LLOYD'S

LLOYD'S CLIMATEWISE REPORT

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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.

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.

- Members – Providing the capital
  The capital, which enables the syndicates' underwriting, 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. Members' agents provide advice and administrative services to members as needed.
- Syndicates – Writing the insurance
  A Lloyd's syndicate is formed by one or more members joining together to accept insurance risks. Most syndicates write a range of classes of business but many will have areas of specific expertise. Much of this business involves face-to-face negotiations between brokers and underwriters in the underwriting room of the Lloyd's building in London, where most syndicates trade. 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. These ongoing operations allow for a strong level of continuity in the capital which backs syndicates, meaning they function like permanent insurance operations under the Lloyd's umbrella.
- Managing agents – Managing the syndicates
  A managing agent is a company set up to manage one or more syndicates on behalf of the members who provide the capital. Managing agents have responsibility for employing underwriters, overseeing their underwriting and managing the infrastructure and day-to-day operations.

Distribution

- Brokers
  Lloyd's is a broker market, with brokers involved in all distribution channels. The majority of business written at Lloyd's is placed through brokers who facilitate the risk-transfer process between clients (policyholders) and underwriters. Lloyd's has strong relationships with both large and smaller specialist brokers.
- Coverholders – Offering local access to Lloyd's
  A coverholder is a business authorised by a managing agent to accept insurance risks on behalf of a syndicate. They are a vital distribution channel, offering a local route to Lloyd's in many insurance markets around the world. In 2014, Lloyd's had 3,872 coverholders. Its largest coverholder markets are currently the US, Canada, Europe and Australia, but Lloyd's coverholders can be found as far afield as Chile, Tahiti and South Africa.

  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. There are 321 service companies, with the majority in the UK and the US.
- Policyholders
  Businesses, organisations, other insurers and individuals from around the world want to protect themselves against potential risks. In larger businesses and organisations, risk managers are responsible for managing business risks. They manage the relationship with a broker and organise the purchase of insurance, which is one way of mitigating potential risks. Those wishing to purchase insurance may access the Lloyd's market via a broker, coverholder or service company.

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

Corporation of Lloyd's

Supporting the market

The Corporation of Lloyd's (the Corporation) oversees the market, provides processing services and promotes the Lloyd's brand. This includes the management of Lloyd's network of international licences.

The Corporation's Executive Team exercises the day-to-day powers and functions of the Council of Lloyd's (the Council) and the Franchise Board. At the end of 2014, the Corporation and its subsidiaries had 949 staff.

As well as providing services to support the efficient running of the market, the Corporation works to continue to raise standards and improve performance across two main areas:

- Overall risk and performance management of the market.
- Maintaining and developing the market's attractiveness to capital providers, distributors and clients, while preserving its diversity and London-based model.

Managing insurance risk

Each syndicate sets its own appetite for risk, develops a business plan, arranges its reinsurance protection and manages its exposures and claims. The Corporation reviews and agrees business plans, monitors compliance against Lloyd's minimum standards and evaluates syndicates' performance against their plans. Syndicates can only underwrite 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.

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'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.

Our 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[1].

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, and managing agents and brokers.

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 overseas territories, including emerging markets, through its global licence network.
- Lloyd's will be a subscription market, with efficient central services providing seamless processing to support face-to-face trading and world-class claims management.
- Lloyd's will be 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 peers. The increase in premium income in the largest ten developed economies will track or slightly exceed increases in non-life premium. In the largest ten 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 a 'risk selector' rather than a capital provider to a commoditised market. Lloyd's will provide innovative indemnity insurance-linked products.
- 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.
- 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.

1 LEAD IN RISK ANALYSIS

1.1.1 Lloyd's / The Market / ACE / ACE Risk Management Process

As one of the world's largest multiline property and casualty insurers, ACE 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 society depends on a healthy environment and that a proper ethic strives for a sustainable balance between development and preservation.

Risk management Process

As a global insurance company, assessing risk is a core competency for ACE. With operations in 54 countries, ACE'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 ACE's overall risk management process.

Catastrophe Modelling

ACE has been a leading proponent of catastrophe models to quantify natural catastrophe risk for product pricing, risk management and capital allocation purposes. ACE uses these models to aggregate and monitor its natural catastrophe exposures across its 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.

ACE's risk management modelling and underwriting practices continue to adapt 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, ACE 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.

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

ACE 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). ACE'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. ACE 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 ACE 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. For example, ACE has established a $95 million special purpose vehicle, Altair Re, to provide additional capacity to broadly support its global property catastrophe reinsurance portfolio. We are committed to the development of the capital markets as alternative or complementary mechanism to hedge risks. Insurers can play a key role in the origination and underwriting of risk and its placement into the capital markets. Such a partnership in conjunction with the public sector, will help transfer and spread the risks posed by climate change. We have demonstrated this commitment with the issuance of our own catastrophe bond, which provides fully collateralised protection against U.S. earthquake and hurricane exposures.

In addition, our investment portfolio, which backs the risks assumed through our insurance businesses, is highly diversified by risk, industry, location and type and duration of security.

Successful risk transfer from policy holders 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

ACE has participated in and supported science-based research to enhance the loss modelling response to climate change and is participating in loss modelling response to climate change and is participating in leading environmental information forums. Specific activities include:

- Membership in the Geneva Association (genevaassociation.org), an international insurance think tank representing 90 global insurance organisations, whose Climate Risk and Insurance project has been outspoken on climate change issues. ACE was part of a working group that produced a report on ocean warming and the implications for the insurance industry.
- Completion of CDP's annual survey to further support our commitment to reducing our carbon emissions. In 2013, ACE was named to CDP's Global 500 Climate Performance Leadership index (CPLI) and S&P 500 CPLI for the second consecutive year. ACE was the only insurer to appear on both lists each year. For the 2014 questionnaire, ACE scored a 93 for disclosure and an A for performance.
- Membership on the Reinsurance Association of America's (RAA) Extreme Events Committee, which focuses on catastrophe modelling improvements to reflect climate change. ACE supported the RAA's call for reform of the National Flood Insurance Programme (NFIP) in the U.S. Congress in 2012. 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. In 2013, IBHS provided testimony to a U.S. House of Representatives subcommittee on the enactment and enforcement of the Safe Building Code Incentive Act.

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

Source: ACE Group.

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[2]) and the Chief Risk Officers Forum report (Food and its impact on the risk landscape[3]) that the Emerging Risks and Research team contributed towards, 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 our next project cycle.

The Corporation of Lloyd's commissioned experts[a] 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.

Impact

The report was launched on 16 June 2015 at the Expo Milan by Tom Bolt, Director of Performance Management, and 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 has 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 has also been mentioned throughout Lloyd's social networks:

- Facebook: 6,000 followers[4]

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

- LinkedIn: 25,624 followers[5]
- Twitter: 26,578 followers [6b]

The report continues to produce news stories as part of our communications plan, which was developed in collaboration with our Italy office.

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

Source: Food System Shock report[7]

1.1.2 Lloyd's / The Corporation of Lloyd's / Cambridge Centre for Risk Studies

On 12 January 2015, the Cambridge Centre for Risk Studies (CRS) held the 2015 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, represents 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 our 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.

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

Source: CSR Advisory Board[8]

1.1.3 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[9]. 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 modeled output.

Amlin seeks to further the industry's understanding of the systemic risks of these models, their technological development and greater usage. Amlin in alliance with University of Oxford's Future of Humanity Institute, a part of the Oxford Martin School has written a joint report "Systemic Risk of Modeling", and an article based on this was published in Best's Review April 2015 titled "Possible side effects".

In the article the team, led by Dr Anders Sandberg of Oxford's Future of Humanity Institute and JB Crozet, Head of Group Underwriting Modeling at Amlin, warns that over-reliance on risk models might present even bigger risks than the perils they are designed to analyse[10].

These experts also raise the question: "The industry has learned to use the models, but have we learned to manage the risk of being increasingly reliant on them?"

The interconnected nature of systems, perception biases and an inclination to favour technology-based solutions over human judgment means catastrophic scenarios, that in earlier days might have been identified or prevented through observation and experience, could escape detection until they are more complex and lethal.

Amlin and Oxford authors write: "Unfortunately, the more the industry tends to rely on a single source of knowledge, the smaller the upside when it gets things right and the greater the downside when it gets things wrong (as one day it inevitably will)."

Sandberg, Crozet and other authors believe the problem stems from a human propensity to follow automation

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[b] Figures correct at time of submission.

decisions sometimes labelled the “autopilot problem.”

The authors suggest that insurers should be more comfortable in reporting uncertainty. They should also be careful about applying models developed for one domain to other areas.

The ultimate goal of modeling is resiliency. “You can make a resilient system by using a lot of different models or diversifying very strongly or having code that works in several different ways and knows what it should do,” Sandberg said. “But that’s really expensive.”

Sandberg and Crozet are not advocating against the use of models. Both expect models to continue to evolve and become more widely adopted. Their concern is that the certainty of models can make insurers less observant.

“Black swans tend to show up all the time. So instead we might want to get better at looking into models and use them in a more transparent way,” Sandberg said.

“I think people are recognizing this more and more. It might be that the underwriter of the future is not as much of a model user but rather managing the model, and looking into it saying ‘Why is it making this effect?’”

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 continues in 2015 and 2016.

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

Source: Amlin.

1.1.4 Lloyd’s / The Market / ArgoGlobal – Syndicate 1200 / Risk. Analysis. Dialogue.

This year our risk analysis efforts had somewhat of an academic profile. A significant amount of time was dedicated to analysing the impacts of sustainability on credit and surety pricing. Through a partnership with the University Cattolica Sacre Cuore of Milan, Italy we undertook detailed review of the impact of sustainability actions on the quality of risk and related pricing models.

The thesis developed under the guidance of Argo and completed by Ms Miriam Pedol was divided in two parts: in the first, we analysed the development of the topic of sustainability and its connection with the financial sector; in the second we dove deeper into the issues related to the insurance sector, particularly in the credit and surety line of business.

This work was supported by a number of underwriters and actuaries. Our next steps are to share the results of this research with a wider internal audience and eventually/potentially incorporating some of the pricing considerations in our models.

In addition to this highly analytical approach the Group continued to study the impacts of climate change on our business through participation in ClimateWise, UNEP FI Insurance Commission and participation in a number of workshops and conferences.

In particular we organized a session at the annual conference of the CPCU Society on Climate Change wherein Tony Cabot presented the insurers’ view together with Mr Butch Bacani of the PSI and Mr William Stewart, noted attorney specialized in Climate Change litigation in the US. The scope of this presentation was to identify the risks, possible mitigation strategies and engage the audience in the dialogue[11], [12].

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

Source: ArgoGlobal – Syndicate 1200.

1.1.5 Lloyd's / The Market / MSIG at Lloyd's / Risk research and action at MSIG

In 2014 and 2015, the activity has focussed on specific areas of research and innovation:

Improving the availability and accessibility of models and data to develop effective risk awareness and mitigation strategies through community initiatives

Contribution to the World Bank Understanding Risk Conference in July 2014[13].

In particular, MSIG chaired a session on 'plug and play' hazard and risk models, in conjunction with the World Bank, British Geological Survey, Renaissance Re, the main catastrophe modelling companies and OASIS as well as a wide range of scientific, governmental and NGO colleagues, to discuss the need for improved, open and accessible modelling tools and data to support effective risk assessment and knowledge sharing across all stakeholders, including insurers, NGOs, scientists, governments and communities. The report of the session can be found online[14].

The session attracted a wide range of attendees, and brought together the world's leading academic and commercial organisations, including Lloyd's and ClimateWise (https://www.lloyds.com/news-and-insight/news-and-features/environment/environment-2014/setting-the-agenda-on-climate-change), to explore ways to develop a community of knowledge and data provision that could be used to improve risk assessment, and ultimately improve awareness of extreme hazard and risk, and formulate better approaches to mitigation and resilience.

OASIS Solutions project

As a member of the OASIS group MSIG have contributed to the OASIS Solutions Project (OSP) which is providing validation of the OASIS platform for catastrophe risk assessment, enabling practical use of the platform and its interoperable structure, to improve risk assessment, including climate related variability.

In addition, MSIG has been working with the Royal Geographical Society (RGS), the Chartered Insurance Institute (CII) and Lloyd's Market Association (LMA) to promote the role of geographers in the insurance industry[15], particularly in respect to the application of geographical knowledge and skills in relation to the specific problems of climate related hazard and risk. Geography and geographers are naturally suited to interpreting and communicating the potential impacts of climate risk within the insurance field, and MSIG have taken a leading role in promoting the role of professional geographers in this area. This has included a workshop held at the Lloyd's Old Library, a CII presentation.

Ireland climate risk modelling

MSIG was also invited, in April 2015, to provide expert input to a workshop in Maynooth, Republic of Ireland, entitled:"NatCat modelling: Exploring Options to Improve Loss Estimation", along with Irish government agencies, Insurance Ireland, Maynooth University and a number of other Irish insurance companies. This workshop focussed on the options for developing joint modelling applications between government and insurance, which could foster improved risk understanding and assessment, particularly in relation to flood risk, and in which incorporation of climate change drivers and uncertainty understanding was a key consideration, especially in the potential for governmental data to be combined with insurance risk information to develop more confident frequency-severity models. In particular, the workshop highlighted the value for insurers to enter into regular and open dialogue with academic researchers and agencies, as this enables a more effective and mutual understanding of the concepts underlying hazard and risk, which are critical for successful collaboration.

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

Source: MSIG at Lloyd's

1.1.6 Lloyd's / The Market / RenaissanceRe Syndicate Management Ltd / Global ocean circulation model

Under the URI-WPC Research Partnership Program we continue to examine the magnitude and cumulative footprint of subsurface ocean warming forced by tropical cyclones, using a high-resolution global ocean circulation model. The analysis of a new 20-year simulation using the best track global tropical cyclone dataset reveals that both zonal and meridional transports play a key role in redistribution of the TC-induced warm anomalies between the ocean regions.

Research project process and progress

AREA	INPUT	OUTPUT	OUTCOMES
Examining magnitude & cumulative footprint of subsurface ocean warming forced by tropical cyclones.	Using a high-resolution global ocean circulation model.	Analysis of a new 20-year simulation using the best track global tropical cyclone dataset.	Both zonal and meridional transports play a key role in redistribution of the TC-induced warm anomalies between the ocean regions.

