure 16)



	Scope 1	Scope 2	Scope 3
Boilers	303.03		
Back-up generators	0.11		
Air conditioning and fire suppression equipment	103.25		
Car use	559.81		
Imported electricity		3477.59	
Imported heat and steam		12.31	
Air emissions			3596.55
Emissions arising from rail travel			145.74

Scope of Reporting

The scope of reporting covers direct environmental impacts associated with 40 QBE offices located in 17 countries, with approaching 2,000 employees.

Reporting is based on operational control. QBE's European offices are generally leased with shared tenancy; building services such as boilers, back-up generators and centralised cooling systems are generally managed and controlled by the landlord or landlord's agent under a service contract.

Method of calculation

Greenhouse Gas emissions associated with our European offices are calculated in accordance with the World Business Council for Sustainable Development / World Resources Institute Greenhouse Gas Protocol and applicable Defra / DECC guidance for Company Reporting. GHG emissions associated with the activities of QBE EO are, where possible, calculated using the Defra/DECC conversion factors for 'Total Direct GHG' i.e. carbon dioxide, methane and nitrous oxide.

The standards and methodologies used are:

- Defra Voluntary Reporting Guidelines
- Australia - National Greenhouse and Energy Reporting Act

The source for the global warming potentials used are:

- CO2 IPCC Second Assessment Report (SAR - 100 year)
- CH4 IPCC Second Assessment Report (SAR - 100 year)
- Other: N20 IPCC Second Assessment Report (SAR - 100 year)

Data Assurance and forward planning

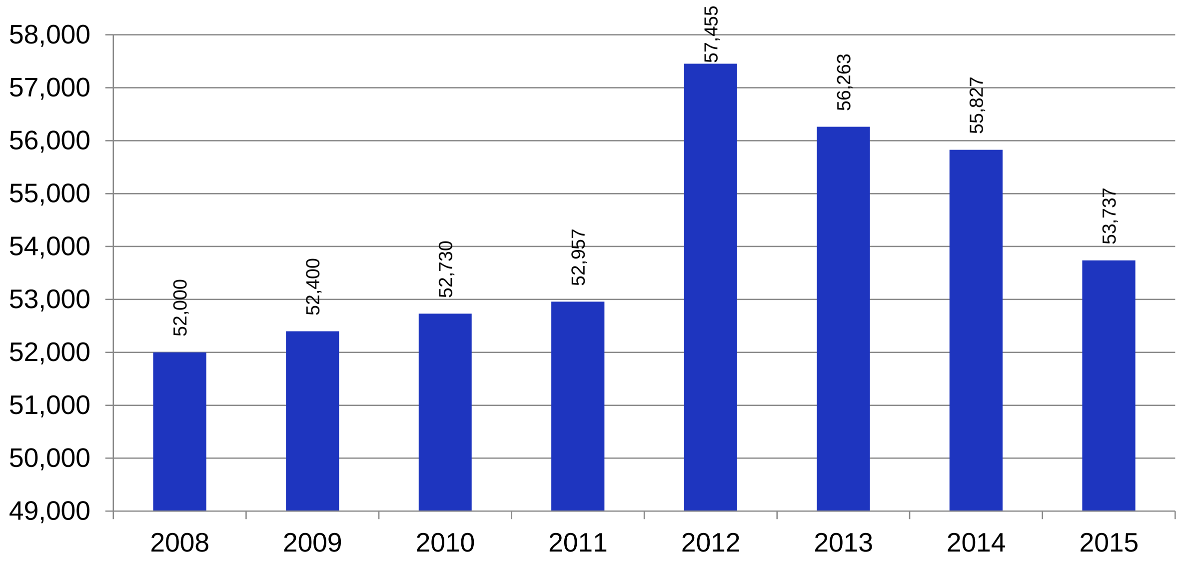
QBE works with an external consultant on an on-going basis. The consultant, Dr David Smith, Technical Director for Business Sustainability at AECOM, supported the design and evolution of the data management system and continues to review source data and calculations and opportunities.

QBE EO quarterly Environmental performance Reports are posted on our intranet for our employees, the reports are also submitted to QBE Group where it is aggregated and consolidated with comparable data from other regions for reporting via the Company's online Annual Report. Examples of data we have been tracking over time include:

> ***Project Advance***
>
> *QBE is improving the working environment at its European headquarters in London. To date, more than 125 tonnes of waste has been diverted from landfill to other forms of recycling.*

The current (2015) Annual Report includes a Corporate Governance Statement with summary of annual Group carbon emissions since 2008 and a breakdown by scope of 2014 and 2015 emissions.

Tracking emissions over time (Figure 17)

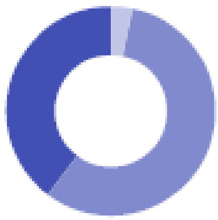


Group carbon emissions – CO2e tonnes (Figure 18)

	TWELVE MONTHS TO DEC 2015 TONNES	TWELVE MONTHS TO DEC 2014 TONNES	TWELVE MONTHS TO DEC 2013 TONNES	TWELVE MONTHS TO DEC 2012 TONNES
Scope 1	1,900	1,019	1,019	1,160
Scope 2	30,639	33,517	33,639	36,396
Scope 3	21,198	21,291	21,606	19,899
Total	53,737	55,827	56,263	57,455

Carbon emissions by scope

- **Scope 1 – Direct emissions:** direct greenhouse emissions due to natural gas and oil consumption used for heating
- **Scope 2 – Electricity consumption:** indirect greenhouse emissions from electricity consumption
- **Scope 3 – Other indirect emissions:** indirect greenhouse emissions defined as emissions relating to travel



Evidence also applies to principle(s): 5.2, 6.1, 6.2

Source(s): QBE, QBE CDP report 2015[137], QBE Sustainability Review[138]

5.3.5 Lloyd's / The Market / Tokio Marine Kiln / Disclose our direct emissions of greenhouse gases using a globally recognised standard

Since 2010, Tokio Marine Kiln has worked with an external Environmental Consultant, AECOM, to develop and implement our data management systems and undertaken the calculation of greenhouse gas emissions. Whilst our GHG emissions are not independently audited, the supporting calculations have been independently checked in accordance with AECOM's Quality Management System procedures (ISO 9001).

2015 is the first full year that TMK has occupied 20 Fenchurch Street and also the first year that TMK has reported electricity consumption associated with the three data centres. GHG emissions are calculated and presented in accordance with the Department of Environment, Food and Rural Affairs (DEFRA) Environmental Reporting Guidelines using the UK Government's GHG Conversion Factors (2015) for Company Reporting, accessed March 2016.

2015 GHG emissions are, where possible, calculated using the Defra conversion factors for 'all gases' i.e. carbon dioxide, methane and nitrous oxide, rather than just carbon dioxide and reported as tonnes of carbon dioxide equivalent (tCO2e).

2015 GHG emissions are estimated from the following TMK activity data:

- TMK's electricity consumption at 20 Fenchurch Street and at three UK data centres;
- TMK's allocation of natural gas use at 20 Fenchurch Street;
- TMK's allocation of water consumption at 20 Fenchurch Street; and
- TMK's business travel by company vehicles, hire cars, taxi and aeroplanes.

The 2015 greenhouse gas emissions for TMK's activities at 20 Fenchurch Street and electricity consumption associated with TMK's infrastructure at three UK data centres are reported as 4,388.16 tCO^{2}e. Reported GHG emissions are primarily derived from electricity consumption (Scope 2 emissions) and business travel (Scope 3 emissions) as follows: Scope 1 Emissions = 5.23 tCO^{2}e; Scope 2 Emissions = 796.39 tCO^{2}e and Scope 3 Emissions

= 3,586.54 tCO^2e.

TMK monitors a range of environmental metrics including greenhouse gas emissions in order to support decision making, identification of opportunities to improve performance. TMK reports the activity data to the Tokio Marine Group. The Tokio Marine Group has participated in the UN Global Compact since 2005 and produces annual Corporate Sustainability Reports, which include reporting of a range of environmental key performance indicator data.

Forward planning

Not applicable.

Evidence also applies to principle(s): 4.3, 5.1, 5.2, 5.4

Source(s): ESOS, AECOM audit reports are available upon request. Tokio Marine[139], Tokio Marine Kiln[140]

5.4 Engage our employees on our commitment to address climate change, helping them to play their role in meeting this commitment in the workplace and encouraging them to make climate-informed choices outside work.

5.4.1 Lloyd's / The Corporation of Lloyd's / Engaging our employees

There is a programme of work around engaging the Corporation of Lloyd's and Market staff around the eight strategic priorities, that operates all year round as part of actions towards Vision 2025.

At the end of 2014, the Corporation's Senior Leadership Team agreed and actioned that Global CSR should be added to the strategic priorities, and the programme has developed over the last two years to cover:

In 2015:

- Supporting high standards of conduct and ethics.
- Helping build disaster risk resilience by using our insurance expertise.
- Implementing social and environmental programmes globally.

In 2016:

- Undertake activities to support an ethical culture and business conduct standards within the Corporation and market.
- Respond to changing legal and regulatory responsible business requirements.
- Initiate disaster resilience initiatives and promote emerging risk management to relevant stakeholders.
- Maintain momentum on Lloyd's social and environmental programmes in the UK and internationally.