The results demonstrate:

- Significant accumulation of TC heating in some regions. In the East Equatorial Pacific and North Indian Ocean the temperatures between 50-150 m depths increase as much as 0.25 degrees C.
- Heat anomalies generated by tropical cyclones in the western Pacific propagate continuously to the East Equatorial Pacific.
- Most of the heat anomalies in the North Indian Ocean are imported from the western Pacific through the Indonesian Throughflow and the South Indian Ocean.
- Most of the anomalies in the North Atlantic are ventilated back to the atmosphere by the winter mixed layer deepening.
- Accumulation, transport, and ventilation of TC-induced heating in the tropical Pacific is modulated by the large-scale climate variability. The ENSO cycle either enhances or suppresses the west-east zonal equatorial transport and upwelling of the warm anomalies.
- TC-induced heating tends to reduce the amplitude of the El Niño and La Niño events and thus dampen the ENSO signal. The latter suggests potentially important impact of tropical cyclones on the global climate variability.

Forward planning

A paper describing these results in now being prepared for the Journal of Climate.

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

Source: RenaissanceRe Syndicate Management Ltd.

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.

The below table shows the research funded in the 2014/2015 academic year:

LTFR funding awarded

Year	Name	Position / Institution/ Department	Host Institution/ Department	Project Title	Project Duration
2014/15	Dr Helen Dacre	Lecturer, University of Reading, Department of Meteorology	University of Alaska-Fairbanks, Geophysical Institute,	Improving the accuracy of volcanic ash forecasts	3 months
2014/15	Ms Megan Davies Wykes	PhD student, University of Cambridge, Department of Applied Mathematics and Theoretical Physics	New York University, Courant Institute of Mathematical Science	Flow-structure feedback processes in geophysical fluid dynamics	10 months

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: http://www.lloyds.com/ltrf

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

Source: Lloyd's Tercentenary Research Foundation[16]

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 / Worldwide Programme - Smart Thinking & The World of 2025

Lloyd's Global Development Centre (GDC) designs, develops, coordinates and delivers a programme of educational and networking events that promote Lloyd's as the leading specialist (re)insurer. The GDC events programme features presentations that socialise research projects to the Market. These presentations have included topics that cover at climate change and environmental risks.

In October, Lloyd's welcomed 19 experienced broking professionals from 14 countries in Asia, Latin America, Europe, the Middle East and Africa. The 'Smart Thinking: World of 2025' programme provided participants with the opportunity to hear from leading experts on some of the key global challenges of the coming decade. The participants, 19 experienced broking professionals from 14 different countries, also had the chance to engage with Lloyd's underwriters and others in the wider Lloyd's community, and heard how they are already applying innovative thinking in the development of risk solutions to meet current and future needs.

Participants spent the week immersed in the Lloyd's market seeing first-hand how business is transacted and gaining a deeper understanding of the classes of business underwritten. As part of the programme, the group met a wide variety of market participants and those from the wider Lloyd's community through social networking events.

The key classes and products covered in the programme included:

- Agriculture[17]
- Cyber risk
- Supply chain
- Liability
- Terrorism and Political Violence
- Political Risk
- Energy – Upstream[18]
- New Energy
- Power
- Renewables[19]

The group also gained insight into some of the urbanisation challenges for insurance, the vulnerability of modern societies and the growth of megacities. There were also opportunities to gain greater understanding of the workings of the Lloyd's market including the Market's response to Catastrophe (CAT) events and the handling of claims.

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

Source: Lloyd's Global Development Centre[20]

1.3.2 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 of Lloyd's reported against a new report, Catastrophe Modelling and Climate Change. The Corporation of Lloyd's continues to promote it and it continues to generate interest in the findings.

Continued impact

The Corporations of Lloyd's contribution toward science and modelling was discussed during the Understanding Risk conference with the emergence of open source models being a key topic. On 2 July 2014, Trevor Maynard, Head of Exposure Management and Reinsurance, spoke during a session on the challenges and opportunities for a joined up modelling world. The session was chaired by Matt Foote, Manager, Catastrophe and Exposure, Mitsui Sumitomo Insurance.

"We discussed whether it is possible to have modelling in open formats so that modellers from around the world can build models that talk to each other properly," commented Trevor Maynard when asked publically about the subject. "It's really important because it means you can get multiple views of risk and you're not so embedded with one model. It's something Lloyd's has been encouraging through the Oasis framework."

"A further meeting on the topic saw 50 people from different modelling backgrounds discuss the meaning of interoperability," he adds. "What came out of the meeting was an agreed way forward, to come together again in the future and to take some steps now. The trend of modelling platforms allowing multiple models is really positive."

Oasis is a not-for-profit initiative supported by Lloyd's and other industry players and backed by the EU-funded Climate-KIC programme. It is working with the UK Met Office, University College London, Karen Clark & Co, JBA Risk Management and Perils AG, among others, to bring the insight and analytics from a community of experts together in one place.

Open source initiatives allow a wide range of hazard experts and scientists to share their models and information on a common platform, which it is hoped will improve overall understanding of risk. The aim is to bring more transparency and openness to catastrophe modelling and in the process improve the understanding of the level of uncertainty that exists within the model results.

"Each major catastrophe gives us insight into the natural world and the impact of disasters on society. The insurance industry learns from each event, for example the sheer size of Superstorm Sandy - a culmination of two different weather systems. The levee failures led to large claims emanating from flooding of New Orleans following Hurricane Katrina in 2005. Since then the models have significantly strengthened their modelling of storm surge," commented Trevor Maynard.

More recently in 2011, the magnitude 9.0 Tohoku quake provided lessons (scientists had not predicted an earthquake of such magnitude) or that the tsunami could have such an impact. Moreover, in New Zealand, it was not known a rupture fault existed in Christchurch where there were two major earthquakes in 2010 and 2011, punctuated by hundreds of aftershocks. The impact from secondary perils such as liquefaction was also unexpected. Despite this, models have significantly strengthened the insurance industry by helping us to conceive of events that are larger than those that have been experienced recently.

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, thinks Trevor Maynard. "The models can be used to explore what the future environment would look like," he says. "We worked with catastrophe modelling company Risk Management Solutions to look at the impacts of a higher sea level on coastal properties in our coastal communities and climate change report."

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

Source: Lloyd's.com news story[21], Understanding Risk conference agenda[22]

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 / A treasure trove of big data

Since 2013 Corporation of Lloyd's has run an annual data and intelligence day, which this reporting year took place on 15 October 2014. Many insurers are already focused on extracting insights from the vast amounts of data they currently hold. Joining up multiple sources of data can also have significant benefits when handling claims, as was seen in the recent prolonged severe flooding in parts of the UK. Insurers were able to use digital terrain data from Ordnance Survey and Google to predict how inland and coastal flooding might develop and monitor its spread, alerting claims teams and loss adjusters as well as spotting potentially fraudulent claims that fell outside the affected areas.

As every aspect of life and business becomes digitised, so too does our ability to understand how individual events relate to each other and this will change the way we live. In 2008, the number of devices connected to the Internet surpassed the 6.7 billion people living on the planet. Depending on who you believe there could be as many as one trillion devices connected to the Internet by next year. The information recorded by these devices – the Internet of things – creates a titanic treasure trove of big data for insurers, and they're pushing hard to analyse it effectively and apply the findings to their businesses.

The 2014 event, which was open to Lloyd's managing agents, featured a talk on Small and Big Data - Risks & Opportunities, which was given by Corporation staff Nick Beecroft, Manager, Emerging Risk & Research and Markus Gesmann, Manager, Analysis. The talk touched on the potential for big data to help define and explore uncertainty, and the history of risk transfer being a key enabler of technology innovation. The 2011 Thailand floods were used as an example to illustrate the reliance on catastrophe models and how in the absence of historical data, scientific research is applied to assess hazard, vulnerability and exposure.

Evidence also applies to principle(s): 1.3

Source: Lloyd's Global events page[23]

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

We continue to see turbine manufacturers push design and technological boundaries in pursuit of greater fuel efficiency, which can come at a direct cost to the insurer.

Navigators' Risk Engineers maintained dialogue with these major European, Japanese and American manufactures 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: Navigators Underwriting Agency Limited.

2 INFORM PUBLIC POLICY MAKING

2.1.1 Lloyd's / The Corporation of Lloyd's / Speeches

As stated in its Corporate Social Responsibility strategy for 2014-2016, Lloyd's 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". Lloyd's has been using different communication tools to raise the issue of climate change, including social media, blogs, its websites and speaking opportunities.

The Corporation of Lloyd's believes that the insurance industry is in a unique position to be able to encourage mitigation and adaptation. We therefore participate in cross-industry, UK and international projects and initiatives including the London Climate Change Partnership. We 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, we are also engaged in numerous activities to encourage and facilitate adaptation on top of our efforts.

Throughout 2014-2015, Corporation staff have continued to speak publicly about the issue of climate change and to present the work of Lloyd's on mitigation and adaptation:

Senior speaking engagements mentioning climate change

Date	Title	Speaker	Event
28/05/2015	Vision 2025 and AAMGA	John Nelson, Chairman of Lloyd's	AAMGA
12/05/2015	Lloyd's and Singapore: Working Together for a Prosperous Future	Inga Beale, Lloyd's CEO	Singapore General Insurance Association
06/01/2015	Turning a threat into an opportunity	Inga Beale, Lloyd's CEO	IIL lecture
11/11/2014	India, Lloyd's and how insurance fuels sustainable growth in Indian economy	John Nelson, Chairman of Lloyd's	Indian Insurance Summit
03/09/2014	John Nelson's speech at Lloyd's City Dinner 2014	John Nelson, Chairman of Lloyd's	Lloyd's City Dinner 2014

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

Source: Lloyd's Press Centre[24]

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 / Setting the agenda on climate change

The World Bank's Understanding Risk conference took place between 30 June and 4 July 2014 with the aim of producing actionable information on climate change. However, it was the Prince of Wales and Lloyd's Chairman John Nelson who set the agenda in the week before.

Prince Charles backed a call by broker Willis for businesses to actively consider and disclose their exposures to natural disasters, saying it would encourage businesses to become more resilient. John Nelson welcomed Prince Charles' "rallying call for action". In an interview with the Financial Times[25], Nelson pointed out the steady rise in the cost of global disasters between the 1980s and today.

"It's really important for policymakers to hear businesses saying very firmly that they're worried and understand that they should be mitigating climate change urgently and decarbonising through renewable energy solutions," said Trevor Maynard, Head of Exposure Management and Reinsurance.

The Understanding Risk event was another opportunity for Lloyd's and the wider insurance industry to set the agenda on climate change. On 1 July 2014, Trevor Maynard also spoke on a session led by Simon Sharpe, Head of Global Strategic Impacts team, Climate Change and Energy Department from the UK Foreign and Commonwealth Office, titled "How big is the risk of climate change," during which he highlighted the important role the insurance industry has to play in influencing policymakers and the business world in its steps to curb climate change.

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

Source: Lloyd's.com news story[24], FT news story[18]

2.1.2 Lloyd's / The Corporation of Lloyd's / Climate change and the insurance industry

On 9 December 2014, Trevor Maynard, Head of Exposure Management and Reinsurance, spoke at an event on 'Climate change and the insurance industry' convened by The Institute of International and European Affairs (IIEA). The IIEA is Ireland's leading think tank on European and International Affairs and is an independent, not-for-profit organisation with charitable status. Its extensive research programme aims to provide its members with high-level analysis and forecasts of the challenges on the global and EU policy agendas that impact on Ireland.

In his speech, Trevor Maynard described how the Corporation of Lloyd's believes that climate change might impact insurers over the short, medium and longer term. Drawing on a series of Lloyd's reports and expertise, he explored a range of issues such as property damage, legal liability, political risk, stranded assets and economic effects.

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

Source: IIEA, 2015[26]

2.1.3 Lloyd's / The Corporation of Lloyd's / Climate change and the insurance industry: Climate Change Risk Roundtable series

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

The Bank of England's Prudential Regulatory Authority (PRA) is currently responding to a request from Defra to assess how climate change will impact the PRA's ability to fulfil its regulatory objectives. Its primary focus is on the insurance industry.

The report will inform the next UK Climate Change Risk Assessment, to be laid before Parliament in 2017, and seeks to answer two primary questions:

- 1) the impact of climate change on the PRA's objectives (with a focus on insurance); and
- 2) the role of insurance regulation in supporting adaptation to climate change, including proposals and policies the PRA may choose to adopt, and timescales for their implementation.
-

As the global insurance industry's leadership group on climate risk, ClimateWise – convened by the University of Cambridge Institute for Sustainability Leadership (CISL) – agreed to facilitate a series of roundtable discussions to help contribute to the PRA's report. As founding signatory of ClimateWise, and as part of our continuous work with the PRA, the Corporation of Lloyd's was involved in the series to provide input and participate in the discussions:

- **Climate Risk Roundtable Two: Market implications of climate risk with a focus on the property sector** Trevor Maynard, Head of Exposure Management and Reinsurance, attended and participated in this meeting, helping to drive forward discussion

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- **Climate Risk Roundtable three: Transition risks: exploring if societal responses to climate change may lead to market disruption**
  Trevor Maynard, Head of Exposure Management and Reinsurance, and Lucy Stanbrough, Executive, Emerging Risks and Research, attended and participated in this meeting, helping to drive forward discussion. The Corporation of Lloyd's also hosted the meeting on behalf of ClimateWise.

Climate Risk Roundtable three at Lloyd's

Evidence also applies to principle(s): 2.2, 6.1, 6.2

Source: ClimateWise.

2.1.4 Lloyd's / The Corporation of Lloyd's / The Stability – Sustainability Link

On 28 April 2015, Trevor Maynard, Head of Exposure Management and Reinsurance, was invited to take part in and attended an expert dialogue between the worlds of science and finance, held at University of Cambridge. The event, titled '*The Stability – Sustainability Link: Understanding and addressing environmental and social drivers of systemic risk in banking*', was jointly run by CISL and United Nations Environment Programme Finance Initiative (UNEP FI).