Corporation staff are engaged through a number of avenues, which includes:

- The induction process: New employees are introduced to the strategic priorities from the very beginning as part of their e-learning induction process, which sets out the roadmap to Vision 2025. Within the CSR section of the new e-learning module the content describes the Corporation's history with ClimateWise, and provides links to the pages on Lloyd's.com for staff to find out more.
- MyLloyd's: Is the Corporation-wide intranet that consists of resources and updates for all employees. Over the last reporting year this was used to communicate activities including: Learning Week, World Environment Day, and Corporation climate change activities; whether this is senior diary updates, or links to activities like the Lloyd's City Dinner or ClimateWise reporting. There are a number of features available such as the ability to comment on blog pieces or LiveWire, which allows employees to submit questions or make views known
- Employee Forums: In October 2015, John Parry, ClimateWise sponsor within the Corporation, and Director, Finance, gave an update at the employee forum on the Corporation's public views on climate change, and activities he had taken part in run-up to COP21. The event was attended in-person by London-based staff, and broadcast via WebEx for international teams to view and take part in.

The event was recorded to allow those unable to attend the opportunity to play back. As part of this Parry provided a blog on the Corporation intranet, and made the internal briefing paper organised by cross-directorate staff available to all Corporation employees

Staff forums (Figure 19)

- Strategy days: Over the last reporting year, the eight strategic priorities were communicated to the Lloyd's market in April 2015, and between May and July the Corporation ran a series of sessions highlighting why these were chosen as areas to focus on, to outline actions that are scheduled to take place, and to facilitate the opportunity for discussion.

Evidence also applies to principle(s): 2.1, 2.2, 6.1

Source(s): Lloyd's

5.4.2 Lloyd's / The Corporation of Lloyd's / Lloyd's Together

Around the world, Lloyd's offices are active in their local communities – often in collaboration with companies in the market – through the Lloyd's Together programme[141]. Launched in 2015, the programme provides support and encouragement for Lloyd's global offices to undertake community and charitable activities. 18 offices were active in their local communities during 2015. Initiatives ranged from providing solar lamps in East Africa to helping build affordable housing in Canada.

Lloyd's Together provides a framework for global offices' community and charitable activities and focuses on four key areas:

- Education and employability.
- Environment and sustainability.
- Social welfare and health.
- Disaster preparedness and relief.

Further details of some of the activities that Lloyd's global offices have taken part in can be found here on

Lloyd's.com, and a few examples have been included below.

Lloyd's Dubai Give a Ghaf

The Lloyd's Dubai team have been helping to improve their local environment by taking part in the "Give a Ghaf" tree planting programme.

The Wild Ghaf is an indigenous species of the UAE, Oman and Saudi Arabia. In these desert environments, where other trees often struggle to survive, the drought-tolerant and evergreen Ghaf spreads its roots deeps into the ground in search of water. Often reaching as far as 30 metres this means it is able to not only survive but stay green with very low rainfall. Planting new Ghaf trees helps to create greener and healthier places, improving air quality and providing habitats for many different species.

The Corporation Dubai team, and 18 representatives from the market side Dubai platform, spent a day at the Al-Barari plant nursery in Dubai. They helped to prepare the pots, open the Ghaf tree pods, look for healthy and viable seeds and finally plant the seeds in the pots.

Lloyd's Dubai (Figure 20)

Caroline Hamren, Underwriting Assistant, Visionary Underwriting, said "The Lloyd's Dubai initiative to help plant Ghaf trees for the 'Give a Ghaf' Tree Planting Program was for a very worthy cause. Not only was it a great personal experience to learn more about the national tree of the U.A.E. and its importance throughout the nation's cultural history but it also offered the participants an interactive space to meet new faces and build relationships outside of the Lloyd's Platform."

Lloyd's Primary School in China

In 2007 Lloyd's China funded the construction of a new primary school in Laomeng village in the Yunnan province following mudslides, which meant villagers needed to be re-located and a new community established. The Lloyd's Primary School opened in 2009 and has been supporting 280 students from Laomeng and 13 other villages in the district since then. As the school is in a very rural and mountainous region, and it can take up to three hours to walk to and from school, most of the students board during the week and go home at the weekend. Many of the children were sleeping in the spare classrooms so the Corporation and five managing agents – then: Catlin, Travelers, Starr, ACE, Navigators – contributed an additional £50,000 to build a new dormitory so that more children could go to the school.

In December 2015, Lloyd's China won the Best Foreign Enterprise with Social Welfare Award at the 2015 Shanghai Insurance Annual Awards in the Best Institutions category. The Deputy General Manager in China, Christina Xu, accepted the award on behalf of the team at the ceremony in Shanghai. The awards, in their sixth year, were hosted by MoneyWeekly; a prestigious finance and business media outlet in China and supported by Shanghai Insurance Association. The judging panel praised the dedication for building and developing the village school over the past seven years. The judges also recognised the employee sponsorship of the students, saying that they “set a sound example for both foreign and domestic enterprises carrying out charity work in China”.

Lloyd’s Supports SolarAid in East Africa

In East Africa, the Corporation partnered with SolarAid, a charity that distributes and sells solar lights throughout Africa. The project funded three projects in Kenya, Tanzania and Malawi.

Only 24% of the population in Tanzania has access to electricity, which means around 36 million people are living without power. 63% of families rely on kerosene for lighting and rural Tanzanian households spend around 25% of their income on lighting. Without light, opportunities for earning, learning and socialising are severely limited.

Corporation of Lloyd’s funding has helped build on the results of the School Campaign in the Chato District of the north-westerly Geita Region by introducing over 1,000 solar lights into the community. The funding is estimated by SolarAid to have:

- Provided 1,240,000 extra study hours to children.
- Save £106,000 for families.
- Averted 308 tonnes of carbon dioxide emissions.
- Improved the health of 3,100 people.

Lloyd's Together in Canada

Lloyd's Canada hosted a day-long Habitat for Humanity build day on 27 May 2016 where platform staff came together to help build a house for a family in need. Corporation staff were joined by members of: Markel Canada, Ironshore Canada, Totten Group, K & K Insurance Canada, Linx Underwriting Solutions and Red Rock Insurance Services.

Habitat for Humanity GTA helps low-income families build and buy simple, decent quality affordable homes through a no-interest mortgage. This solution not only helps to provide available housing for families in need, it enables low-income families to build assets, reduce their dependence on other forms of social assistance and break the cycle of poverty.

Lloyd’s Together programme in Canada (Figure 21)

This has been the fourth year supporting this cause and participation has been increasing every year, with 33 volunteers taking part in 2016.

Forward planning

A key focus for the CSR team during the remainder of 2016 is the aim to further integrate the CSR programme globally, and forms one aspect of the Corporation's long-term commitment to the aims laid out in Vision 2025.

Evidence also applies to principle(s): 5.3, 6.1

Source(s): Lloyd's annual report[35], Lloyd's Vision 2025[1]

5.4.3 Lloyd's / The Corporation of Lloyd's / Employee engagement: Lloyd's Community Programme – good for society, good for business

Last year the Corporation of Lloyd's reported on the 25th anniversary of Lloyd's Community Programme, which is supported by 60 companies in the market and involved over 2,500 volunteers from Corporation and market in 2015.

Lloyd's Community Programme – Number of volunteers from across the Lloyd's market supporting programmes in London

Year	Number of volunteers
2010	1,464
2011	1,514
2012	1,883
2013	1,716
2014	2,087
2015	2,666

On 21 April 2016 the Corporation were recognised for Lloyd's Community Programme's initiatives supporting post-16 students, when it received the Chartered Institute of Insurers Public Interest Award in the CSR category. The Corporation of Lloyd's were also shortlisted for a Business in the Community Responsible Business Award in the education category.

For 26 years, the programme has mobilised the time, skills and resources of the companies and individuals in the Lloyd's market, encouraging a strong sense of community and shared goals. Inga Beale, Chief Executive Officer, Lloyd's commented in the application for the Business in the Community, Education Award, that "Lloyd's takes Corporate Social Responsibility seriously and it is one of the Corporation of Lloyd's eight strategic priorities. The support Lloyd's Community Programme provides to the young people on our doorstep in inner London boroughs is an important expression of this, and also feeds in to the Corporation of Lloyd's talent priority to attract and retain a diverse workforce that will bring innovation and fresh ideas to the Lloyd's market. I would encourage other companies to take a responsible business approach and put it at the heart of their organisation."

The Corporation also released a series recommendation for other organisations so they might learn from past experiences:

- Develop effective long-term partnerships with community delivery partners who have a good knowledge of the target group you want to work with.
- Senior level engagement is key to embed CSR and related activities in the business and to influence other stakeholders and business partners.
- Develop a portfolio of volunteer opportunities that attract high quality business volunteers, and meet the needs of the community.

Forward planning

In 2016 the Corporation plans to continue building on this initiative alongside other programmes as part of the Vision

2025 aim to be known around the world for its integrity, and where talented, diverse and socially responsible employees feel proud to work.

In the 2015 annual employee survey, 95% of Corporation employees agreed that the company is a responsible organisation in relation to the community, and the Corporation aims to meet and exceed the target as part of the 2016 KPIs published this year in the Annual report, to 'Maintain positive rating by Corporation employees for Lloyd's responsible business approach (85%+ positivity in employee survey) '.

Continuing the efforts to engage employees, the Lloyd's CSR Strategy 2014-2016 clearly sets out how employees can contribute towards meeting the objectives in this area. The Corporation believes the responsibility for CSR involves the whole organisation and every individual within it. All employees have a part to play in doing business responsibly and considering social, ethical and environmental issues in their day to day role. The CSR strategy is championed by the Corporation of Lloyd's Chief Executive and each of the four priority areas is sponsored by one or more members of Lloyd's Executive Team.

Evidence also applies to principle(s): 3.1, 3.2, 6.1

Source(s): CII Public Interest Awards 2016[142], Lloyd's 2014 Annual report[143], Lloyd's 2015 Annual report[144], Business in the Community[145], Our CSR approach[146]

5.4.4 Lloyd's / The Corporation of Lloyd's / International Sustainability Action Programme (ISAP)

Last year the Corporation of Lloyd's reported on the launch of Lloyd's International Sustainability Action Programme, which was developed as part of the EWG, and involves working with Corporation staff across international offices to undertake actions that promote practical initiatives.

Championed by Shirine Khoury-Haq, Director, Operations, the programme has been designed to give practical support to Corporation international offices to assist work by the Property Services teams to reduce their impact on the environment. The programme continues to expand, and examples of activities over the reporting cycle include:

- New offices welcomed onto the programme.
- More initiatives added to EWG action plan.
- More webinars.
- Improvement in data quality for 2015 carbon footprint.
- World Environment Day.

Forward planning

The Corporation aims to continue to grow the number of global sustainability champions and the CSR team are actively engaged with Corporation colleagues around the world to help them implement sustainability initiatives in their offices.

One example of this is the schedule of events for World Environment Day across the Corporation of Lloyd's offices described in case study 5.4.5, and the continued improvement in waste and recycling, demonstrating the effectiveness of this programme.

Evidence also applies to principle(s): 5.1, 5.2, 6.1, 6.2

Source(s): Lloyd's ClimateWise report 2014-2015[147]

5.4.5 Lloyd's / The Corporation of Lloyd's / World Environment Day

31 May to 3 June 2016, saw Corporation offices around the world support the United Nations World Environment Day for the second year running. The event appeared in the 2015 Annual report in the key events section, and is promoted internally to highlight the programme and to generate awareness and interest in Corporation employees.

The programme included a lunchtime session on 31 May 2016 at One Lime Street, on this topic of 'Climate change: adapt or bust". Trevor Maynard, Head of Exposure Management & Reinsurance, looked at how the Lloyd's market has responded to the challenges of climate change and what the next steps for the industry could include. Ben Murray, Director, Carbon Smart –Lloyd's sustainability consultant – provided a wider overview of what actions other sectors are involved with in response to climate change, as well as what is possible at an individual level.

85 people registered for the event from the Corporation, market, and wider stakeholders and partner organisations – ClimateWise, LCCP and the Lloyd's Market Association – who all distributed invites. Members of the press were among the attendees and the event was covered in an article by Reactions. The event was filmed and the aim is to make it available on the Corporation intranet and to international offices for those who were unable to make it on the day.

Each day the Corporation focused on a different topic, with different activities taking place across all international offices, and daily intranet blogs featured Corporation staff views from around the world. This offers Corporation staff an insight into what sustainability means for different colleagues, and a view of what they are do try and take positive action, at home and in the workplace.

World Environment Day across the offices (Figure 22)

World Environment Day provides an opportunity to facilitate engagement around the office and make environmental issues more visible. The programme of activities are planned as a way to show that action around sustainability is approachable and should not limit itself to initiatives that require a high level of commitment. By encouraging all employees to participate, the Corporation continues to build a sense of pride and enthusiasm around what has been achieved, and use this to reflect on what they can be done next.

An overview of the international programme from the week can be found below:

World Environment Day activity plan 2016

Day	Tuesday 31 May Launch: Global Sustainability	Wednesday 1 June Recycling	Thursday 2 June Personal Action	Friday 3 June Reducing Food Print
Australia	• Daily lunch time screenings (Tues – Fri) on the topic of endangered animals / species e.g. bees, the Great Barrier Reef • A 'tip or interesting fact of the day' email to be sent each day • Pledge tree – purchasing a lemon tree, or similar, and get everyone to attach a pledge to it during the week	• Daily lunch time screenings (Tues – Fri) on the topic of endangered animals / species e.g. bees, the Great Barrier Reef • A 'tip or interesting fact of the day' email to be sent each day • Pledge tree – purchasing a lemon tree, or similar, and get everyone to attach a pledge to it during the week	• Daily lunch time screenings (Tues – Fri) on the topic of endangered animals / species e.g. bees, the Great Barrier Reef • A 'tip or interesting fact of the day' email to be sent each day • Pledge tree – purchasing a lemon tree, or similar, and get everyone to attach a pledge to it during the week • Taronga Zoo - Adopt a Bilby program (endangered Australian animal).	• Daily lunch time screenings (Tues – Fri) on the topic of endangered animals / species e.g. bees, the Great Barrier Reef • A 'tip or interesting fact of the day' to be emailed once each day • Pledge tree – purchasing a lemon tree, or similar, and get everyone to attach a pledge to it during the week One blog as a wrap-up of the week.
Brazil	• Promote the 3Rs (Reduce, Reuse, Recycle)* • Promote the use of energy efficient LED light bulbs (as one of the 3Rs initiatives) *Each day of the week, we aim to be distributing, via email, information on one of the 3R initiatives to our co-located syndicates and Lloyd's staff. As well as displaying a presentation on the subject in our coffee lounge TV throughout the day.	• Book swap* • Promote the use of rechargeable batteries (remote controls, mouse and keyboards) as one of the 3Rs • Electronic waste day - everyone should bring electronic waste that they have at home so we can collect them and have it recycled. • Brokers Week day 1 - breakfast with healthy, organic and animal free options *We aim to take this opportunity to start a continuous book swap at the office, where anyone can give and take books.	• Promote "the greenest paper is no paper at all" - raising awareness of the amount of paper we use daily* • Brokers Week day 2 - breakfast with healthy, organic and animal free options * Unnecessary printing, newspapers and magazine subscriptions and etc.	• Promote a meat free day raising awareness of the Carbon Food print and organise a veggie lunch with the representatives from the co-located syndicates • Promoting the use of plants that improve indoor air quality in the office / home • Brokers week day 3 - Breakfast with healthy, organic and animal free options
	During the WED week, we aim to hosting our Broker's Week, so will take this opportunity to include vegetarian and vegan options to our Breakfast meetings, as well as serving Organic Coffee. We will also aim to display a presentation on the WED on our coffee lounge TV.			

China	• Recycling point - launch bring your IT equipment and batteries at work	• Recycling point - launch bring your IT equipment and batteries at work	• Veggie lunch	• Walk/cycle/public transport to work
Dubai	• Bring your own mug to reduce paper/plastic cup usage (shared with the rest of our platform in Dubai, to encourage and to create awareness of WED) • Walking contest (download pedometer app – see who covers most distance during the day/week) • No printing day • Turning off the air-conditioning in our offices and using windows	• Switch to organic/fair trade tea/coffee for the day (no Nespresso!). Shared with the rest of our platform in Dubai to encourage and to create awareness of WED • Collect and drop off clothes to the designated clothes banks in Dubai	• Lights off day • Meat Free Thursday (shared with the rest of our platform in Dubai, to encourage and to create awareness of WED)	Non-working day in Dubai
France	• Day without plastic cup and cans • Recycle paper	• Recycle paper • Use public transport to work	• Recycle paper • Lights off day	• Recycle paper • Vegetarian lunch
Germany	• We all have our mugs and never use plastic or paper cups • Christine, Jan and Volker travel to Cologne by train • We aim to have a no-print-day • Lights off all day	• Mugs • Walk/cycle/public transport to work	• Mugs • Walk/cycle/public transport to work	• Mugs • Walk/cycle/public transport to work • Veggie lunch
Hong Kong	• Encourage all staff to use their own mug to reduce paper/plastic cup usage • We aim to organise a walking contest to see who covers the most distance during the day • Encourage staff members to write a blog about recycling at home	• Hold a 10/15 min session with everyone to let them know what can & can't be recycled in the office and also in the office building	• Encourage staff to walk and/or take public transport to work/lunch • Lights off day	• We aim to ask staff to have a veggie lunch or make a meal from leftovers/creative recipes
Ireland	• Bring your own mug to reduce paper/plastic cup usage. • Walking contest. • Blog.	• Clothing/book swap.	• Lights off day.	• Veggie lunch. • Switch to Fairtrade tea/coffee for the day.