Trevor Maynard was invited to make a presentation in recognition of the Corporation of Lloyd's status of being experts in scenario planning, and took attendees through his views and experience on the following topics:

- Environmental and Social Drivers of Systemic Risk
- Approaches to Understanding and Addressing Systemic Environmental/Social Risks
- Outcomes and Lessons Learned
- Challenges and Needs

Trevor Maynard is one of a number of Corporation staff who commit to engagement activities throughout the year as part of our goal for Lloyd's 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

Source: Lloyd's 2014 Annual report [27] Lloyd's Vision 2025[1]

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.

Nick Beecroft, Manager, Emerging Risks and Research, continues to represent Corporation of Lloyd's as a member of the LCCP steering group, which commissions and monitors London focussed projects. Lucy Stanbrough, Executive, Emerging Risks and Research, also represents Corporation of Lloyd's at LCCP theme meetings as part of our commitment to engaging with public policy makers and fellow partnership members, who represent key stakeholders working in this area.

Corporation staff continue to engage events supported by the group, including events such as the upcoming '*Westminster Energy, Environment & Transport Forum Keynote Seminar: Next steps for climate change policy - delivering the National Adaptation Programme*' to be held on 12 July 2015 that seeks to discuss practical steps for the future of policy in this area. Discussion will be informed by a keynote presentation from Daniel Johns, Head of Adaptation at the Committee on Climate Change following the delivery to the government of its latest assessment of progress at the end of June. The agenda will also bring out latest thinking on the key areas of focus of the National Adaptation Programme, including community level flood defence, water scarcity and heat stress, and adaptation in the built and business environments.

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

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

Source: Climate London[28], Westminster Forum[29]

2.1.6 Lloyd's / The Corporation of Lloyd's / Strengthening disaster risk resilience

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.

This is the key conclusion of a report by the Global Reinsurance Forum (GRF), which Corporation of Lloyd's is a member. The Global Reinsurance Forum (GRF) is composed of twelve leading global reinsurers; its main objective is to promote a stable, innovative, and competitive worldwide reinsurance market. The members of the GRF, all private companies, are Gen Re, Hannover Re, Lloyd's, Munich Re, Partner Re, Renaissance Re, RGA, SCOR, Swiss Re, Toa Re, Transatlantic Re, and XL Capital. The GRF secretariat is managed by The Geneva Association.

In support of its main objective, the GRF helps to define industry positions on regulatory, legal, tax, and accounting developments. It represents these positions in discussions with relevant regulatory and supervisory bodies (especially international ones). It works to advance understanding of the value of reinsurance to the economy, and encourages an open and fair international framework for the development of reinsurance markets.

Nick Beecroft, Manager, Emerging Risks and Research, took part in the working group that produced the report, which examined the changing nature of disaster risk and the role that global reinsurers can play in strengthening resilience.

The group found that losses from natural catastrophes have risen significantly over the last three decades, and that economic development is driving the emergence of new 'man made' risks such as vulnerability to extreme space weather. At the same time, climate change and the increasing speed and density of global connections makes the impacts of a disaster more complex and difficult to predict. In this context, it was highlight that reinsurance is able to make an important contribution to disaster risk resilience through three key mechanisms:

1 Investing in research and the development of tools to help us to reduce uncertainty on the nature and impact of disaster risk;

2 Applying a price to risk, which generates signals to encourage investment in preventive measures; and
3 Providing predictable relief for unpredictable disasters.

The scale of the challenge is revealed by a comparative analysis of the impact of recent natural disasters in the USA and the Philippines. Global underinsurance is something we have previously reported on[30], and extending the benefits of reinsurance cover to some of the populations most at risk remains a key challenge. The report is particularly timely given the renewal of the UNISDR Hyogo Framework for Action, and demonstrates the positive contribution that reinsurance can make in strengthening disaster risk resilience.

The GRF is committed to maintain active dialogue with policy-makers, regulators, and other stakeholders with an interest in anticipating, mitigating, and adapting to today's and future risks, enabling society to advance further. Inga Beale, CEO, represents Lloyd's within the group, demonstrating our commitment to maintaining an economy that is resilient to risks.

Impact

The report was launched online in September 2014, and was publicised by a Lloyds.com blog article written by Nick Beecroft, Manager, Emerging Risks and Research. The report was also publicised by all of the group members to disseminate the findings.

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

Source: Global Reinsurance Forum[31], [32]

2.1.7 Lloyd's / The Market / ACE Group / Agricultural Act of 2014 (H.R. 2642; Pub.L. 113–79, also known as the 2014 U.S. Farm Bill)

As one of the primary crop insurance providers in the U.S., ACE has engaged directly and through trade associations with legislators during the past year on approaches for improving the public-private crop insurance programme for farmers within the proposed broad farm legislation.

ACE supports solutions that maintain and improve upon the coverage against climate-related risks, such as the severe widespread drought conditions that devastated several important crops during the 2012 and 2013 growing seasons in the U.S., that is offered to farmers through the crop insurance programme, so that this coverage remains a viable risk management tool for individual farmers and continues to support the broader U.S. farming economy.

Evidence also applies to principle(s): 2.2

Source: ACE Group.

2.1.8 Lloyd's / The Market / ACE Group / Climate disclosure policy development by state regulators in the U.S

ACE provided responses to state insurance regulators in California, Connecticut, Minnesota, New York, Washington and Pennsylvania regarding climate-related risk assessments and activities. ACE is unsure of the efficacy of a multistate approach to gathering this information versus centralised data collection.

Evidence also applies to principle(s): 2.2

Source: ACE Group.

2.1.9 Lloyd’s / The Market / ACE Group / National Flood Insurance Programme extension

ACE supported movement towards actuarially sound rates and NFIP reforms that unfortunately were rolled back in 2014. ACE supports a National Flood Insurance Programme that charges actuarially sound premium rates in both public and private sectors.

Evidence also applies to principle(s): 2.2

Source: ACE Group.

2.1.10 Lloyd’s / The Market / Amlin / Internal Policies and Procedures

Amlin have 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 have 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: Amlin.

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 / Climate Economics, "Will UK climate change policies make us better or worse off"?

In September 2014, Trevor Maynard, Head of Exposure Management and Reinsurance, attended the launch of a report produced by Cambridge Econometrics and reviewed by Professor Paul Ekins from UCL, which aimed to answer the question "Will UK climate change policy make us better off or worse?"

The report looks at the promises recently made by the UK government around UK carbon emissions and tests the impact of these. Key finding of the report were discussed and highlighted in a blog article on Lloyd’s.com, which featured as part of an ongoing series on the topic of climate change, and called for policy makers to take note and action.

Key points highlighted to the Lloyd’s market and the wider world included:

- Previous models, being equilibrium models, have tended to focus only on the costs of climate change policies and not looked at the wider benefits within the economy - these make the difference.
- Reducing the UK’s emissions in line with the carbon budgets recommended by the Committee on Climate Change will lead to an increase of 1.1% in UK GDP by 2030.
- Households, on average, will be better off financially (over £500 per year) and will have more spending power compared to a scenario where the UK fails to meet its carbon budgets.
- The costs and benefits vary: households will spend less on energy (particularly oil and gas) but will spend more on energy efficient appliances, cars will be more expensive to buy but significantly cheaper to run, food will be cheaper but some other goods slightly more expensive.
- The additional spending power of households will benefit the majority of businesses; and some businesses will benefit directly (a few others such as oil and gas companies will be worse off).
- There will be improved energy security.
- Reduction in pollution such as NOx will reduce healthcare spending - and society will be healthier.

Forward planning

Trevor Maynard is one of a number of Corporation staff who commit to engagement activities and writing blog pieces for Lloyd's.com throughout the year as part of our goal for Lloyd's 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

Source: Lloyd's.com blog article[33]

2.2.2 Lloyd's / The Corporation of Lloyd's / Preparing for disaster with the Global Reinsurance Forum

In September 2014, John Nelson and Inga Beale represented Lloyd's at the World Economic Forum in Davos. Their schedules were packed with meetings with global government figures and influential people in international business. They gave their views on a variety of panels, covering topics from disruptive technology to climate change, as well as being interviewed by the world's media on these topics.

The question of how of climate change was being addressed by the Corporation of Lloyd's and Market was raised, to which John Nelson, chairman of the Lloyd's of London, said: "We take in to all our underwriting and modelling climate change. We expect to see our syndicates modelling climate change when they are looking at this sort of property risk."

The event is one of a range over the past year that demonstrate Corporation of Lloyd's commitment to be a responsible global corporate citizen through its ethical principles and practices, and sharing of knowledge and expertise, and demonstrates board and senior level support.

Impact

- The Telegraph, Nelson touch aims to steer Lloyd's into new markets for insurance
- Property Casualty 360, Q&A: Lloyd's chairman John Nelson and U.S. chief Hank Watkins

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

Source: Lloyd's.com blog article[40]

2.2.3 Lloyd's / The Corporation of Lloyd's / Renewables Projects get Increasing Attention in Poland

In his 2013 Market Presentation, Witold Janus, Lloyd's Country Manager for Poland, referred to renewables as a key opportunity for the Lloyd's Market in Poland. Since then a number of projects have been announced demonstrating that renewables within Poland remain a key area for both private and public financing:

- Supporting renewable developments in developing economies like Poland is a key focus for the European Development Bank. According to the 'third annual joint MultiLateral Development Bank (MBDs) report on climate finance' in 2013 the six MDBs contributed almost US$24bn worldwide to financing in 2013 for projects in developing and emerging economies that address the challenges of climate change. One key focus for the European Development Bank's Sustainable Energy Initiative [SEI] has been to support the development of renewables across the European region.
- Renewable energy still accounts for a relatively small share in the energy mix of most of the countries where the EBRD invests. The EBRD sees Developments in this area as having lagged behind in part because of weak institutional and regularity frameworks but also because of the high specific investment costs per kW installed and the low tariffs prevailing in many countries.

Forward planning

As discussed in the 2014 'Polish Market Presentation'[34] the significant investment within the renewables sector in Poland is creating a requirement to have adequate risk mitigation and insurance in place. In June the Office held an event[35] to allow the Market and local players to share expertise on the renewables sector and its insurance. Lloyd's

Market participants interested in developing their renewables business are invited to contact the Polish office for more information.

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

Source: Lloyd's.com Market Intelligence article[36]

2.2.4 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 we do at Lloyd's, 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 competition is now in its fifth year, and the 2014 competition two broad categories: climate change and natural hazards. This year's winning submissions provided valuable contributions on topics of great significance for insurers. Dr Erwann Michel-Kerjan's paper 'Evaluating Flood Resilience Strategies for Coastal Megacities' described novel approaches that may help to shape public policy and improve the affordability of flood insurance. Dr Juliet Biggs' paper 'Global link between deformation and volcanic eruption quantified by satellite imagery' described an innovative method of predicting future volcanic eruptions, and identified key gaps in the assessment of volcanic hazards.

The prize is supported by Tom Bolt, Director of Performance Management, and raises awareness of the depth of knowledge of climate change and natural hazards in the research community and promotes its value to the reinsurance market. It also features an awards dinner in Lloyd's historic Adam Room, held for the winners and runner-up in each category, and brings together senior members of the Market and the academic community to connect the two groups.

Dr Dougal Goodman OBE, the Chair of the Prize Committee with the winners and runners-up

Dr Erwann Michel-Kerjan and his co-authors won in the climate change category for their paper Evaluating Flood Resilience Strategies for Coastal Megacities. Dr Michel-Kerjan and his colleagues considered the impact of Superstorm Sandy on New York City and proposed four resilience strategies to cope with future storm surge and likely impact of sea level rise.

The difficulty in financing such resilience strategies involving large-scale infrastructure projects, such as barrier islands, was considered by the paper. One idea was to issue a multi-year ‘Resiliency Bond’ to spread the upfront cost over time, while another was to impose a ‘Resiliency Fee’ on visiting tourists.

The paper was a call to action, as Dr Michel-Kerjan explains: "As we discussed in the Science paper, it can take ten or 15 years (from design to construction) to build the necessary protective infrastructure. This is why several of the strategies we evaluated for New York City, which will be cost-effective under future climate, should be started now."

"If one waits for another $70bn loss to act, we would have lost time and money," he adds. "Similar discussion should occur in the UK and actions be taken."

He thinks the insurance industry has a vital role to play in helping build stronger communities that are better able to withstand natural disasters.

"When insurance is risk-based it can provide a powerful signal of the level of exposure those at risk actually face," he explains. "It can also reward good behaviour: if a family or a business invests in risk reducing measures the cost of insurance is lower."

"The challenge though is that for political reasons, flood insurance is rarely risk-based," he adds. "This is a big challenge in many countries around the world."

Forthcoming work

Entries for the 2015 Science of Risk Prize will be accepted under two categories:

Big data analytics and machine learning
Cyber risk

For big data analytics and machine learning we have asked to see work on how these emerging technologies can be harnessed for the understanding of risk. Supply chains, liability relationships and reputational harm are examples where technology could provide tools and techniques to help insurers assess complex risks, of which environmental and climate issues may feature.

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

Source: The Science of Risk Prize[37]

2.2.5 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 2014 Marcella van de Pas, CRO, Amlin Europe N.V., attended the Geneva Association's Chief Risk Officer Assembly in Munich to discuss the latest developments in Risk Management.

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

Source: Amlin.

3 SUPPORT CLIMATE AWARENESS AMONGST OUR CUSTOMERS

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

In 2004 there was very limited information available to the market on Lloyd's business globally. The Market Intelligence (MI) team in London began conducting research on overseas markets, 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, they were primarily for internal purposes, meaning that there was no unified method of sharing information on developments more broadly with our market.

A decade on, the MI team[38] 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 (i.e. Lloyd's data by territory is based on the domiciled of insured). More importantly, Lloyd's 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[32].

Forward planning

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

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

Source: Lloyd's Market Intelligence[39]

3.1.2 Lloyd's / The Corporation of Lloyd's / AMRAE 2015

From 4-6 February 2015, Lloyd's France supported insurance conference hosted by the Association of Risk Managers in France (AMRAE).

Lloyd's has been a partner of this event for the last five years. This year's event welcomed five Market syndicates: ANV, Catlin, Tokio Marine Kiln, Allied World and The Channel Syndicate. Attending the event in Cannes gave the syndicates an opportunity to engage with local insurance buyers.

Inga Beale, CEO, joined QBE, ACE and MSIG in a round table discussion: 'New technologies, new needs, new services' covering issues faced by the insurance market on climate change, cyber risk, emerging technologies and innovation. Lloyd's has a reputation for innovation and will build on this in the coming years. This priority covers Lloyd's activity in respect of product innovation, thought leadership, and alternative capital and alternative products.