Italy	• Organise a veggie picnic in a nearby park to raise awareness not only of food but also of a healthier life style (i.e walking during lunch break). • Our colleague Sabrina Colzani to ride by bike from home to the office instead of using car and underground (28 km in total).	• Our colleague Sabrina Colzani to ride by bike from home to the office instead of using car and underground (28 km in total).	PUBLIC HOLIDAY	• Our colleague Sabrina Colzani to ride by bike from home to the office instead of using car and underground (28 km in total).
Japan	• Switch to organic/fair trade tea/coffee for the week (no Nespresso!) • Bring your own mug to reduce paper/plastic cup usage • Blog about a topic of interest	• Book swap • The confused bin - place a bin in the office which people can throw items in if they are not sure whether they can be recycled or not. Hold a 10/15 min session with everyone to explain what can & can't be recycled	• Personal pledges • Walk/public transport to work • Lights off day	• Veggie lunch
Netherlands	• Walking contest with pedometer app oh phone – see who covers most distance during the day. Competition ends at 4pm and we compare distance covered.	• Walking contest with pedometer app oh phone – see who covers most distance during the day. Competition ends at 4pm and we compare distance covered. • Lights off day • Make a meal form leftovers and bring it to work	• Walking contest with pedometer app oh phone – see who covers most distance during the day. Competition ends at 4pm and we compare distance covered.	• Walking contest with pedometer app oh phone – see who covers most distance during the day. Competition ends at 4pm and we compare distance covered.
Poland			• Use public transport to work • Veggie lunch • We do not use plastic cups in the office so this will be continued • We decided to stop using bottled water in the office and use tap water instead	• Veggie lunch • Not use plastic bags throughout the day • A day without a printer • We do not use plastic cups in the office so this will be continued • We decided to stop using bottled water in the office and use tap water instead
Spain	• Walking contest (download pedometer app – see who covers most distance during the day/week)		• Lights off day	

Switzerland	• Bring your own mug to reduce paper/plastic cup usage • Walking contest (taking the stairs for the entire day) • Draft an office environmental policy	• Rubbish audit • The confused bin - place a bin in the office which people can throw items in if they are not sure whether they can be recycled or not. Hold a 10/15 min session with everyone to explain what can & can't be recycled	• Personal pledges • Walk/cycle/public transport to work • Lights and air-conditioning off day	• Veggie lunch • Recipe swap • Switch to organic/fair trade tea/coffee for the day (no Nespresso!)
UK (London, Chatham and Kent Science Park)	• Sustainability talk in the London office • In London tour of the building.	• Launch of recycling point - bring your old clothes, IT equipment, phone and batteries to work • Recycling display in front of coffee house meeting room showcasing what recycled materials are used for • Presentation about recycling • Coffee grounds available from Lloyd's Coffee House to use as compost •In London tour of the building.	• What you can do at home and at work • Tips on cleaning and beauty products and DIY tips • Saving money by being greener • In London tour of the building. In Chatham story board and lunchtime lecture in the restaurant area to tell employee's about the PV panels on the roof	•Meat free day in the restaurants • Key messages about other more environmentally friendly diets • Recipe created by the Elior team • Information on how carbon intensive meat is vs being vegetarian or vegan • In London tour of the building.
USA - Chicago	• Starting of our "Lloyd's America" Pop Top Challenge. We are starting a small competition between the offices for who can raise the most pop tops by the end of the calendar year. These pop tops then get recycled and all the money is intended to go to the Ronald McDonald houses in each state. More information on the challenge can be found in this link. • We will also be keeping all of the unnecessary lights and electronics off unless being used. IE- kitchen, conference rooms, TVs, etc.	• On Wednesday we will be holding a brief 20 minute presentation in our conference room for all employee to come and learn more about recycling- "The Dos and Don'ts" and we will be handing out a reusable coffee mug to all of the employees who agree to participate in the presentation. • We will also be keeping all of the unnecessary lights and electronics off unless being used. IE- kitchen, conference rooms, TVs, etc.	• On Thursday we will be hosting a book swap or a give a book, take a book station in our "Round" room. We will send a more detailed email the day prior staff to bring old and unwanted books to work to be swapped. Any books left over at the end of the day will be donated • We will also be keeping all of the unnecessary lights and electronics off unless being used. IE- kitchen, conference rooms, TVs, etc.	• We will be doing a veggie lunch for the office. We will be providing fruits and veggies for the whole office. • We will also be keeping all of the unnecessary lights and electronics off unless being used. IE- kitchen, conference rooms, TVs, etc.
USA - Kentucky	• WED t-shirt day • Work by natural light everyday starting at 2:00pm • Walk to lunch or bring your lunch each day all week	• Start the collection of plastic bottle caps to give to one of the local schools for their park bench programme (this in intended to be continued for the rest of the year) • Work by natural light	• Fruit & yogurt breakfast for everyone • Share your DIY home cleaning tips - the tips are intended to be posted in the breakroom • Work by natural light everyday starting at 2:00pm	• Salad Bar day – everyone in the office plans to contribute something for the salad bar and bring their favourite salad dressing • Work by natural light everyday starting at

		everyday starting at 2:00pm • Walk to lunch or bring your lunch each day all week	• Walk to lunch or bring your lunch each day all week	2:00pm • Walk to lunch or bring your lunch each day all week
USA - New York	• Start of our "Lloyd's America" Pop Top Challenge. We are starting a competition between the US offices to see who can raise the most pop tops by the end of the calendar year. These pop tops then get recycled and all the money is intended to go to the Ronald McDonald houses in each state. [More information on the challenge can be found in this link.]	• We intend to eliminate the use of unnecessary printing and light usage in our office for one day. This action is anticipated to help develop permanent habits that avoid wastefulness.	• Short presentation in our conference room for all employees about the New York City specific recycling guidelines, and other location specific environmental issues including the use of disposable cups, cutlery and packaging. We intend to hand out reusable cups to all of the employees who participate in the presentation.	• We plan to order a vegan lunch for the office from a restaurant that encourages the use of only bio-degradable packaging.

Forward planning

These activities contribute towards the aims set out in the 2016-2018 strategy for CSR, and represent growth and commitment from previous years of Corporation reporting.

The Corporation is scoping activities for next year, and evaluating what could be done to build on momentum as initiatives develop.

Evidence also applies to principle(s): 5.1, 5.2, 6.1, 6.2

Source(s): Lloyd's 2015 Annual report[148], [149], Lloyd's Vision 2025[1]

5.4.6 Lloyd's / The Market / Amlin / Employee engagement

The direct impact of Amlin's business activities in all locations is managed by local facilities teams, reporting in to Group Operations. They focus in particular on energy efficiency, paper usage, recycling and responsible sourcing. All employees can contribute by using resources sensibly and by reducing business travel where possible.

Amlin engages its employees by implementing everyday measures. For instance, Amlin strives to become a paperless company, in doing so a clean desk policy has been implemented, employees are no longer allowed to leave documents on their desks once they have finished their work day urging limit the amount of paper they carry around. Another measure that was implemented across all offices in 2015 is that the cost of printing a document is now shown on the printers before the document is printed.

Evidence also applies to principle(s): 5.2.

Source(s): Amlin

5.4.7 Lloyd's / The Market / ArgoGlobal / Sustainability Plan

In support of its commitment to influence the potential negative impact of climate change, Argo Group has now included a climate change as a part of its review and development of its internal sustainability plan that was established during 2015-2016.

Forward planning

The Argo Group sustainability plan requires regular internal communication regarding the issue of climate change for the purpose of raising employee awareness of this issue, and the actions that they can take in response to it. The amount of Argo Group internal communication on climate change and sustainability issues has been increased during 2016, with training and communication meetings occurring in certain offices and the posting of newsletters and information on the Group's intranet, which is accessed by its 1,300 employees.

Evidence also applies to principle(s): 6.1

Source(s): ArgoGlobal – Syndicate 1200

5.4.8 Lloyd's / The Market / CHUBB / Volunteerism at CHUBB

One day every five years employees around the world to devote half of that workday participating in one of the volunteer activities that have been organised in their office. Global Day of Service has become a tradition at CHUBB: The first was organised in 2005 and the second in 2010. More than 7,700 employees volunteered in 2010 and we hope to surpass that figure during this year's CHUBB Global Day of Service on Friday, October 23rd, 2015.

Chubb supports the communities in which our employees live and work through company-sponsored volunteer initiatives. We believe that positive contributions to the fabric of our communities return long-lasting benefits to society, our employees, and our company. Globally, local offices support volunteer initiatives big and small. Several of Chubb's regional operations sponsor days of service Employees enjoy giving back to their local communities through Global Day of Service.

The Insurance Industry Charitable Foundation (IICF) Week of Giving is the IICF'S most visible programme that allows the insurance industry to take a leadership role in the community through volunteerism and collective giving. Since 1998, insurance professionals have provided over 166,000 hours of volunteer service for local community non-profits organisations through this initiative. CHUBB Employees supported the IICF Week of Giving through volunteer projects and launch events. Last year CHUBB employees nationwide volunteered through organisations like Habitat for Humanity and Covenant House.

Evidence also applies to principle(s): 5.2, 6.1, 6.2

Source(s): CHUBB.

5.4.9 Lloyd's / The Market / CHUBB / CHUBB Charitable Foundation

CHUBB supports communities where our employees live and work through both hands-on involvement in local initiatives and financial support of organisations making a measurable impact. Below are highlights of recent philanthropic initiatives supported by CHUBB's Foundations: the CHUBB Charitable Foundation, a US not-for-profit corporation (501c3) that can make grants to qualified non-profit organisations; the CHUBB Foundation – International, a Bermuda incorporated foundation that allows international contributions to be made more efficiently to non-US charitable organisations; and, the CHUBB Bermuda Foundation making grants to Bermuda-based organisations.

CHUBB accomplishes its philanthropic goals by focusing the majority of its charitable giving on clearly defined projects that have measureable objectives and outcomes and solve problems in the areas of: Education, Environment, and Poverty and Health. This bi-annual e-newsletter highlights just some of the recent philanthropic activity funded by CHUBB's Foundations throughout the world.