Lloyd's France Country Manager Guy-Antoine de La Rochefoucauld said: "The AMRAE conference provides a great opportunity for risk managers and brokers to meet with underwriters from the Lloyd's market, and Inga's first participation was warmly welcomed by the association and those attending. During the round table discussion, Inga highlighted how specialised and innovative products are being developed in the Lloyd's market in response to changing client needs, such as the protection of intangible assets like reputation and the threat of cyber risk."

Forward planning

French brokers and Risk Managers were able to learn more about Lloyd's and meet people from the Market. The event formed part of the Market Development support network that Lloyd's operates. The MI team provides analysis of the world's insurance industry from a geographic perspective for the benefit of Lloyd's Managing Agents, Brokers and Coverholders to help them develop their business internationally.

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

Source: Lloyd's Market Intelligence[40]

3.1.3 Lloyd's / The Market / ACE Group / ACE Environmental Products and Services

ACE 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.

Our 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, ACE'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, ACE's Renewable Energy Construction, Technical Lines, Energy and Marine Insurance programme combines the product and risk management expertise from a number of ACE industry groups and allows for development of clean efficient alternative sources of energy.

ACE'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. ACE 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. ACE has bolstered its environmental underwriting staff and launched several multiline products that meet strong demand.

ACE 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.

In response to the growing awareness of the role of GHG emissions in climate change, ACE 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.

Forward planning

ACE'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 ACE Global Markets at Lloyd's in London, North American, Asia Europe and Latin America.

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

Source: ACE Group.

3.1.4 Lloyd's / The Market / ACE Group / 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.

ACE 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. ACE 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

Engineering services made available to ACE Environmental Risk clients include, but are not limited to:

- Mock regulatory compliance audits.
- Assistance with duty of care and waste management procedure.
- Spill plan review/development.
- Mock spill scenarios.
- Environmental awareness refresher training.
- Regulatory and compliance "hotline".
- Sub-contractors selection guidance.
- Contract language evaluation.
- Mock project site regulatory compliance audits.

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

Source: ACE Group.

3.1.5 Lloyd's / The Market / ACE Group / ACE 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 ACE. Clients are provided with insurance protection from the impact of weather events that may be more frequent or severe due to climate change. Therefore, ACE'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 ACE 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., ACE Tempest Re, ACE'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 ACE Green suite of environmental products, ACE now offers Global Weather coverages to help clients insure against unpredictable weather conditions. Within ACE'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.

ACE Adds Crisis Management Services to its European Environmental Risk Proposition

ACE 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 ACE'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.

ACE 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 ACE's crisis management coverage for environmental risks includes responsive crisis management services cover. At ACE, 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: ACE Group.

3.1.6 Lloyd's / The Market / ArgoGlobal – Syndicate 1200 / Supporting climate awareness

As mentioned in our principle one case study, we took a similar approach to the 2013/2014 reporting year. We utilised the forum of the CPCU Society to present significant amount of data and information to raise the awareness of the impacts and climate change. The attached presentation was made available to all attendees as well as all members of the CPCU Society that come from all walks of our professional world e.g., agents, brokers, risk managers, suppliers, customers and government representatives, etc.

As part of our work with CPCU, we participated in:

- a social media chat series[41].
- publishing an article on Climate Change in the CPCU Journal which is received by over 25,000 insurance professionals worldwide[42].

Once again this year we are organizing a General Session at the Annual Meeting of the CPCU Society on Climate Change and the Insurance sector. We have engaged a leading scientist from NASA, Marsh McLennan's Global Environmental Liability Practice Leader and a Senior Analyst from Swiss Re to present. The session will be moderated by Mr. Clive O'Connel, Partner of Goldberg and Segulla in London.

We have also stepped up the internal communication with Argo Group staff relating to sustainability issues, as described under our principle six case study found later in this report.

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

Source: ArgoGlobal – Syndicate 1200.

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, with the addition of one important initiative with regards to ClimateWise.

Solon Underwriting

Navigators has in this 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. 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. We continue to see interest in alternative hydrocarbon energy forms such as gas hydrates, and carbon sequestration projects, albeit the pace of such initiatives is driven by demand and government incentive respectively, together with recent greater influence of oil price volatility.

Navigators involvement in the on-going 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.

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 see this increasingly so 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 also increased in the 2014 period.

Navigators have also in this reporting period entered into an Underwriting Facility arrangement to specifically support the US Midstream sector, who 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. One specific area of interest underwritten in this regard is for a number of Operators involved in the distribution of LNG (liquefied natural gas) as fuel for hydraulic fracking spreads, which is making a major contribution to reducing the carbon footprint of this intensive form of drilling

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.

Further, Navigators lead a Renewables Line Slip, with an emphasis on Wind and Solar power generation facilities.

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.

Navigators continue to support the two projects as highlighted under our Case Study submission in 2013, namely a UK Power Station conversion to a partial biomass feedstock, and a waste to power project in Kenya, which shows the potential of providing a reliable power supply to disadvantaged urban and rural communities from the waste matter the communities are producing. In addition, we maintain insurance of a conversion of a 150MW power plant in Florida, USA from a coal to biomass feedstock.

Environmental Liability

In the current reporting period Navigators have in London recruited an Environmental Liability team, and have commenced underwriting a wide coverage international Environmental Liability product, providing financial security for waste producers and waste management companies alike. As this team and offering grows in 2015, we anticipate being able to offer a Case Study in the next reporting period.

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

Source: Navigators Underwriting Agency Limited.

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

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 / QBE / Use of IT systems to reduce resource consumption

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.

One specific climate related action undertaken is the adoption of 'paperless' business activities wherever possible by QBE EO's Investigation Services (claims).

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.

The development and implementation of paperless systems has allowed the Investigation Services team of 33 people to work remotely, with much of their contact with clients made electronically without the need to visit the clients in person. The team covers liability and motor claims.

Actions covered

- Downloading files to mobile devices (e.g. iPad) when Investigation Services meet with clients, reducing requirements for paper consumption.
- Scanning evidence directly onto mobile devices when with clients, allowing upload of data to office systems for sharing without need for paper.
- Data provision to lawyers / solicitors electronically, without need to post reports.
- Some internal meetings can be held using video conferencing processes, reducing the need to travel for meetings.
- Direct signing of reports on mobile devices as alternative to paper documentation.

Environmental impact

The use of electronic systems has helped reduce the reliance on paper documents, which otherwise have to be printed (often in multiple copies) for all meetings and for files.

Clients require documentation but there is a greater acceptance of paperless documentation, again reducing the requirement to consume paper and inks.

Travel is reduced as home working is encouraged, reducing fuel consumption.

Travel is also reduced as some of the investigative reviews are now conducted via electronic data transfer completely, reducing fuel consumption.

Analysis of IT system usage by claims Investigation Services:

- A 'sampling' survey of electronic system use was conducted across 10 members of the Investigation Services team and while not fully comprehensive in detail, identified the following:
- 50% of meetings are now conducted using electronic sharing of documents and so are 'paperless'
- 70% of documents are scanned and delivered electronically directly onto mobile devices.
- 70% of documents are sent to clients electronically and not as paper documents now.
- No video conferencing is used to meet clients for claims investigations currently but electronic documents are reviewed remotely in simple cases and decisions made without need for 'face-to-face' client meetings.
- 20% of internal meetings are held using video technology now, with a further use of WebEx for some meetings (not included in the 20%).

Issues holding back full use of paperless systems:

- Not all clients are willing / capable to conduct paperless meetings through use of IT solutions.
- Some clients will not agree witness statements recorded directly onto mobile devices and request paper copies produced and used to sign. Lack of trust in electronic document security is usually stated as the main issue.
- Unless claims are 'simple', clients still expect face to face contact, requiring Investigators to visit them still. It is expected that if the client is conversant with technology, use of video conferencing technology will become more acceptable over time.
- Difficult conversations are more positively received when conducted as face-to-face, especially where covering sensitive subjects.

Evidence also applies to principle(s): 1.1, 1.3, 5.2

Source: QBE.

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

The insurance industry needs to adopt more innovative thinking and forge 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, which builds on Lloyd's 2012 Global Underinsurance Report and was co-chaired by Lloyd's CEO Inga Beale, highlights the threat underinsurance poses to economic development and considers ways to measure the gaps that exist in protection and their root causes.

The insurance industry has a crucial role in helping society manage risks, but considerable regional differences and protection gaps exist. For example, the magnitude seven earthquake that struck New Zealand in 2010 caused $6.5bn in damage, of which 81% was covered by insurance, according to the International Association of Insurance Supervisors. In contrast, when Haiti was hit by a similarly powerful quake in the same year, less than 1% of the $8bn total damage was covered by insurance.

Natural disasters like the Haiti earthquake highlight the significant gap between economic losses and the amount of damage covered by insurers in emerging countries, according to Shaun Wang, Deputy Secretary General and Head of Research at the Geneva Association. In its 2012 Global Underinsurance Report, Lloyd's identified 17 mostly emerging countries as underinsured, with a total coverage gap of USD168bn.

However, according to Shaun Wang, Deputy Secretary General and Head of Research at the Geneva Association, there are also sizable pockets of underinsurance in mature markets. The increasing importance of the digital economy and changing business models have given rise to new vulnerabilities, many of which go uninsured. Insurance penetration has also failed to keep pace with rising property values and the development of areas exposed to storms and floods, such the hurricane exposed US southern and eastern coast, he explains.

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

Source: Lloyd's.com news story[43], Global Insurance Protection Gap report[38]

3.4.2 Lloyd's / The Corporation of Lloyd's / Lloyd's supports SolarAid[44] in East Africa

In East Africa, in the UN International Year of Light, the Corporation has partnered with SolarAid – a charity selling solar lights in Africa – through which we are funding three projects in Kenya, Tanzania and Malawi. This programme has been developed as part of the Corporations Lloyd's Together initiative, and continues our support of SolarAid[45].

Kenya

In Kenya, only 20% of the population has access to electricity[46]. 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 Homabay which will 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 will:

- 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 will be attending a Meet the Market event in Kenya on 23 June where they will be taking a box and informing companies about their work and how to engage.

Tanzania

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 will help 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 will:

- 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

Malawi

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. We have provided 500 portable solar lights to emergency relief camps in Chikwawa and Nsanje, the worst hit districts. The solar lights will improve the living conditions at the camps for women and their children and also improve safety.

Forward planning

This project builds on the Vision 2025 plan that 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. The project also forms part of our work in supporting climate awareness, and our ongoing goal of demonstrating that Lloyd's is a responsible global corporate citizen through its ethical principles and practices, and sharing of knowledge and expertise.

Evidence also applies to principle(s): 1.1, 1.3, 1.4, 5.4, 6.1, 6.2

Source: Meet the market flyer[47], Lloyd's 2014 Annual report [35], Lloyd's Vision 2025[1]

3.4.3 Lloyd's / The Market / ACE Group / ACE Group Environmental Reporting

At ACE, 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.

Environmental Reporting

The ACE 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 ACE Group 2014 Environmental Report include[48]:

- An infographic featuring ACE's recent environmental milestones.
  ACE's perspective on climate change risk.
  ACE industry-leading environmental products and services.
  ACE's new goal to reduce greenhouse gas emissions.

The report features information about:

- ACE 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 across the U.S. and around the world through philanthropy.

Environmental Solutions

ACE 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

A primary objective of ACE's environmental programme is to measure, record and reduce greenhouse gas (GHG) emissions in the company's own operations. Since 2006, ACE GHG emissions have been reduced nearly 22% per employee. In September 2014, ACE announced a new companywide goal to reduce GHG emissions by 10% per employee from 2012 to 2020. To achieve its new goal, ACE 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 2014, ACE earned a CDP disclosure score of 93 and a performance score of B. ACE 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.

Philanthropy[c]

The environment is a priority in ACE's corporate philanthropy. ACE supports the communities around the world in which our employees live and work through our established philanthropic entities and via company-sponsored volunteer initiatives. Grants from the ACE Charitable Foundations have helped preserve sensitive lands and habitats across the U.S. and around the world.

In 2014, the ACE Foundations — ACE Charitable Foundation; ACE Foundation-International; and ACE Foundation-

[c] Further information on this section of the case study can be found at http://www.acegroup.com/about-ace/philanthropy/

Bermuda — made grants and matching gifts of more than $4.3 million to support innovative initiatives around the globe.

ACE is a firm believer that positive contributions to the fabric of our communities return long-lasting benefits to society, our employees and our company. We primarily focus our philanthropic support in the areas of education, poverty and health and the environment. ACE's wide-ranging global philanthropic initiatives in the areas include Education, Poverty & Health, Environment & Disaster Relief.

Environment Philanthropic Initiatives:

- The Conservation Fund – Through the Conservation Fund's ACE Land Legacy Fund and ShadeFund programme, ACE has provided $1 million in funding since 2006 for the conservation of more than 320,000 acres of critical lands and water resources in the U.S., as well as financing for green-business entrepreneurs.
- Fairmount Park Conservancy – 2012 marked ACE's ninth year of support to the Fairmount Park Conservancy's Growing the Neighbourhood programme in Philadelphia, Pennsylvania. This initiative supports improvements to neighbourhood parks within the Fairmount Park system in Philadelphia.
- The Bermuda Zoological Society and Bermuda Aquarium Museum & Zoo – Aid from ACE helps these organisations deliver free educational and junior volunteer programmes for public primary and middle schools.

Disaster Relief:

- American Red Cross – In November 2012, the ACE Charitable Foundation made a substantial grant for Sandy Storm Relief. During a national employee campaign that month, approximately 300 U.S. employees made donations to the American Red Cross to assist in relief efforts in the storm's aftermath. In addition to the grant, the Foundation matched employee donations dollar for dollar.

In addition, ACE encourages the development of local and regional initiatives that reflect our employees' commitment to the needs of the local environment and communities in which they live and work. Through national campaigns, local volunteer initiatives and other programmes globally, ACE supports employee giving with programmes such as:

- ACE U.S. employee volunteerism programme: ACE contributes to any non-profit group that receives at least 40 volunteered hours annually by an ACE employee.
- Matching gift programme: ACE matches donations made to charitable organisations by U.S. and Bermuda employees.
- Disaster Relief Matching Gifts: ACE conducts fundraising campaigns that raise money to provide assistance and matches employees' donations in support of relief efforts in global disasters.

Employee Involvement

To engage our employees worldwide in our environmental efforts, ACE 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

ACE staff actively blog within an internal Jive site; a new popular page created by teams within ACE, named "ACE 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 ACE and as an interactive forum.

Evidence also applies to principle(s): 1.1, 1.3, 5.1, 5.2, 5.3, 5.4, 6.1

Source: ACE Group.

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 we have a payment on account scheme 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 terms of sponsorships Amlin are supporting the electric car Formula-E series, which promotes the development in practical usage of electric cars worldwide[49]. 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. As seen from traditional racing series some of these developments will eventually find their way to commercial everyday use.

"It is important to remember that there has never been a battery race car series before at such a high level of speed. As such, it has definitely been challenging, but the reason that I wanted to be involved in this series is because it's different. There are plenty of things to work on and to develop, and plenty more to learn too." Mark Preston, Amlin Aguri Team Principal.

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

Source: Amlin.

3.4.5 Lloyd's / The Market / Beazley / ShelterBox App

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. Our aim has been to share skills and expertise with Shelterbox, which 50% or more of their deployments are the result of climate-related disasters including floods, landslides, drought, etc. As one of the leading specialist insurers in data breach response insurance, we know the importance of data so we supported Shelterbox to develop an app, helping to transform data capture and analyse operational information. The app helps measure impact, allowing for ShelterBox to improve on future disaster relief operations, including climate-related disasters. The ShelterBox app replaces large paper-based case files that their staff carry on the ground with them, and therefore this app helps reduce paper usage and other resources, channelling it instead towards the people they help.

Forward planning

Our partnership with ShelterBox extends into 2016, and we plan to continue our work with them on specific projects like the app, in addition to our employee fundraising efforts.

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

Source: Beazley.

4 INCORPORATE CLIMATE CHANGE INTO OUR INVESTMENT STRATEGIES

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 (F&C) 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. F&C Investments is the European hub of BMO Global Asset Management, which is part of the Bank of Montreal.

The overlay manager typically asks for improved measurement, monitoring and management of emissions and for the development of enhanced climate change strategies.

At the request of clients, including LTIM, F&C has been exploring how the direct impact of its engagement and voting activities on the long-term financial performance of a company might best be isolated and tracked. One approach F&C has taken to date is to open its database to academic researchers so that they can assess independently the value of engagement.

F&C summarises below some of the conclusions drawn from academic studies so far:

Academic studies include the award winning "Active Ownership" by Dimson et al (2014). This study which looked into F&C's engagement in the US over a decade concluded that: Successful (unsuccessful) engagements are followed by positive (zero) abnormal returns. Companies with inferior governance and socially conscious institutional investors are more likely to be engaged. Success in engagements is more probable if the engaged firm has reputational concerns and higher capacity to implement changes. After successful engagements, particularly on environmental/social issues, companies experience improved accounting performance and governance and increased institutional ownership.

Other studies have noted that in markets where there are low-levels of domestic institutional investors engaging firms (such as Japan or South Korea), foreign investors provide unique messages and recommendations to management and board of issues (including sustainability and governance related) which they would not otherwise be getting. This is why in these markets it is particularly important to speak face-to-face with the company and in the local language where possible. There is an Oxford University study underway, based on F&C's engagement in Japan. F&C have yet to see the results of this, but will share with clients when they become available.

Evidence also applies to principle(s): 5, 6

Source: Lloyd's

4.1.2 Lloyd's / The Corporation of Lloyd's / Level & Impact of Engagement

In 2014, the overlay manager (F&C) voted 154 times in respect of the Central Fund's equity investments. F&C 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.

F&C has provided the following case studies of two companies, Apache Corporation and Total, that it has engaged with on behalf of the Central Fund:

Apache Corporation published a target to reduce greenhouse gas emissions. Each of Apache's operating regions is now tasked to identify and implement emission reduction projects that would achieve a combined group-wide decrease in greenhouse gas emissions equal to 2% against a 2011 baseline. Not many US mid-cap oil and gas *companies have disclosed emissions reductions targets to date. This will help drive energy efficiency measures and improve the company's overall management of carbon-related risks and opportunities. F&C has pressed for the introduction of such a target in various meetings and letters with the company over the past three years.*

Total made a commitment not to conduct any oil or gas activities within UNESCO defined World Heritage Sites. Avoiding operations in protected and biodiversity rich areas will help the company to mitigate operational and reputational risks that could impact its license to operate. Explicit policies on "no-go" areas are still rare among oil and gas companies that, in search of new resources, are increasingly exploring in previously undeveloped and ecologically sensitive regions. F&C has engaged Total on enhancing its biodiversity policy since 2007 and recently asked for more explicit commitments regarding the company's operations in East Africa.

Evidence also applies to principle(s): 5, 6

Source: Lloyd's

4.1.3 Lloyd's / The Market / Amlin / Encouraging appropriate disclosure on climate change from the companies in which we invest

Amlin manages its investments on a multi-asset, multi-manager basis. We consider our sub-advisors to be partners in the investment process. We appoint carefully selected sub-advisors who share Amlin's philosophy that consistent long-term investment returns are achieved through investing in companies that embrace their social, environmental and corporate (ESG) responsibilities in line with the United Nations' Principles for Responsible Investment (UNPRI).

Ten of our Thirteen sub-advisors are UNPRI signatories.

We have a documented process for the receipt and review of annual statements and reports from our investment managers, as per their IMA, and for pooled funds we obtain updates on their internal SRI/ESG policies.

A review of the sub-advisor activities during the 2014 period, in respect of ESG initiatives, demonstrates that there continues to be a greater focus on these matters, which has been reflected in, amongst other things, the increasing number of our sub-advisors who are UNPRI signatories, new hires dedicated to these initiatives, and an increase in the quality of the annual reports produced. With the continued emphasis placed by ourselves and other institutional investors on asset managers, we expect this trend of increased emphasis on ESG issues will continue.

Evidence also applies to principle(s): 4.2, 4.3, 6.1

Source: Amlin.

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. One of these external firms had previously only focused on governance issues. However, in the past 12 months, the manager has developed its investment processes to also include consideration of environmental and social issues. The manager has also issued its first formal ESG policy statement outlining its ESG philosophy and explaining how it incorporates ESG factors within its investment process.

Evidence also applies to principle(s): 5, 6

Source: Lloyd's

4.2.2 Lloyd's / The Corporation of Lloyd's / Ongoing investment manager commitment to ESG issues

Another of Lloyd's Central Fund's external investment managers has provided two examples, from the past year, of engagement with companies over ESG issues. In the first example, engagement has 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.

1. *Engagement by the investment manager (along with other shareholders) was responsible for the audit committee of a company becoming totally independent.*
2. *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 (they 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.*

Evidence also applies to principle(s): 5, 6

Source: Lloyd's

4.2.3 Lloyd's / The Market / ACE Group / ACE ALERT Application

ACE North America Environmental Risk's ACE ALERT programme has saved the company up to 20-25% in environmental remediation costs due to quickly dispatching incident response contractors as well as actively monitoring clean-up costs in real time in order to substantially mitigate potential environmental liabilities.

Forward planning

ACE continues to include an Environmental Statement within its annual report for the third year in a row. On an annual basis, ACE also publishes an Environmental Report that outlines the company's accomplishments and recognition from external organisations due to the activity of the company's environmental programme and environmental products and services offered. Also, ACE's Environmental Risk department received an award from the Business Insurance Innovation Awards Programme for the ACE ALERT programme. ACE European Group are researching and investigating its options as to whether the ACE ALERT facility can be set up globally.

Evidence also applies to principle(s): 4.1, 4.3, 5.1, 5.2, 6.1, 6.2

Source: ACE Group.

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 our ClimateWise commitment.

Forward planning

LTIM is keen to raise awareness of Responsible Investment within the Lloyd's market in conjunction with Lloyd's broader CSR initiative and hopes to organise a Lloyd's Investment Forum event to do this.

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

Source: Lloyd's

5 REDUCE THE ENVIRONMENTAL IMPACT OF OUR BUSINESS

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 (CSR) activities undertaken in its local community. As the market grows and diversifies, so should this activity.

At Lloyd's we see CSR as encompassing social, ethical and environmental issues and our story so far has some impressive figures:

- Over 200 years of charitable giving.
- Over £1m given by Lloyd’s charities last year.
- Over 2,000 volunteers each year through Lloyd's Community Programme.
- 97% of employees agree Lloyd’s is responsible with regards to the way it conducts business.
- Zero waste from our UK operations goes to landfill.
- Over 85% of waste from Lloyd’s UK operations is recycled.
- The electricity reduction target for 2015 is 0.5% and the saving from 2014 to 2008 (our baseline) for the One Lime Street building electricity is 16%.

Lloyd’s continues to build on these efforts, and our 2014-2016 CSR strategy focuses on four priority areas:

- Working with the market to maintain high standards of integrity and conduct
- Making a positive social contribution to the countries in which we operate or seek to operate
- Supporting a culture where a talented, diverse workforce is valued and proactively encouraged
- Using our position and voice to inform and encourage action on global social and environmental issues of relevance to insurance

The CSR strategy is championed by our Chief Executive and each of the four priority areas is sponsored by one or more members of Lloyd’s Executive Team.

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.

Five-year goal (end 2018)

Lloyd's is a responsible global corporate citizen through its ethical principles and practices, and sharing of knowledge and expertise.

Corporation actions for 2015 in pursuit of this objective

- Develop a plan to integrate Lloyd's charity and community programme globally, under the ’Lloyd's Together’ identity.
- Maintain momentum on implementation of CSR initiatives to support the 2014-2016 CSR strategy.
- Agree policy for ’Conduct Best Practice’ and how this interacts with ethical insurance principles.
- Implement thought leadership ’resilience’ initiatives and promote emerging risk management research to relevant stakeholders.

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 our recent employee survey, 97% of employees felt that the Corporation of Lloyd's was a responsible organisation in relation to the way we conduct business[50].

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 our 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. Our pay levels for direct employees and on-site contractors meet or exceed the living wage requirements set out by the Living Wage Foundation.

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 / Empowering change: Lloyd's featured as a case study in a guide produced by Carbon Smart to get organisations to grow their sustainability programmes

For the first 5 years of our programme the Corporation focused on our headquarters based at One Lime Street in the City of London, as this is where the impacts that we can control are mostly located. We are effectively landlords to numerous managing agents and syndicates who are either permanently based in the building or access the market daily. The building is also the youngest Grade 1 listed building in the UK.

Corporate Social Responsibility is one of Lloyd's strategic priorities and is championed at a senior level. To help Lloyd's progress towards our strategic CSR objectives, the Environmental Working Group (EWG) meets three times a year. The group has Shirine Khoury-Haq, Director of Operations, as its senior sponsor, is chaired by Jack Kent, Head of Property Services, and has representatives from across the Corporation who take responsibility for driving sustainable action within their areas.

We are proud of our achievements at our headquarters in One Lime Street, as our recycling rate is now over 85% and we have zero waste to landfill. By 2014 we had also reduced electricity consumption at this building by over 16% compared to our baseline year of 2008.

The Corporation sees that there are clear connections between different aspects of our CSR campaign. For example, we require all our contractors to pay at least the London Living Wage. This leads to increased commitment to supporting our CSR campaign, and this can be seen in the catering staff's commitment to reducing food waste:

In 2014 Lloyd's food waste generated enough energy to power over 7,000 homes for a year

Last year we reported on our plans to install a food macerator:

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.

Evidence also applies to principle(s): 1.1, 5.2, 6.1, 6.2

Source: Empowering Change[51], Lloyd's 2014 Annual report [35], Lloyd's Vision 2025[1]

5.1.2 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 it means using our unique position to work collaboratively with the Market and other partners on important social, ethical and environmental issues. Corporate Social Responsibility does not stop at the staff we employ.

Our 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 and environmental policies:

Environment
We 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
We expect our 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.

Health and Safety
We expect our 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
We expect our 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).

We also expect 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.

Evidence also applies to principle(s): 5.2, 5.3, 5.4, 6.1

Source: Lloyd's supplier responsibility[52], Lloyd's 2014 Annual report[35], Lloyd's Vision 2025[1]

5.1.3 Lloyd's / The Market / ACE Group / ACE Plants 18,200 trees in eighth year of American Forests' Sponsorship

ACE has announced its renewed support of American Forests' Global ReLeaf® programme[d] with the selection of eight national and three international forest restoration projects[53]. This year ACE will sponsor the planting of 18,200 trees, representing one for each environmental insurance policy written globally by ACE in 2014. Since 2007, ACE has sponsored the planting of more than 75,000 trees. ACE'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.

ACE is committed to reducing carbon emissions from its own operations. In 2014, 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. Since 2006, the company's GHG emissions have been reduced nearly 22 percent per employee. Additionally, ACE is working to implement building efficiency projects in its offices across the globe. In 2014, efficiency projects implemented in ACE's Sydney office accounted for a reduction in energy usage of about 29 percent.

"We are proud to be able to work with American Forests to support their Global ReLeaf programme, now in its 25th year of helping protect and restore both national and global forest lands. ACE's support of this programme further symbolises the ongoing commitment we make toward minimising the company's carbon footprint." - Craig Richardson, SVP, ACE Environmental Risk

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[d] For information on American Forests, please visit www.americanforests.org

ACE Group's contribution will support the planting of 1,600 to 1,700 trees in each of the following 11 American Forests 2015 Global ReLeaf projects:

- California (Yuba River Reforestation ReLeaf Project) – This project will restore 200 acres in California's Tahoe National Forest with 32,000 conifers to help reestablish 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.

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

Source: ACE Group.

5.1.4 Lloyd's / The Market / Beazley / Joining the London Living Wage Foundation

In September, Beazley joined the London Living Wage Foundation as part of our focus on being a responsible business. The Foundation is an organisation promoting a minimum wage beyond the legal requirement for businesses and their employees, contractors and third party employees. The concept is to pay a true 'living wage' upon which employees can subsist, beyond the government minimum of £6.31 per hour to £9.15 per hour. By joining the London Living Wage Foundation, Beazley will ensure all people who work on Beazley premises for more than two hours per day for eight or more consecutive weeks, for example our cleaners, are paid the London Living Wage.