ChildFund International (Mexico and Ecuador)

In September of 2013, the CHUBB Charitable Foundation made a two year grant to assist in securing access to clean drinking water and sanitation for 9,400 people in Mexico and Ecuador, thereby contributing to their improved health. Improved hygiene and water management practices of 14,057 people (3,166 families) in 2 municipalities in the northern Sierra will be improved through education provided in community settings.

In Mexico, access to clean water for 3,900 people in the northern Sierras will be provided through the construction and repair of large cement community water tanks. In Ecuador, ChildFund in partnership with the Municipality of Puerto Quito, will build a water supply system benefitting 4,000 people in La Sexta. This system will be implemented with the technical support of local authorities and the beneficiary families will contribute with work. In Las Lajas, the community will be connected to the parish sewerage system and this will be maintained by the parish authorities in conjunction with the Municipal Potable Water and Sewerage Company (EMAPA). The project will benefit 1,500 people in the community. In order to boost good practices, community workshops will be held for heads of families as well as children and dissemination of essential information will take place on personal and family hygiene. The workshops will include messages emphasising co-responsibility for care of the sewerage system. The involvement of the municipal authorities with the guarantee to maintain the system ensures its sustainability over time. These project are expected to be completed by October 2015.

Chesapeake Bay Foundation (Pennsylvania)

In October of 2014, the CHUBB Charitable Foundation made grant to the Chesapeake Bay Foundation to support a forest buffer programme in eight counties in Pennsylvania that are part of the Chesapeake Bay Watershed Area. This programme will help limit the amount of agricultural pollution draining into Chesapeake Bay tributaries and the Bay itself.

Through the Buffer Bonus program, Chesapeake Bay Foundation (CBF) and partners work with farmers to install conservation projects. CBF is the largest and only regional not-for-profit conservation organisation existing solely to restore the Chesapeake Bay, North America's largest estuary. There are currently 17 million people in the 64,000-square-mile, six–state watershed of the Chesapeake Bay. CBF's mission is to protect and restore the health of the Chesapeake Bay and its tributaries, including the abundance and diversity of its living resources. The Chesapeake Bay is the nation's largest and most productive estuary and its 64,000 square mile watershed—from Cooperstown, New York to Cape Henry, Virginia and westward to the Allegheny Mountains, West Virginia—is home to more than 17 million people, a number that is increasing by 150,000 each year. Congress has recognised the Chesapeake Bay as a "national treasure and resource of worldwide significance." The economic importance of the Bay cannot be overstated. The Chesapeake Bay is the economic engine of the region, with respected economists valuing it at over one trillion dollars related to fishing, tourism, property values, and shipping activities. Investing in clean-water programmes that help "Save the Bay" propels job creation, helps restore Bay-dependent industry, and protects human health.

The health of Pennsylvania's waterways directly impacts the restoration of the Bay. Pennsylvania has more miles of impaired rivers and streams than any other state in the country - more than 18,000 miles of the state's 86,000 miles of stream have been designated as impaired by the Pennsylvania Department of Environmental Protection (PA DEP). Many of these streams are impaired due to nutrient and sediment pollution from agricultural operations, with agricultural activities being the leading cause of stream degradation in the state. Scientists estimate that almost two-thirds of the nitrogen and phosphorus reductions necessary to restore the Chesapeake Bay can be achieved by implementing the programme supported by this grant.

CHUBB Foundation Helps to Rebuild Elementary School Destroyed by Super Typhoon Haiyan in the Philippines

It's been almost three years since Super Typhoon Haiyan – one of the strongest and deadliest tropical cyclones – touched ground in the Philippines. The 2013 storm had a devastating impact on the region, destroying lives, homes, businesses and schools, including several classrooms at the Bancal Elementary School in the Carles, Iloilo province of the Philippines.

But thanks to a $250,000 grant from the CHUBB Foundation and a partnership with the Philippines Business for Social Progress (PBSP) — one of the largest business-led social development organisations in the Philippines — the students at Bancal Elementary, along with representatives from CHUBB, and local government officials, celebrated the reopening of six newly-reconstructed, disaster-resilient classrooms during a ribbon cutting ceremony in July 2015. Funds from the grant also supported a supplemental feeding programme for severely malnourished students.

Evidence also applies to principle(s): 3.4, 5.2, 6.1, 6.2

Source(s): CHUBB.

5.4.10 Lloyd's / The Market / QBE / Driving engagement across our divisions

QBE conducts an annual staff survey that measures four key elements:

- Engagement
- Understanding of QBE's vision and values
- Embedding of diversity and inclusion
- Priority areas for improvement

Pleasingly, we have seen significant improvements across all our key measures since first conducting the survey in 2013, with all divisions reporting positive improvements in both the drivers and outcomes of engagement. This has been achieved alongside broader progress in stabilising the business and establishing a platform for growth. That said, we know there is much we can do to improve employee engagement across the company. The resetting of our purpose and vision, as discussed in both the Chairman's Report and CEO's Report, is a major part of this improvement program, as are the range of initiatives implemented in divisions to better connect our people and their actions to our overall strategy and approach.

QBE is one of the few insurers that has invested in a bespoke Leadership Academy and Underwriting Academy, ensuring that our current and future leaders are exposed to innovative, relevant and engaging training to help them progress their careers at QBE.

Development

In its third year of operation, the QBE Leadership Academy had 545 leaders participate in programs globally in 2015, taking the total number of graduates to 1837. Drawing on both internal and external speakers and content, the QBE Leadership Academy continues to be a key pillar in our talent development strategy. Covering critical topics including motivating, leading and engaging others, the Academy is creating both an immediate and long term positive impact across our business. A number of current Group Executive Committee members are graduates of the executive level academy and the majority of other senior leaders promoted into roles in our Group Strategy team have attended either our executive or senior leader program.

The QBE Underwriting Academy will launch in early 2016, with 500 people scheduled to participate in a specific underwriting program by the end of 2017. With underwriting at the core of our business, the objective of the QBE Underwriting Academy is to raise the bar for the industry and our business by establishing a consistent, replicable model of underwriting excellence that incorporates QBE underwriting DNA. Academy content includes QBE modules that explore our markets and products; track networking pathways to knowledge and experience; explore market fluctuations, drive ethical behaviour, ESG considerations and their impact on risk and pricing policy. The program will deliver a level of shared understanding about how QBE does underwriting business globally.

To further enhance the QBE Underwriting Academy, we have chosen three market-based insurance institutes to deliver industry-recognised qualifications to our foundation underwriters in their home regions. The program will provide development for underwriters over two years.

Evidence also applies to principle(s): 1.3, 6.1

Source(s): QBE Insurance Group Annual Report 2015[150], QBE Sustainability Review[151]

5.4.11 Lloyd's / The Market / Tokio Marine Kiln / Employees engagement

Tokio Marine Kiln (TMK) aspires to be a global "Good Company", consistent with the Group business strategy. We have embedded the key pillars of the Good Company culture within the annual performance reviews of our employees. This encourages and rewards the employees in their positive engagement on these values. The recognition is also supported by the Tokio Marine Group where each subsidiary will nominate an employee to receive the Good Company Award in Tokyo each year. The winner from TMK this year comes from our Claims department, as they have deliver on our commitments so we can live up to the trust placed in us and be there for our customers and societies in times of need.

In addition, the Tokio Marine Group including TMK, has implemented a wide range of charitable activities where the company and our employees can get involved at several different levels: company donations, personal donations and also volunteering. For example, since 1999, Tokio Marine Group employees have planted 8,994 hectares (as of March 2015) of mangroves in 9 countries in Southeast Asia in partnership with tree-planting NGOs. These mangrove forests play an important role in the fields of preventing global warming, conserving biodiversity and reducing disaster damage. Another example is Tokio Marine Kiln's employees involvement in the Street Child, Sierra Leone marathon. Every year, the employees volunteer to run in raising funding for orphans in the country to rebuild their lives after the civil war. All the funding raised through private donations are matched by TMK.

The CSR activities of the Tokio Marine Group companies are communicated globally to all of our 33,000 employees through the Tokio Marine Group journals, which are circulated monthly on the intranet. In addition, the Tokio Marine Group produces a CSR report on an annual basis, and is available publicly.

Forward planning

The Charity Committee at TMK continues to support volunteering by individuals throughout the company. At present there is no formalised process around volunteering and it is done as and when individuals wish to do so. This is something that the committee will continue to investigate in 2016 to examine whether a more formalised structure for volunteering should be instigated.

Evidence also applies to principle(s): 3.3, 4.3

Source(s): Tokio Marine Kiln[152], [153]

6 Report and be accountable

The Corporation of Lloyd’s is committed to ClimateWise and supports companies in the Lloyd's market in their activities related to climate change.

6.1 Ensure that the organisation is working to incorporate the Principles into business strategy and planning by encouraging the inclusion of the social and economic impacts of climate risk as part of the Board agenda.