Forward planning

We are the first syndicate to follow Lloyd's in joining the London Living Wage Foundation and we believe this is the right thing for our business community to do and want to use what influence we have to encourage this. We'll continue to find opportunities similar to this globally to make a difference in all our communities.

Evidence also applies to principle(s): 5.4

Source: Beazley.

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 / Emissions tracking

As part of our commitment to the environment, Lloyd's has been tracking our greenhouse gas (GHG) emissions since 2008.

We work with Carbon Smart, our environmental consultants, to calculate the GHG emissions from our global operations which are publicly disclosed each year in our annual report. 2014 is the second year in which the Corporation reported the GHG emissions of our global offices in addition to those of the UK.

The GHG accounting and reporting followed the principles of relevance, completeness, consistency, accuracy and transparency. We applied 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 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.

While overall the carbon footprint of both the UK and global offices has seen an increase, the London electricity consumption has decreased by 2%, exceeding Lloyd's 2014 target of a 1 % decrease in energy consumption at the One Lime Street building.

Employees are encouraged to continue to consider alternatives to flights, such as video conferencing, however the Environmental Working Group recognises that the expansion of Lloyd's global network of offices means that emissions from air travel are difficult to reduce, therefore the Corporation continues to offset its air travel emissions by buying carbon credits for carbon offset projects through the Carbon Neutral Company.

For 2014 we purchased carbon credits in an "improved water infrastructure" project in Malawi and Uganda. The project helps provide clean and healthy drinking water to communities which do not currently have access to such sources. The project helps repair and restore deteriorated boreholes and uses appropriate technology, which can be maintained by local mechanics that are trained by the project developers. By providing clean water, safe for human consumption, and maintaining the infrastructure required for project lifetime efficiency, the project means households use less firewood to purify the water through boiling. The project helps reduce greenhouse gas emissions from the combustion of firewood, typically used in households' inefficient three-stone fires. The majority of firewood used within these communities is non-renewable which leads to degradation of the forests and shrub lands in the surrounding areas.

Forward planning

The Environmental Working Group meets every four months to develop and monitor progress against an environmental action plan for the Corporation. This group is composed of representatives from 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 our control. The Environmental Action Plan focuses on energy consumption and also covers issues such as waste, transport and procurement.

Evidence also applies to principle(s): 5.1, 5.3, 5.4, 6

Source: Reduce environmental impact[54], Lloyd's supplier responsibility[55],

5.2.2 Lloyd's / The Corporation of Lloyd's / Lloyd's commitment to environmental sustainability recognised at the Clean City Awards

85% of waste generated by Lloyd's is recycled with no waste going to landfill – our general waste is taken to Kent where it is used as fuel for power generation.

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'. At the awards ceremony held at Mansion House last Friday, Lloyd's was awarded a Gold award for our waste management which we are very proud of.

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

Handling waste responsibly not only has environmental but also business benefits. These include reduction in costs, improved company image, improved health and safety and a more pleasant working environment. We are currently planning on applying for another award this year. Our continued success in this area is driven forwards by Vision 2025, and the network of support in place within the corporation, from the EWG to the Corporation Sustainability Champions.

Evidence also applies to principle(s): 3.2, 5.4

Source: Clean City Awards Scheme 2014[56]

5.2.3 Lloyd's / The Market / ACE Group / ACE UK 2014 Emissions Report

ACE Group 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 September 2014, the ACE Group announced a second generation global GHG reduction goal. The goal is to reduce GHG emissions per employee by 10% from 2012 to 2020. ACE achieved its original GHG reduction goal of reducing emissions per employee by 8% from 2006 to 2012 with a total reduction of 25% per employee.

ACE UK 2014 Emissions Report

Breakdowns	Figures
UK Facility Emissions	5,730 tCO_2e
Number of UK Employees	1,327 FTE

Emissions per Employee	**4.31 tCO2e/FTE**

In support of the new global reduction goal, ACE created a targeted plan to address energy consumption at the European level through the ACE European Group Energy Policy. The ACE 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 will 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, ACE has also designed a checklist for evaluating all new real estate leases, as well as a section that summarises proposed energy efficiency projects.

Forward planning

In coordination with the energy policy, ACE has invested in energy surveys for one of ACE's largest buildings located in London, UK, as well as several other sites including Crawley and Glasgow, UK which will occur during 2015. The results of these energy surveys will be used to identify and implement appropriate energy efficiency projects in order to achieve the targets set out within the AEG Energy policy.

The main long term goal of the policy is to increase efficiency of ACE'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 ACE's business. Lastly, ACE is interested in formally 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.

Evidence also applies to principle(s): 5.2, 6.1, 6.2

Source: ACE Group.

5.2.4 Lloyd's / The Market / Beazley / San Francisco team goes Green

Beazley are tenants in all our buildings globally and working closely with our landlords, we lead and support on environmental initiatives in our offices. Recently our San Francisco team worked with their building management company to put forth a voluntary 'Green Office' program for all tenants in the building. On completing the survey, the team discovered we were already doing many of the green practices and as a result, they have achieved the building's sustainability measurements for being a 'Green Office' and were awarded a "green office plaque". The San Francisco office arranged a presentation from a local recycling company who outlined the recycling and composting process and how this created local jobs, creating a greater understanding with our employees of what could be recycled and how to achieve ultimate recycling programmes. The San Francisco office changed their copier paper to a recycled product and reminded staff to print double sided, unplug chargers, use glassware instead of paper or plastic cups and to be mindful of recycling and compost each day.

Forward planning

This has created a unified approach from the San Francisco office who are working together to achieve these goals and to maintain their green office status.

Evidence also applies to principle(s): 5.1

Source: Beazley.

5.2.5 Lloyd's / The Market / Navigators Underwriting Agency Limited / Reducing our footprint

Navigators in London will in late 2015/early 2016 be moving to new premises. These are recently constructed and finished offices on a 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 reduction in our carbon foot-print as a result of this move.

Evidence also applies to principle(s): 6.1

Source: Navigators Underwriting Agency Limited.

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 our commitment to the environment, the Corporation has been tracking our greenhouse gas (GHG) emissions since 2008. We work with Carbon Smart, our environmental consultants, to calculate the GHG emissions from our global operations which are publicly disclosed each year in our annual report. 2014 is the second year in which the Corporation reported the GHG emissions of our global offices in addition to those of the UK.

While overall the carbon footprint of both the UK and global offices has seen an increase, the London electricity consumption has decreased by 2%, exceeding Lloyd's 2014 target of a 1% decrease in energy consumption at the One Lime Street building. Increased air travel also contributed to the rise in CO_2 e emissions.

Lloyd's CO_2e emissions have increased by 5% compared to 2013. The increase was driven primarily by changes to the UK conversion factor for electricity to CO_2e emissions, set by Defra.

Lloyd's greenhouse gas (GHG) emissions 2014

	Scope 1 (tonnes CO_2e)	Scope 2 (tonnes CO_2e)	Scope 3 (tonnes CO_2e)	Out of scopes (tonnes CO_2e)	Total GHG emissions (tonnes CO_2e)
UK	1,060	9,975	2,643	Under 1	13,678
International offices	19	999	424	-	1,442
Lloyd's of London 2014 total reported GHG emissions					15,120

The Corporation continues to offset its air travel emissions by buying carbon credits for carbon offset projects through the Carbon Neutral Company. The methodology used to compile the greenhouse gas emissions inventory is in accordance with the requirements of the World Resources Institute's Greenhouse Gas Protocol, ISO 14064-part I and Defra's Environmental Reporting Guidelines.

For more insight into the quality and reliability of our GHG emissions inventory please see the opinion statement[73] issued by Carbon Smart.

Evidence also applies to principle(s): 5.2, 6.1, 6.2

Source: Lloyd's 2014 Annual report [57], Carbon Smart opinion statement, Lloyd's Vision 2025[1]

5.3.2 Lloyd's / The Market / Amlin / Amlin Group Carbon Footprint Reporting

Amlin's 2014 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 with the description of our in-scope operations and methodology available on our website www.amlin.com.

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 also submitted Carbon Disclosure Project (CDP) reporting in 2014[58].

Forward planning and impact

Achieving BREEAM "very good" on our new buildings in London and Chelmsford

Amlin is moving to new offices in London (August 2015) and Chelmsford (June 2015). At the commencement of this programme Amlin set out to demonstrate a high standard in environmental management and made the decision to adopt a recognised environmental assessment method and rating system known as BREEAM during the fit out of the Amlin floors in the Leadenhall Building and Victoria Road and aimed to achieve a rating of 'very Good'.

BREEAM stands for the Building Research Establishment's Environmental Assessment Method, and is the world's foremost environmental assessment method and rating system for buildings.

BREEAM sets the standard for best practice in sustainable building design, construction and operation and has become one of the most comprehensive and widely recognised measures of a building's environmental performance.

Amlin has achieved a "very good" rating for all our floors in the 122 Leadenhall Street building and for our new Victoria Road building in Chelmsford.

BREEAM is a voluntary scheme that aims to quantify and reduce the environmental burdens of new buildings by rewarding designs that take positive steps to minimise their environmental impacts. Projects are assessed using a system of credits. The credits are grouped within the following categories:

- Management;
- Health and Well Being;
- Energy;
- Transport;
- Water;
- Materials;
- Waste;
- Land use & Ecology;
- Pollution.

Evidence also applies to principle(s): 5.2, 6.1

Source: Amlin.

5.3.3 Lloyd's / The Market / QBE / QBE EO Statement of Greenhouse Gas Emissions

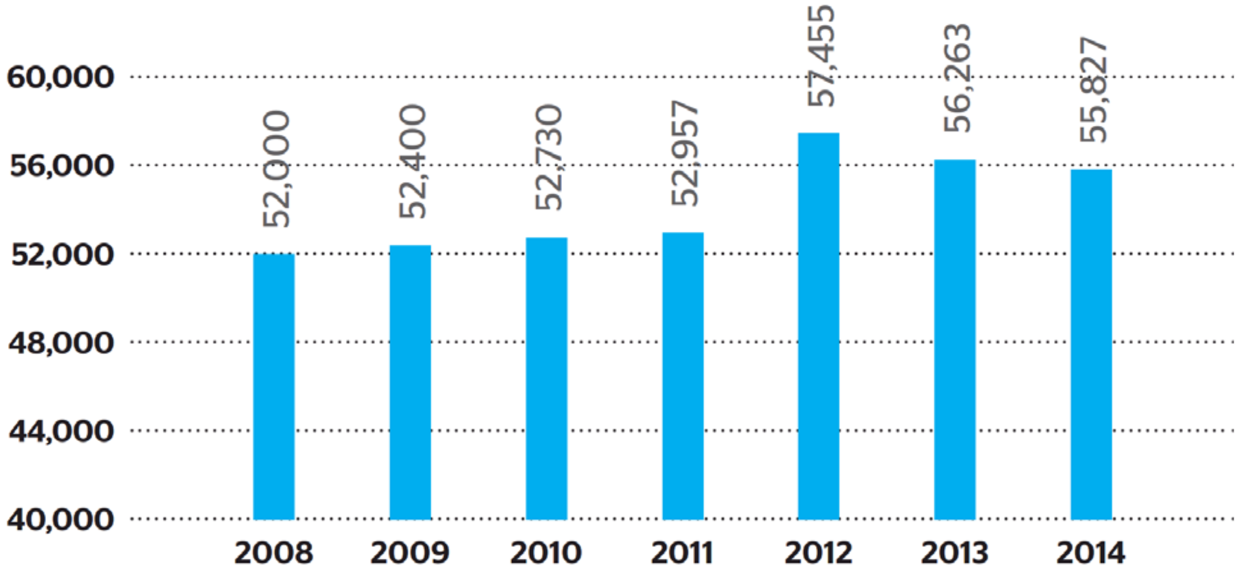
Quantum of Emissions

QBE Insurance Group Limited report global greenhouse gas emissions of 55,827 tonnes carbon dioxide equivalent (tCO_2e) for 2014, down from 56,263 tCO_2e reported in 2013[59].

QBE Group is a participant in the annual Carbon Disclosure Project.

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.

QBE CRES EO began to compile environmental key performance indicator data during 2007:



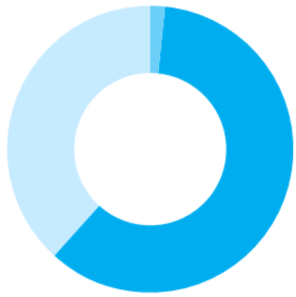
Group carbon emissions (C02e) (tonnes)[77]

QBE EO report total direct greenhouse gas emissions of 9,775.39 tonnes carbon dioxide equivalent (CO_2e) during 2014. The 18% increase in reported annual emissions from 2013 (8,258.28 tCO_2e) is explained by the expansion the reporting of Scope 3 emissions from Q1 2014 to include the reporting of GHG emissions associated with radiative forcing arising from air travel in line with revised Defra guidance. QBE EO's Scope 1 and 2 emissions fell from by 20% from 2013 to 2014 primarily as a result of reduced electricity consumption.

	TWELVE MONTHS TO DEC 2014 TONNES	TWELVE MONTHS TO DEC 2013 TONNES	REDUCTION OF
Scope 1	1,019	1,019	0%
Scope 2	33,517	33,639	0.36%
Scope 3	21,291	21,606	1.46%
Total	55,827	56,263	0.77%

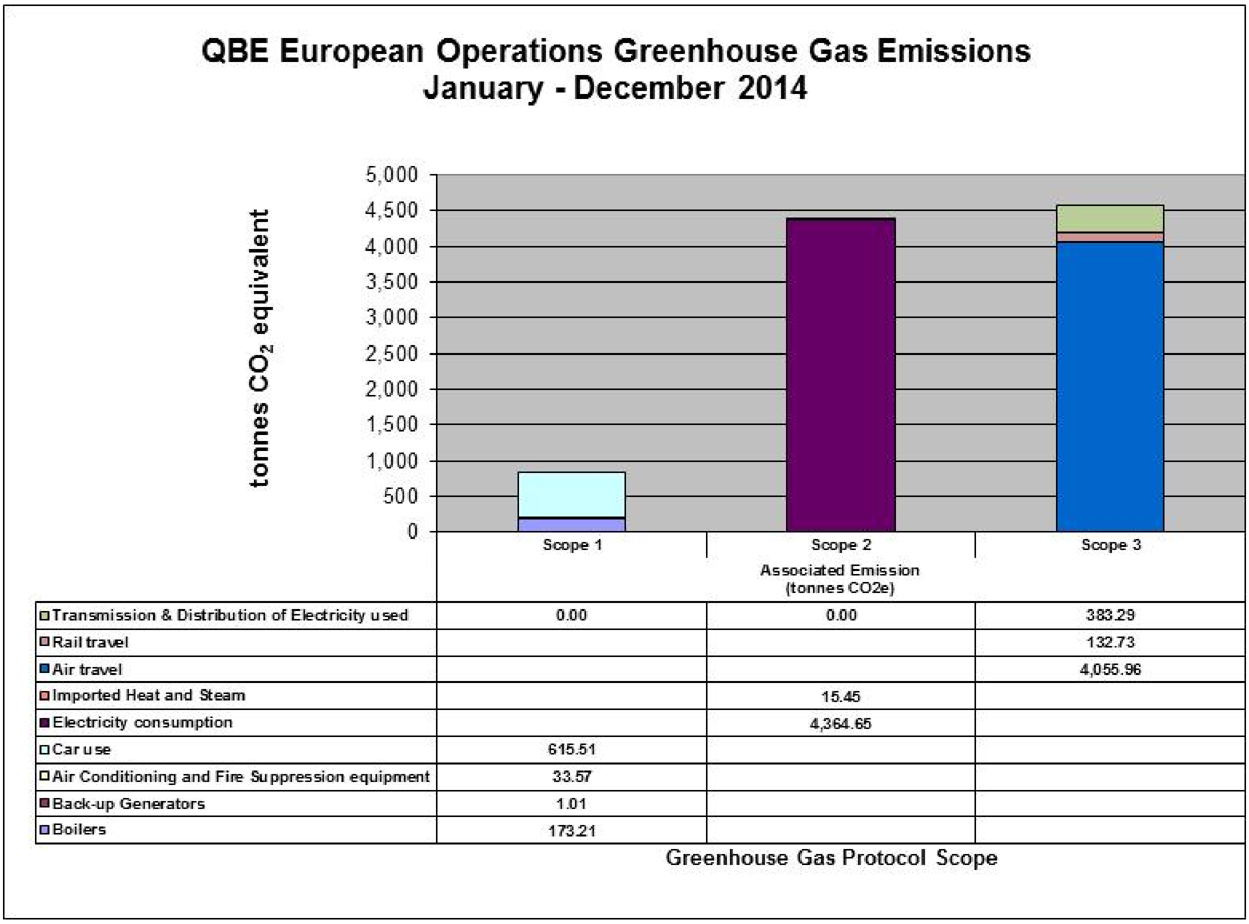
Carbon Emissions by scope

- **Scope 1** – direct greenhouse emissions due to natural gas and oil consumption used for heating
- **Scope 2** – indirect greenhouse emissions from electricity consumption
- **Scope 3** – other indirect greenhouse emissions, defined as emissions relating to travel



Estimated carbon emissions (CO2e) for 2014[77]

2014 GHG emissions are broken down by source below:



	Scope 1	Scope 2	Scope 3
	Associated Emission (tonnes CO2e)		
Transmission & Distribution of Electricity used	0.00	0.00	383.29
Rail travel			132.73
Air travel			4,055.96
Imported Heat and Steam		15.45	
Electricity consumption		4,364.65	
Car use	615.51		
Air Conditioning and Fire Suppression equipment	33.57		
Back-up Generators	1.01		
Boilers	173.21		

The scope of reporting covers direct environmental impacts associated with 44 QBE offices located in 17 countries, with more than 2,500 employees.

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

CRES EO has, since 2008, developed and implemented an environmental reporting system throughout all QBE's European offices. CRES EO collects and collates data provided by the company's European offices on a quarterly basis. Quarterly reports summarise a range of environmental key performance data, allowing monitoring of performance and identification of opportunities as part of an on-going programme to maintain and improve environmental management and QBE's wider objectives.

Direct 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.

Data Assurance and forward planning

QBE works with an external consultant on an on-going basis. The consultant, Dr David Smith, Technical Director for Corporate Sustainability at AECOM, supported the design and evolution of the data management system and continues to review source data, audit trails and calculations.

The consultant's relevant qualifications include:

- Fellow of the Institute of Environmental Management and Assurance, Chartered Environmentalist and an IEMA Registered Environmental Auditor;
- Carbon Trust Standard Accredited Assessor for corporate GHG emissions (2010); and
- The Lead Verifiers BSI Global Best Practice Greenhouse Gas Emissions Verification (2003).

Evidence also applies to principle(s): 5.2, 6.1, 6.2

Source: QBE.

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 / Lloyd's Together

Around the world our offices are supporting their local communities as part of the Corporations Lloyd's Together programme.

The programme focusses on four key areas: education and employability; environment and sustainability; social welfare and health; and disaster preparedness and relief. There are a number of projects supported and run across our global offices:

Lloyd's Together global programme[60]

A commitment to education and social welfare plays out across Lloyd's international offices and 2014-2015 has seen multiple CSR initiatives take place from Canada to China, Singapore to South Africa. In the US, the Corporation continued to work closely with the Insurance Industry Charitable Foundation, an industry sponsored not-forproft organisation that brings the collective strength of 100+ brokers and insurers together to provide grants and volunteer services to local communities.

Examples of projects include:

- In November 2014, a delegation from Lloyd's Shanghai, including representatives from Catlin and Navigators, set out on a two-day journey to visit a primary school in Yunnan funded by the Corporation and Market in 2007 following mudslides which destroyed local villages. The visitors helped out in the classroom and donated laptops, school bags and sporting equipment before making the journey home.

- In June 2015, Lloyd's global offices celebrated World Environment Day by participating in a week long programme of sustainability related activities. In Dubai, activities included a 'lights off' day - where the office saved energy by working using only natural light - and a 'no printing' day, encouraging colleagues to become aware of their consumption habits and to reduce waste. Walla Omar from the Dubai office said "Recycling isn't commonplace in Dubai but our new office in the Dubai International Financial Centre has moment structured light systems and we are trying to introduce more greenery as well as substituting all of our disposables with reusable items. It's great that World Environment Day highlights these issues."
- Full details of all the projects in this programme by country can be found at lloyds.com/together

A key focus for the CSR team during the remainder of 2015 will be the further integration of Lloyd's CSR programme globally, and forms only a part of the Corporations longterm commitment to the goals laid out in Strategy 2025 in this area.

Evidence also applies to principle(s): 5.3, 6.1

Source: Lloyd's supplier responsibility[61], Lloyd's annual report[35], Lloyd's Vision 2025[1]

5.4.2 Lloyd's / The Corporation of Lloyd's / Employee engagement: Lloyd's Community Programme

2014 marked the 25th anniversary of the Corporations Lloyd's Community Programme, which is supported by 50 companies in the market and involves over 2,000 volunteers from the Corporation and market during the year.

Lloyd's Community Programme volunteer involvement

Year	Number of volunteers
2010	1,464
2011	1,514
2012	1,883
2013	1,716
2014	2,087

Alongside these formal programmes over 400 colleagues in the Corporation, including representatives from many of Lloyd's international offices, participated in a variety of learning opportunities; subjects included forensic interviewing and project management.

A highlight of the development year was the annual 'Learning Week', a five-day programme for Corporation staff consisting of short open workshops. 650 places were taken up on the 39 workshops, with a positive rating from attendees of over 95%. The 2015 'Learning Week' has just taken place, and statistics to show figures will be available in next year's submission.

Evidence also applies to principle(s): 3.1, 3.2, 6.1

Source: Lloyd's 2014 Annual report[62]

5.4.3 Lloyd's / The Corporation of Lloyd's / International Sustainability Action Programme (ISAP)

Last year we reported on the Corporations launch of Lloyd's International Sustainability Action Programme, which was developed as part of our EWG, and works with our international offices undertaking actions encouraging practical initiatives.

Championed by Shirine Khoury-Haq, Director of Operations, the programme has been designed to give practical support to our international offices to help them reduce their impact on the environment. Last year Shanghai, Chicago and Singapore were the three lead offices involved, however the programme has since been expanded and additional offices now have targets that we aim to report against next year.

As part of ISAP, the Corporation has been working with Carbon Smart to produce a series of resource manuals to support our sustainability champions to bring about real action. Each of the topics listed below were identified as areas where the champions can make positive changes within their offices:

- Waste and recycling
- How to run sustainability campaigns
- Sustainable procurement
- Raising awareness at Lloyds

The full schedule of events for World Environment Day across our offices[e], and our continued success in waste and recycling demonstrates the effectiveness of this programme.

Evidence also applies to principle(s): 5.1, 5.2, 6.1, 6.2

Source: Carbon reduction[63]

5.4.4 Lloyd’s / The Corporation of Lloyd’s / World Environment Day

The first week of June saw Lloyd’s offices around the world support the United Nations World Environment Day on Friday 5 June. Each day the Corporation of Lloyd’s focused on a different topic with different activities taking place in our international offices, and our daily intranet blogs featuring colleagues’ views from around the world. This offered an insight into what sustainability means for different colleagues, and what people are doing to try and take positive action both at home and in the workplace.

World Environment Day provided an opportunity to facilitate engagement around the office and make environmental issues more visible. It was 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, we continue to build a sense of pride and enthusiasm around what they have achieved, and use this to reflect on what they can do next.

Monday’s focus was on waste and recycling. In the London office a waste and recycling display was created and included a paper ‘sculpture’ to show staff how much paper the London office uses in a week. By using the paper recycling bins the Corporation of Lloyd’s and the Market help Lloyd’s save the equivalent of 1,300 trees; Lloyd’s overall recycling rate has increased 36% since 2011. It was also demonstrated how many napkins we save a week since catering stopped canteen customers from helping themselves to napkins.

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[e] See the Corporations supporting documents.

Amount of paper used in one week by the corporation of Lloyd’s, and our Clean City Awards Scheme, Gold award certificate.

On Tuesday and Thursday tours were organised of Lloyd’s One Lime Street building – the youngest Grade 1 listed building in the UK.

On Wednesday, our global Sustainability Champions around the world blogged about what sustainability means to them, showcasing the issues they face and what personal action they are taking. On Thursday a webinar was hosted for all of the Lloyd’s global offices to take part in. The main topic of the talk was innovation in the sustainability sector. Our global Sustainability Champions also blogged about green travel on the Corporation intranet. On Friday staff were encouraged to eat meat free and our catering supplier provided healthy recipes to try at home.

Lloyd’s offices in Beijing, Chicago, Dubai, Kentucky, Milan, New York, Rio, Shanghai, Singapore, Sydney, and Tokyo adapting these activities and; switched off their lights to save energy, visited sustainable buildings, and had meat free lunches.

Partnership activities coordinated with our catering supplier.

Impact

These activities all work towards the goals from the 2014-2016 strategy for Corporate Social Responsibility, and represent growth and commitment from our previous year's reporting.

Evidence also applies to principle(s): 5.1, 5.2, 6.1, 6.2

Source: Lloyd's 2014 Annual report [35], Lloyd's Vision 2025 [1]

6 REPORT AND BE ACCOUNTABLE

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 of Finance
ACE Group	Andrew Kendrick	ACE Group President
Amlin	James Illingworth	Group Chief Risk Officer
Argo	John Spencer	Non-Executive Chairman
Beazley	Clive Washbourn	Head of Marine[f]
Hiscox	Sheila Cameron	Director of Group Operations
MSIG at Lloyd's	David Casement	Director of Legal and Corporate Affairs
Navigators	Stephen Coward	Director, NUAL, Joint Active Underwriter and President, Technical Risk
QBE	Joe Gordon	Chief Operations Officer
Renaissance Re	Richard Murphy	Chief Executive Officer

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

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, such as car-sharing and switch-off campaigns.

The Corporation of Lloyd's is committed to ClimateWise and supports the Market in their activities. We 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.

Evidence also applies to principle(s): 5.1, 5.2, 5.3, 5.4, 6.2

Source: Lloyd's 2014 Annual report[35], Lloyd's Vision 2025[1]

[f] Clive Washbourn also heads up the Responsible Business Committee.

6.1.2 Lloyd's / The Market / ACE Group / ACE Operations Statement: Andrew Kendrick, SVP, ACE Group President

One of the primary objectives of ACE's Corporate Environmental Programme is to measure, record and reduce GHG emissions. As an insurance company, ACE 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.

Since 2006, ACE has reduced GHG emissions by 22% per employee. In September 2014, ACE announced a new companywide goal to reduce emissions by 10% per employee from 2012 to 2020.

The company first developed its Corporate Greenhouse Gas Inventory Management and Reduction Plan in 2007, when ACE joined the voluntary Climate Leaders initiative sponsored by the U.S. Environmental Protection Agency (EPA). The plan included global emissions reporting, the establishment of a reduction goal and a strategy for achieving the goal. Using the Climate Leaders methodology, ACE achieved the initial six-year GHG reduction goal of 8% per employee ahead of schedule. ACE's 2014 emissions data which were third-party verified by Bureau Veritas to ISO 14064-3 standards, showed a 0.1% intensity reduction in emissions per employee from the 2012 base 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. ACE has gained invaluable 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.

ACE also reports its GHG emissions data and related activities to CDP, an international, not-for-profit organisation providing the only global system for companies and cities to measure, disclose, manage and share vital environmental information. In 2013, ACE was named to the CDP's Global 500 Climate Performance Leadership Index (CPLI) and the S&P 500 CPLI for the second consecutive year. In 2014, ACE earned a disclosure score of 93 and a performance score of B.

In 2014, ACE was also designated a "Leading" company by Ceres, the nonprofit sustainability organisation, in its first-ever report evaluating climate risk disclosures by insurers. ACE 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. In 2014, for example, ACE voluntarily completed and implemented several building efficiency projects at our owned facilities, such as lighting projects and improvements to HVAC systems. These projects are estimated to save approximately 856 metric tons of CO_2e each year.

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 ACE's GHG inventory — include our global fleet of vehicles and aircraft.

ACE 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 ACE'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.

ACE 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. In November 2014, the Philadelphia building received LEED Gold for its recertification efforts. In 2011, our Bermuda executive office building earned another "first" for the company when it was awarded LEED Gold certification under the LEED Existing Building (EB):

Operations and Maintenance rating system, making it the first building on the island to earn LEED certification. In addition to high levels of energy efficiency, both of these buildings 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 ACE employees a safe and comfortable working environment with minimal impact to the natural world.