6.1.1 Lloyd’s / Board level commitment

Climate change is recognised as an issue at Board level at Lloyd’s and each managing agent has a ClimateWise sponsor at Board or senior level:

Company	Designated Board Member	Title
Lloyd's	John Parry	Director, Finance
Amlin	James Illingworth	Chief Risk Officer
Argo	John Spencer	Chairman, Argo Managing Agency
Beazley	Clive Washbourn	Head of Marine[i]
CHUBB	Andrew Kendrick	SVP, Chubb and President, Europe
Hiscox	Sheila Cameron	Director of Group Operations
Navigators	Stephen Richard Coward	Director, NUAL and President, Navigators Technical Risk.
QBE	Joe Gordon	Chief Operations Officer
Renaissance Re	Hugh Brennan	Chief Executive Officer
Tokio Marine Kiln	Charles Franks	CEO

The Lloyd’s Executive Team and John Nelson have all publicly recognised the important role insurance has in mitigating and adapting to climate change and the devastating impact climate change can have on the insurance industry. This is demonstrated in the public presentations and speeches they have given that discuss climate change.

Forward planning

As a major player in the global economy, it is important that Lloyd’s acts responsibly. Lloyd’s is already highly regarded for the corporate social responsibility activities undertaken in its local communities. As the market grows and diversifies, so does this activity. This responsibility also applies to business practices. The Lloyd’s market should aspire to the highest standards in business conduct and ensure its customers are fairly treated at all times. Lloyd’s also wants to use its experience and expertise to help communities around the world build resilience against disasters, including the effects of climate change and extreme weather events.[154]

The Corporation of Lloyd’s aims to produce thought-leadership reports on the issue of climate change, such as the Catastrophe Modelling and Climate Change report, and intends to look at new initiatives to complement and drive action on Vision 2025.

John Parry, Director, Finance, is the Executive Team sponsor responsible for ClimateWise activities, which are

[i] Clive Washbourn also heads up the Responsible Business Committee.

discussed and approved each year. The Corporation publish details of activities taken to address climate change on our website. The Corporation of Lloyd's also continued to be involved in ClimateWise collaborations and continue to hold a place on the ClimateWise management committee, where we contribute to the programme strategy and direction.

Over the last reporting year this has included a series of COP21 activities, the development of ClimateWise, and activities such as the 'Investing for Resilience' workstream.

Members of Lloyd's Executive Team and Lloyd's Chairman John Nelson have publicly recognised the important role insurance has in mitigating and adapting to climate change and the devastating impact climate change can have. This is demonstrated in the public presentations, speeches and project commitments over the last reporting year covered throughout this document.

Global CSR is one of the strategic objectives, and the Corporation takes action to address the environmental impact of Corporation operations. The Corporation report carbon emissions publically each year to demonstrate the impacts of these actions.

In addition, the Director, Finance[j], The Director of Operations[k], and The Performance Management Director[l], have responsibilities under their 'directorate management functions' to, "to promote the Corporate and Social Responsibility (CSR) agenda and specifically to progress Lloyd's CSR objective of using its position and voice to inform and encourage appropriate action on global social and environmental issues of relevance to insurance, such as climate change, whilst ensuring its internal practices support its external messages"'.

These terms of reference implement Lloyd's governance arrangements by which the Council operates. They also set out the terms of the delegation of authority to the Franchise Board and other committees, panels, boards and persons and permit for sub-delegation including to the Lloyd's executive. These are made pursuant to Section 6(5), (5A) and (5B) Lloyd's Act 1982 and Part 4 of the Constitutional Requirements (in the Constitutional Arrangements Byelaw) and are subject to any applicable provisions in Lloyd's Acts, Byelaws and in the Constitutional Requirements.

Evidence also applies to principle(s): 1, 2, 3, 4, 5, 6.1

Source(s): Lloyd's 2014 Annual report [35], Lloyd's terms of reference[155], Lloyd's Vision 2025[1]

6.1.2 Lloyd's / The Market / Amlin / Amlin's commitment: James Illingworth, Chief Risk Officer

The Board is responsible for Amlin's risk management and internal control systems. A continuous process was established for identifying, evaluating and managing the significant risks facing the Group. This process has been in place from the start of 2015 and includes risks arising from social, environmental and ethical matters, in accordance with the FRC Risk Guidance (September 2014), which has now superseded the Turnbull Report.

Risk is managed through a number of processes including: defined tolerances or risk limits; risk assessment on an enterprise wide basis; an emerging risks process; underwriting analysis and pricing; exposure collation and monitoring; and portfolio modelling and stress testing.

Operational risks and opportunities are identified and acted upon either as part of our general risks management framework or on an ad hoc project basis. There are relatively few climate change risk arising directly from Amlin's operations as an insurance company.

The main thrust of Amlin Plc.'s (Amlin) future vision is to be the global reference point for quality in each of our markets. This vision is underpinned by a set of core values which all employees, wherever based, are expected to consider and follow in their engagements with all of Amlin's stakeholders, whether they are external or internal. It is Amlin's policy to conduct all aspects of its business in an honest, open and ethical manner.

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[j] P. 77 Terms of Reference

[k] P. 80 Terms of Reference

[l] P.97 Terms of Reference

Amlin's aim is to build our business in a sustainable manner, through the consistent application of our values in the relationships that we enjoy with our clients, employees, shareholders and other stakeholders.

In 2015 Amlin launched a Client Experience Programme which develops our intention to place the interests of our clients and customers at the heart of everything we do and to treat them fairly at all times. This requires behaving with integrity, honesty and transparency and delivering fair outcomes for our clients. Work is progressing well on product design and our claims approach.

We seek to make a positive contribution to the communities in which we operate and to embed integrity and professional excellence in all aspects of our business practices.

This document includes examples from across the world where Amlin has demonstrated its commitment to these values. The case studies are separated into the various principles that they are striving to uphold.

These examples include:

- Our innovative partnership with Oxford University to understand systemic risk;
- The investment that has been made in the latest technologies to ensure we provide the optimum levels of cover against flood risk;
- The payment on account scheme we have in place with key brokers to provide fast settlement in the wake of major catastrophe events;
- Our responsible investment practise;
- The move to new and more eco-friendly and sustainable premises in London and Chelmsford.

Amlin are proud to be a member of ClimateWise, striving to deliver actions - individually and collectively - against the ClimateWise Principles.

James Illingworth, Chief Risk Officer, (CRO) at Amlin plc. prior to acquisition (and subsequently CRO at MS Amlin)

Evidence also applies to principle(s): All.

Source(s): Amlin

6.1.3 Lloyd's / The Market / CHUBB / CHUBB Improves Environmental Ranking on Newsweek Green 2016 List

Chubb has been named one of the top green companies in the world by Newsweek magazine in its annual ranking of the world's largest companies on corporate sustainability and environmental impact.

Based on legacy ACE data measuring environmental performance in areas including waste reuse and recycling, water usage and greenhouse gas emissions, the company ranked 268 among Newsweek's top green companies in the world —an improvement over its 2015 ranking of 272.

The Newsweek Green Rankings are one of the world's most recognised assessments of corporate environmental performance. The U.S. 500 study ranks the 500 largest publicly-traded companies in the United States by market capitalisation, while the Global 500 study looks at the 500 largest publicly-traded companies globally by market capitalisation. Companies are compared against their industry group peers and the rankings are reviewed by a panel of leading sustainability practitioners.

Evidence also applies to principle(s): All.

Source(s): Newsweek Green rankings[156].

6.1.4 Lloyd's / The Market / CHUBB / CHUBB Operations Statement: Andrew Kendrick, SVP, Chubb and President, Europe

CHUBB and the Environment

From the world's communities to our customers, employees and shareholders, climate change affects everyone. Living up to our environmental responsibilities is therefore important to CHUBB and we appreciate how our work can help protect everyone from the consequences of climate change.

The risks posed by climate change are serious issues for the insurance industry, as it is our business to provide security from the worst of its effects, including hurricanes, windstorms, flooding and drought. We also recognise that this growing exposure to weather related risks may drive insurance costs higher. So it is vital that CHUBB acts internally and externally on making a positive difference to the environment.

Putting our words into action

CHUBB launched its corporate environmental programme in 2006. In September 2014, CHUBB announced a new companywide goal to reduce emissions 10% per employee from 2012 to 2020. In June 2007 CHUBB began participating in the US Environmental Protection Agency's Climate Leader Programme, pledging its commitment to reducing corporate greenhouse gas emissions.

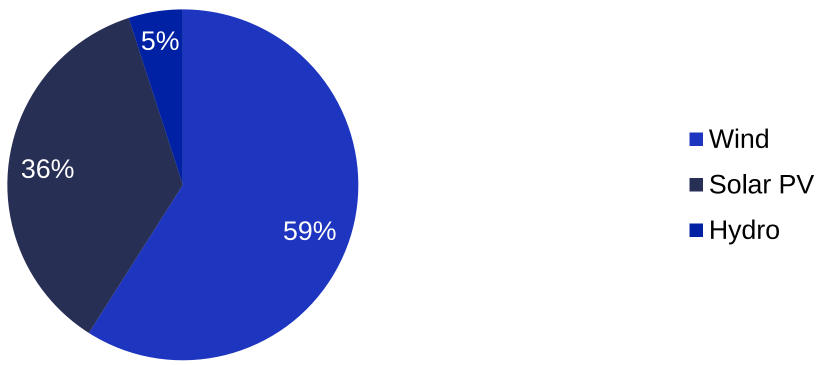
In Europe we have mirrored the US pledge though our position as a founding signatory of the ClimateWise initiative: a group of leading insurers dedicated to acting on climate change and reporting publicly on performance.

While CHUBB European Group's environmental impact is relatively small we are doing all we can to reduce if further throughout our offices. In the UK for example, CHUBB is reducing waste produced in its offices and upgrading boilers to improve energy efficiency.

Natural Renewable Energy in Chubb's European Head Office

Amid the growing appeal of corporate investment in the use of renewable energy, Chubb deployed natural renewable energy in the London, UK office. This location is one of its biggest energy consumption sites in London. This comes as part of Chubb's initiative to embrace the forces of nature to generate energy with minimal environmental impact and contribute to the economic and social development of the communities where Chubb operates. The natural renewable energy utilises natural sources such as the sun, wind and water to generate power. In the year 2014/2015 the natural renewable energy mix consisted of 59.0% of wind, 36.1 of solar PV and 4.9% of Hydro (water) (*see, below*).

Natural Renewable Energy Mix (Figure 22)



Despite the relative price gap between natural renewable energy and conventional energy Chubb has taken the lead as it is a true market leader to walk the walk and talk the talk in promoting green initiatives and reducing harmful pollution. Through the deployment of natural renewable energy Chubb's carbon dioxide emission has tremendously reduced, based on an annual consumption of 10,874,568 kWh the carbon reduction is 5,654,775 kgCO2 per year.

While the EPA's Climate Leaders programme was discontinued in late 2011, our Corporate GHG Inventory Programme is still actively using its methodology, which is based on the World Resources Institute and the World Business Council for Sustainable Development (WRI/WBCSD) GHG Protocol for data collection and analysis. CHUBB has gained valuable knowledge and skill related to climate change issues through the Climate Leaders initiative and is proud to have been one of only a few insurance company partners in the programme.

In 2014, CHUBB was designated a "Leading" company by Ceres, the non-profit sustainability organisation, in its first ever report Evaluating climate risk disclosures by insurers.

CHUBB was one of only nine companies out of 330 ranked to earn this distinction. The report, 2014 Insurer Climate Risk Disclosure Survey Report & Scorecard: Findings & Recommendations, ranked insurance companies based on six climate-related indicators, including governance, risk management, investment strategies, greenhouse gas management and public engagement.

To achieve our GHG reduction goals, we have aggressively worked to make reductions within our operations. Our plan focuses on reducing our energy consumption at the facility level — primarily in our owned buildings and larger, long- term leased spaces. For example, CHUBB created a targeted energy policy for its operations in Europe, a region that includes 19 countries. The policy aims to reduce GHG emissions by establishing building energy benchmarking and pursuing short-term objectives that reduce energy consumption within the region. As part of this policy, CHUBB has conducted an energy audit at the London, U.K. office, and has identified GHG reduction opportunities that have been implemented successfully to date. Projects in London include: increased chiller temperature set points, installed AHU heat recovery, changing plant running times and an array of lighting controls. A number of other projects are still in planning stage, but the energy efficiency projects that have been implemented have significantly reduced energy consumption at the building.

CHUBB has also implemented many energy efficiency projects at our Sydney, Australia office, one of the largest buildings in our real estate portfolio. Projects completed since a 2012 energy audit include: HVAC control/Building Maintenance System (BMS) upgrades, installation of an energy dashboard and a lighting retrofit that includes common areas as well as all CHUBB offices within the building. Energy consumption at the building has been reduced 29%.

In addition, CHUBB is currently investigating GHG reduction initiatives at three of our offices in Monterrey, Mexico.

Energy efficiency projects from this energy audit are expected to be implemented in 2016.

During the integration of ABA Seguros and CHUBB Fianzas Monterrey into CHUBB's new building in Mexico City in 2014, the local integration team moved 550 employees from seven office locations. In addition to establishing a recycling programme and eliminating plastic water bottles and Styrofoam, approximately four tons of paper were recycled during the move.

CHUBB is continually monitoring its real estate portfolio to identify opportunities to reduce energy consumption and promote energy efficiency at its owned and long-term leased buildings.

Another approach to reducing our GHG emissions is to reduce our overall real estate square footage by condensing office locations and making work spaces more efficient.

Applying new company standards for the number and size of office and cubicle spaces not only reduces total real estate per-person square footage, but allows more light into the space, which decreases electricity consumption.

Emissions from mobile combustion — which account for 15% of CHUBB's GHG inventory — include our global fleet of vehicles and aircraft.

CHUBB manages its flight-related emissions by operating new, ultramodern jet aircraft equipped with the latest engines, wings and avionic design technologies, making them leaders in their respective aircraft categories for efficient flying. These advanced capabilities allow CHUBB's aircraft to operate at very high altitudes and consume less fuel. These advanced aircraft also fly optimal routes, which have shorter distances between world destinations, saving fuel and, ultimately, the release of GHGs.

CHUBB has implemented green building practices and, in a number of locations, has pursued the U.S. Green Building Council's LEED certification. Green building practices help improve indoor air quality, address resource management and reduce building water use. Our North American headquarters building in Philadelphia earned LEED Silver certification in 2009, becoming the city's first LEED-certified existing building. During the next five years, CHUBB increased the amount of energy efficient lighting (raising the Energy Star score from 73 to an 84), supported alternative commuting methods (public transportation, walking, biking, etc.) and implemented other green building initiatives at the location. In November 2014, the Philadelphia building earned LEED Gold recertification.

In 2011, our Bermuda executive office building was awarded LEED Gold Certification under the LEED for Existing Buildings: Operations and Maintenance rating system, making it the first building on the island to earn LEED certification. In 2014, CHUBB was one of the first companies to engage with the USGBC to adopt the LEED Dynamic Plaque system for the building. Dynamic Plaque is a building performance and monitoring tool. It is continually scoring the building based on five different categories: energy, water, waste, transportation and human experience.

Because the building is continuously being scored on a one-to-100 scale, the LEED Dynamic Plaque encourages stakeholders to make meaningful improvements to the building based on observations gained from their score.

In addition to high levels of energy efficiency, the Philadelphia and Bermuda buildings each have a comprehensive indoor air quality programme, a green cleaning programme, a commitment to sustainable purchasing and waste management, and an integrated pest management plan that, together, combine to provide CHUBB employees a safe and comfortable working environment with minimal impact to the natural world.

Andrew Kendrick

SVP, Chubb and President, Europe

Evidence also applies to principle(s): 1.1, 2.1, 3.1, 3.4, 4.2, 4.3, 5.1, 5.2, 6.1, 6.2

Source(s): CHUBB.

6.1.5 Lloyd's / The Market / Navigators Underwriting Agency Limited / Navigators statement: Stephen Richard Coward, Director, NUAL and President, Navigators Technical Risk.

Further to prior years' reporting for ClimateWise, below is the 2016 Report with regard to Navigators latest position, as part of the Lloyd's community, with the six core principles (and their sub-principles) of ClimateWise in mind:

1. Lead in risk analysis
2. Inform public policy making
3. Support climate awareness amongst customers
4. Incorporate climate change into investment strategies
5. Reduce environmental impact of our business
6. Report and be accountable

As part of the Lloyd's community the report is in the form of activities relating to the 2015 calendar year (reporting period), demonstrating how we contribute to a low carbon resilient economy. We do however note that in the current challenging market conditions for ourselves and those in the Oil and Gas sector for our clients, focus in regard to ClimateWise in this reporting period has been on sustaining existing initiatives and activities, rather than actively pursuing new areas, which is reflected in the nature of our 2016 update.

As in the past, we report primarily against our main activity relating to Principle 3. We have also for this reporting period been able to show further progress in our submission against Principle 1, and advise future activity in regard to Principle 5.

ClimateWise remains a long term strategic view of Navigators, and we have in the reporting period signed a letter from global leaders across the global insurance sector in support of the Prudential Regulation Authority's position on climate change.

Attention is also drawn to Navigators 2015 Annual company report, where we acknowledge the potential impact of natural catastrophes in a world of changing climatic conditions in materially reducing profit in our business sector, giving further emphasis to the need for ClimateWise and its six principles.

Stephen Richard Coward

Director, NUAL and President, Navigators Technical Risk

Evidence also applies to principle(s): All.

Source(s): Navigators Underwriting Agency Limited.

6.1.6 Lloyd's / The Market / QBE / Embedding awareness of ESG issues into our decision-making

Risk management is at the heart of QBE's business as a global insurer and reinsurer. While our attention is primarily focused on helping our customers manage their risks, we apply the same approach to managing the risks and sustainability challenges we face as a business.

In relation to company strategy, QBE has robust corporate governance and ensures ESG issues are considered in our decision-making. QBE's corporate governance framework encompasses the eight principles issued by the ASX Corporate Governance Council, which include principles relating to recognition and management of risk. QBE's Risk and Capital Committee is responsible for overseeing the design and implementation of QBE's risk management framework, which includes reviewing the process of risk identification, assessment and management. Reviewing material risks, including emerging risks, is also within the scope of this committee.

Awareness of emerging risks, including ESG issues, is also addressed within our divisions by local boards and committees. For example, QBE European Operations established an Emerging Risks Group (ERG) in 2007 in order to better co-ordinate the process for identification and management of emerging risks.

ESG issues, particularly environmental risks, are reflected in our approach to underwriting across the business. QBE recognises the impact climate change can have in terms of potential claim activity as well as the potential for extending and adapting our product lines and services in response to the changing world. Early identification is the key to managing these risks. It is also central to instilling confidence in our customers that QBE has the capability to assess the risks they face, and to recommend mitigation actions to manage exposures.

More broadly, QBE has a strong track record in developing products and services which encourage better risk management and that improve community understanding in relation to risk, insurance and ESG issues. Our Risk Solutions offering is the UK market leader in providing a broad suite of services to encourage better risk management. The product focuses on reducing risk, including environmental risk.

In 2015, QBE pioneered an initiative that combines our investment management activities with the integration of ESG messages into QBE's sales and marketing of insurance products. Known as Premiums4Good, this initiative allows targeted customers to direct a proportion of their premium to be invested in securities with an additional social objective. Examples of these investments include Social Impact Bonds, green bonds and investments into infrastructure projects with social benefits. Through this project, QBE is playing a part in stimulating the development of new investment products which offer strong risk-adjusted returns as well as supporting beneficial social outcomes.

An investment consistent with the Premiums4Good ethos was QBE's $20 million investment in the Future Generation Global Investment Company (FGG) initial public offering on the Australian Securities Exchange in 2015. FGG is a listed investment company committed to transforming youth mental health in Australia. Investment managers selected to manage the FGG portfolio donate their professional services while FGG donates 1% of net tangible assets to selected Australian non-profit organisations with a focus on youth mental health.

Evidence also applies to principle(s): All.

Source(s): QBE Insurance Group Annual Report 2015[157]

6.1.7 Lloyd's / The Market / QBE / QBE Statement: Joe Gordon, Chief Operations Officer

QBE recognises that economic, environmental and social issues are critical to the sustainability of all businesses over the longer term, and that the insurance industry has an important role in ensuring these issues are appropriately prioritised across society. In order to provide a focus for QBE's activities in this area, in late 2015 QBE became a signatory to the United Nations Environment Programme Finance Initiative: Principles for Sustainable Insurance (UNEP:PSI).

The Principles are a framework for the global insurance industry to address environmental, social and governance risks and opportunities. The United Nations hopes that insurers that embed sustainability in their business operations can catalyse the kinds of financial and investment flows and long-term perspectives needed for sustainable development.

QBE has a track record of developing products and services which encourage better risk management and that improve community understanding in relation to risk, insurance and sustainability issues. In particular, QBE recognises the impact climate change can have upon a business in terms of potential claim patterns and also the potential for extending and adapting its product lines and services to take account of the changing world.

Further information about how QBE approaches sustainability and environmental, social and governance issues more broadly can be found in the 2015 Sustainability Report.

Joe Gordon

Chief Operations Officer, QBE

Evidence also applies to principle(s): All.

Source(s): QBE Group 2016 Corporate Governance Statement[158]

6.1.8 Lloyd's / The Market / RenaissanceRe Syndicate Management Ltd / Renaissance Re Holdings Ltd. reference to climate change in 2015 Annual Report

Included in RenaissanceRe Holdings Ltd. 2015 Annual Report (page 33-34) is a section on environmental and climate change matters. This exhibits specific commitment to ClimateWise principle 6.2 as the statement is included in an annual report that is publically available and distributed to all shareholders communicating recognition of these issues:

> ***"ENVIRONMENTAL AND CLIMATE CHANGE MATTERS***
>
> *Our principal economic exposures arise from our coverages for natural disasters and catastrophes. We believe, and believe the consensus view of current scientific studies substantiates, that changes in climate conditions, primarily global temperatures and expected sea levels, are likely to increase the severity, and possibly the frequency, of weather related natural disasters and catastrophes relative to the historical experience over the past 100 years. Coupled with currently projected demographic trends in catastrophe exposed regions, we believe that this expected increase in severe weather contributes to factors which will increase the average economic value of expected losses, increase the number of people exposed per year to natural disasters and in general exacerbate disaster risk, including risks to infrastructure, global supply chains and agricultural production.*
>
> *Accordingly, we expect an increase in claims from our property and casualty lines of business, especially from properties located in coastal areas. While a substantial portion of our coverages may be adversely impacted by climate change, we have taken certain measures to mitigate losses through our underwriting process, and by continuously monitoring and adjusting our risk management models. However, despite our best efforts to ensure that our assessments accurately reflect environmental risks, we cannot predict with certainty the frequency or severity of tropical cyclones or other catastrophes. Unanticipated environmental incidents could lead to additional insured losses that exceed our current estimates, resulting in disruptions or adverse impacts on our business, the*

market, or our clients. Further, certain investments, such as catastrophe-linked securities and property catastrophe managed joint ventures related to hurricane coverage, or other assets in our investment portfolio, could also be adversely impacted by climate change.

In addition to the impacts that environmental incidents have on our business, there has been a proliferation of governmental and regulatory scrutiny related to climate change and greenhouse gases, which will also affect our business. Although most regulations related to climate change and greenhouse gases do not directly apply to our business, these regulations could indirectly impact our business. While we cannot protect against all unforeseen risks, we nonetheless believe that our existing policies and procedures are properly designed to identify and manage environmental and climate related risks, in particular, potential financial liability in connection with our reinsurance and insurance business."

Evidence also applies to principle(s): 3.1, 4.3, 6.1

Source(s): RenaissanceRe Syndicate Management Ltd.

6.1.9 Lloyd's / The Market / Tokio Marine Kiln / Our Commitment to Climate Change

One of the remarkable things I have witnessed in my lifetime is how commerce has improved the lives of millions of people around the world. Development has meant access to basic needs such as clean water and food, which in the UK we take for granted, has significantly improved for many.

Yet despite the benefits that globalisation has produced, there have been victims. Undoubtedly one of the victims in the post-war period has been the environment. Until recently commerce ploughed ahead with little regard for associated environmental impacts it produced. More planes carrying more businesspeople around the world was good for international trade, global economic growth and therefore the lives of ordinary citizens. It is only recently that we have stopped to consider seriously the impact this may have on the next generation as a result of irreparable climate change.

The Lloyd's insurance market stands as a central figure in this march of commerce. We underwrite risks around the world that cross all industries, from ancient risks such as marine hull to state of the art, digital risks such as cyber. This puts us in a crucial and advantageous position to influence business behaviour and encourage environmentally friendly standards. This is something we should look to do in our products and services so that being 'green' is no more expensive for our clients than traditional methods.

But we can't ask of our clients what we don't do ourselves. We have to maintain the highest standards and those who operate within Lloyd's must have environmentally friendly services, processes and systems. We must also ensure that those we work with are focusing on the environment; this means raising the awareness of all service providers, but particularly the investment industry where the insurance market is one of the main contributors of funds. We need to keep high standards for our fund managers so their investments are green and ethical. Finally, we need to ensure our ways of working are efficient, this goes down to a micro level of encouraging good staff behaviour such as recycling and cutting down on printing. It all adds up and our standards must be scrupulous.

The Lloyd's market has been insuring risk for centuries and partly what has made this possible is its unique ability to resist short-term fashions or trends. This is one recent change that we must not ignore, we owe it to those who come after us, around the whole world, to protect the planet today. We must continue to use our position of influence to encourage environmentally friendly behaviour in business and hold ourselves to the same high stands that we expect from others.

Charles Franks

Chief Executive Officer, Tokio Marine Kiln

Evidence also applies to principle(s): 4.3, 5.4, 6.1

Source(s): Tokio Marine Kiln.

6.2 Publish a statement as part of our annual reporting detailing the actions that have been taken on these principles.

6.2.1 Lloyd's / The Corporation of Lloyd's / Annual reporting

The Corporation continues to publish the ClimateWise annual statement and report publicly on behalf of the Corporation and Market members on Lloyds.com. The statement is found within the "Environment" section of the website, and is mentioned within various strategy documents and webpages.

Following internal and external feedback, the Corporation of Lloyd's continues to submit the report for both the Market and the Corporation in a single pdf document. This is believed to be more user-friendly and more accessible, and allows the Corporation internal community of staff and market participants – along with outside parties – to review the ways members are implementing, planning, and promoting activities that align with the ClimateWise principles.

The Corporation views this method as being more environmentally sustainable, and sits within the Corporation's Carbon Reduction programme to reduce the environmental and energy footprint[159].

Evidence also applies to principle(s): 1, 2, 3, 4, 5, 6.1

Source(s): Lloyd's 2014 Annual report [35], Lloyd's Vision 2025[1]

7 Supporting documents

7.1 The Corporation of Lloyd's

The Corporation of Lloyd's – 1 – All-Party Parliamentary Climate Change Group 25 Apr 16 - Climate Change and the insurance sector

The Corporation of Lloyd's – 2 – CEO Climate Leaders – NY ad COP21

The Corporation of Lloyd's – 3 – CEO Climate Leaders - statement and signatories_191115

The Corporation of Lloyd's – 4 – Disaster Risk Finance - How we prepare for and respond to catastrophes is an important issue for governments

The Corporation of Lloyd's – 5 – Geneva Association - Asia Flood - press release

The Corporation of Lloyd's – 6 – Resilient Supply Chains - A Strategic Dialogue in London October 19th 2015

7.2 The Market

QBE

1 – 2016 Corporate Governance Statement

2 – Premiums4Good booklet

3 – Premiums4Good Investor Feedback Report

4 – QBE 2015 Sustainability Report

Tokio Marine Kiln

1 – Annual report 2015

2 – Tokio Marine Group CSR booklet 20153 – Sustainability Risk Assessment

3 – Tokio Marine Holdings - To be a good company - Sustainability report 2015

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