Employee Engagement

Our employees globally play a key role in supporting the company's environmental commitment. For example, many offices around the world have formed volunteer committees whose goal is to control or reduce the environmental impact of their local operations. In recent years, employees have helped the company achieve substantial progress on the following five initiatives:

- Establishing recycling programmes in all eligible offices.
- Discontinuing the use of disposable plastic water bottles.
- Removing disposable Styrofoam products in offices.
- Purchasing only sustainable copy paper in all offices.
- Reducing paper consumption by 5%.

A significant majority of our offices have achieved all five goals and have set a positive example for others to follow.

Our Philanthropy

The environment is a priority for ACE's philanthropy in an effort to address the "societal" aspects of climate change. In recent years, the ACE Charitable Foundation provided more than $1 million to The Conservation Fund initiatives that have protected over 321,000 acres of threatened lands and waters, and The Conservation Fund's ShadeFund™ programme, which provides financing to green business entrepreneurs nationwide. In 2014, the Foundation provided funding to the Chesapeake Bay Foundation's Forest Buffer Programme. By providing farmers with assistance in planting native trees, shrubs and other plants next to waterways, this programme will help limit the amount of agricultural pollution draining into Chesapeake Bay tributaries and the Bay itself. The Foundation also supports the Fairmount Park Conservancy's Growing the Neighborhood Programme, providing local parks with funding to improve and maintain their parks. Fairmount Park is one of the largest urban park systems in the United States. 2014 was ACE's 11th year of support to park preservation activities.

The environment is a priority in ACE's corporate philanthropy. The ACE Charitable Foundations and the company's employees support a wide range of environmental philanthropies and volunteer activities in local communities around the world. Through these initiatives, ACE addresses the "societal" aspects of climate change and promotes a healthy and sustainable planet.

Since 2005, ACE has supported The Conservation Fund, which has protected more than 7 million acres across the U.S. The foundation has funded the ACE Land Legacy Fund, a revolving pool of capital within The Conservation Fund that has been leveraged with other capital sources to protect 320,000 acres of the nation's most threatened lands and waters. The ACE Land Legacy Fund has helped protect the Big River and Salmon Creek in California; the Rocky Mountain Front in Montana; the Kishwaukee River Corridor in Illinois; the Gualala River Forest in California; and the Nanticoke River within the Delaware Bay Watershed. Most recently, the ACE Charitable Foundation supported a grant to protect key watersheds and wildlife migration corridors.

ACE grants also support The Conservation Fund's ShadeFund™ programme, which provides financing to green business entrepreneurs in the U.S. The ShadeFund™ programme provides small loans to promising green entrepreneurs by pooling contributions from individuals, companies and foundations. As entrepreneurs repay their loans, capital is redeployed to help other entrepreneurs grow their businesses, thus creating jobs, preserving working forests and supporting rural communities across the country. Another approach to environmental support is fostering sustainability and effective resource management.

In 2013, the ACE Charitable Foundation provided support to train Vietnamese farmers with a two-year grant to Roots of Peace for the expansion of the Quang Tri Province Black Pepper farming initiative in Vietnam. ACE's support helps restore land previously contaminated with landmines, allowing sustainable crops such as black pepper to grow. Nearly 900 farmers are participating in the programme.

In 2013, the ACE Foundation-International provided funding to Natuurmonumenten, an environmental organisation in the Netherlands. The project is restoring areas in the Maas forest of Mount Saint Peter nature reserve, which has Natura 2000 status (a prestigious designation for the top nature reserves in Europe). The habitat on Mount Saint

Peter is very rare in the Netherlands and is in danger of possible extinction without restoration of the area. ACE continues to partner with the Bren School of Environmental Science & Management at the University of California, Santa Barbara. The ACE Group Project Fund supports Bren's master's degree programme students who conduct group projects that promote a healthy and sustainable environment. In 2014 and 2015, ACE will support two new projects: a sea level rise vulnerability assessment for the City of Santa Barbara and a study of the Lake Mead and Lake Powell reservoirs, which have been consistently dropping in recent years due to heavy consumptive use by water users in California, Arizona and Nevada and prolonged drought.

ACE's Environmental Risk business unit also supports conservation efforts. 2014 marked the seventh consecutive year the group has contributed to American Forests' ReLeaf Programme, the oldest national nonprofit conservation organisation in the U.S. This year, ACE selected seven national and three international forest restoration projects and will sponsor the planting of 19,340 trees — one for each environmental insurance policy written by ACE globally in 2013. To date, ACE has sponsored the planting of more than 65,000 trees through the programme.

Volunteer Efforts

ACE also organises employee volunteer projects with an environmental focus. In Philadelphia, ACE has maintained a significant partnership with the Fairmount Park Conservancy and its Growing the Neighbourhood Programme. Fairmount Park is one of the largest and oldest municipally operated park systems in the U.S., encompassing 9,200 acres and 63 neighbourhood and regional parks. In addition to financial assistance over the past 11 years, ACE employees have volunteered on park cleanup days throughout the year.

In the fall of 2013, multiple ACE offices supported environmentally conscious volunteer efforts as part of the Insurance Industry Charitable Foundation's annual Week of Giving. The New York office volunteered at the FEGS Health and Human Services Residence Center Garden Project, removing and planting shrubs and flowers. These efforts helped rebuild an area that was severely damaged in Superstorm Sandy. In Chicago, employees helped clean North Avenue Beach. These volunteer efforts allow ACE employees to have a positive impact on their local environments.

ACE employees in Bermuda have volunteered for several environmental projects on the island, including the Keep Bermuda Beautiful charity, which combines cleanup and education activities. Additionally, the ACE building facilities team volunteered in the Trunk Island Project with the Bermuda Zoological Society. The project goal was the removal of invasive plant species found on the island. The ACE Bermuda property team also volunteers at Windreach Recreational Village, assisting with keeping the grounds clean and tidy, weeding and sifting the gardens, putting down compost and preparing the gardens for planting.

In Hong Kong, ACE volunteers cleaned Shek O Beach on the regional day of service in 2013.

These examples represent ACE's more significant environmentally focused funding and volunteer projects. There are numerous other ongoing and pending projects around the world that represent ACE's community and philanthropic dedication to critical environmental issues.

Andrew Kendrick
SVP, ACE Group President
ACE European Group, 100 Leadenhall Street, London, EC3A 3BP

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: ACE Group.

6.1.3 Lloyd's / The Market / Amlin / Amlin Statement: James Illingworth, Chief Risk Officer

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.

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.

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 (August) and Chelmsford (June).

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, Amlin Executive Committee
St Helens, 1 Undershaft, London, EC3A 8ND

Evidence also applies to principle(s): All.

Source: Amlin.

6.1.4 Lloyd's / The Market / ArgoGlobal – Syndicate 1200 / Growing our efforts

Our reporting process continued to evolve during the 2014/2015 reporting period. The team, led by our Chairman, Mr. John Spencer continues to take push for systematic approach to communications and dialogue.

ArgoGlobal – Syndicate 1200 is a Direct and Facultative insurer and reinsurer member of ClimateWise. As an insurer we have focussed on Principles 1, 3 and 6.

We would like to note that while we are reporting through ArgoGlobal Syndicate 1200 our sustainability efforts, including ClimateWise have been a group wide endeavour. The following actions, learnings and engagements have involved personnel from Syndicate 1200 as well as from across the Argo Group[64].

Climate Change is part of the Group's risk taxonomy and we continue to reflect this and potential impacts and uncertainties related to climate change as part of our public reporting (US Stock Exchange – NASDAQ – 2014 10K – page 20). This is an issue that is on the Risk Management team's agenda and we bring many of these considerations to the individual Business Unit and Underwriting levels.

We continue our participation in UNEP FI – Insurance Commission and monitor the Principles for Sustainable Insurance (PSI). The PSI has a reporting requirement that we are studying in the effort to be fully prepared to complete this aspect should we become a signatory.

We continue to participate and report under the ClimateWise initiative and have Group representation on the ISO's Emerging Risks council. The Council addresses many aspects of climate change from a coverage and claim aspect and produces a quarterly report on findings and commentary. This document is shared with the appropriate personnel within the Argo Group.

In terms of internal communication with staff, we organized a 'Brunch & Learn' forum for London-based employees in October 2014, at which two members of the ClimateWise committee (Greg Lowe and Paul Mackie) gave presentations. The aim of the session was to give a detailed view of ClimateWise and identify steps that an individual can take to help mitigate the effects of the changing climate. The event was well attended by over 70 employees, and the feedback was overwhelmingly positive.

This session was preceded by an internal newsletter going to all 1,300 Argo Group employees covering the issue of sustainability including our involvement in ClimateWise and why this initiative is important.

Operational Boundary

All figures in the following table relate to Exchequer Court, 33 St Mary's Axe, London EC3A 8AA.

ArgoGlobal rents a number of desks in the Room at Lloyd's - these have not been included in the table below because they fall completely within the operational control of Lloyd's and have been included within their GHG inventory.

ArgoGlobal 2014 Emissions Report[g]

	2012 (t CO_2e)	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	115.8	
Steam/heat	11.2	
TOTAL	127.1	
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.	-	
Total	**127.1**	**tCO2e**

Evidence also applies to principle(s): 1, 2, 3, 5, 6

Source: ArgoGlobal – Syndicate 1200.

6.1.5 Lloyd's / The Market / Navigators Underwriting Agency Limited / Navigators statement: Stephen Richard Coward, Director, NUAL, Joint Active Underwriter Syndicate 1221 and President, Navigators Technical Risk

Further to prior years' reporting for ClimateWise, included in this document is the 2015 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:

- Lead in risk analysis
- Inform public policy making
- Support climate awareness amongst customers
- Incorporate climate change into investment strategies
- Reduce environmental impact of our business
- Report and be accountable

As part of the Lloyd's community the report is in the form of activities and case studies relating to the 2014 calendar year (reporting period), demonstrating how we contribute to a low carbon resilient economy. 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 enhance

[g] Auditing: The figures in the above table have not been externally audited.

our submission against Principle 1, and advise future activity in regard to Principle 5.

Stephen Richard Coward, Director, NUAL, Joint Active Underwriter Syndicate 1221 and President, Navigators Technical Risk.
2 Minster Court, 4th Floor, Mincing Lane, London, UK EC3R 7BB

Evidence also applies to principle(s): All.

Source: Navigators Underwriting Agency Limited.

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

Lloyd's continues to publish its ClimateWise annual statement publicly. This reports progress against the ClimateWise principles on Lloyds.com. The statement is found within the "Environment" section of the website, and it mentioned within various strategy documents and webpages.

Following internal and external feedback, we have changed the format of our submission, and continue to submitting 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 our internal community of staff and market participants, along with outside parties, to find out more about the ways Lloyd's is implementing, planning, and promoting activities that align with the ClimateWise principles.

Lloyd's views this method as being more sustainable, and sits within our Carbon Reduction programme to reduce our environmental and energy footprint[65].

Evidence also applies to principle(s): 1, 2, 3, 4, 5, 6.1

Source: Lloyd's 2014 Annual report[35], Lloyd's Vision 2025[1]

6.2.2 Lloyd's / The Market / Amlin / Accountability to our stakeholders

We engaged Deloitte LLP to carry out limited assurance on the compilation of our 2012 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 is published on our website. Similarly our Carbon Disclosure Project and ClimateWise submissions are available online.

Amlin is also a member of the FTSE4Good Index, which is a clear indicator that the company is prioritises its corporate responsibility and is committed to demonstrating this.

Evidence also applies to principle(s): 6.1

Source: Amlin.

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SUPPORTING DOCUMENTS

1.1 The Corporation of Lloyd's

1.1.1 Lloyd's

The Corporation of Lloyd's - 1 - Sub-Saharan Africa, Improved Water Infrastructure (Carbon Neutral)

1.2 The Market

1.2.1 Argo

Argo - 1 - CPCU Anaheim 2014

Argo - 2- Climate Change and Sustainability

Argo - 3 - Argo Group Makes Strides

1.1 The Corporation of Lloyd’s

THE CARBON NEUTRAL COMPANY

carbonneutral.com

PROJECT FOCUS

Sub-Saharan Africa:
Improved Water Infrastructure

Water stewardship | Health and well-being | Infrastructure development | Empowering women | Climate adaptation | Financial security

Nearly a billion people worldwide do not have access to safe drinking water[1]. This Gold Standard project, based primarily in Uganda and Malawi, provides clean drinking water to small rural communities through repairs to broken boreholes and the drilling of additional boreholes. Boreholes can be used as water wells by installing a vertical pipe casing and well screen which allows water to be extracted from the ground.

Project type: Domestic Behaviour Change

Region: Africa

Standards:

The Gold Standard®
Premium quality carbon credits

A brighter future: The project is estimated to impact 3,000 infants and children, and more than 5,700 people in total.

The project

The project helps provide clean and healthy drinking water to communities which do not currently have access to such sources. Many existing boreholes, often owned by a community-based organisation or the village health and water committee, have fallen into disrepair because maintenance programmes in the region have been poorly managed or have proven to be too expensive. This project helps repair and restore deteriorated boreholes and uses appropriate technology, such as the African-sourced Afridev hand pump, which can be maintained by local mechanics who are trained by the project developers.

Each country-specific project is reducing 10,000 tonnes, includes about 10 boreholes and helps on average 5,000-6,000 people

By providing clean water, safe for human consumption, and maintaining the infrastructure required for project lifetime efficiency, the project helps ensure households use less firewood to purify the water through boiling.

The majority of firewood used within these communities is non-renewable which leads to degradation of the forests and shrub lands in the surrounding areas. The project helps reduce greenhouse gas (GHG) emissions from the combustion of firewood, typically used in households' inefficient three-stone fires.

This programme is implemented in rural communities throughout Sub-Saharan Africa, with dozens of boreholes being rehabilitated or created in areas including Malawi, Uganda and Rwanda. Each borehole serves a small rural community, who may have had to travel long distances to collect water or used contaminated sources. The programme collects detailed local information providing accurate data on numbers of households using the boreholes, the incidences of illness avoided and the amount of firewood saved. Each country-specific project is reducing 10,000 tonnes, includes about 10 boreholes and helps on average 5,000-6,000 people.

Contribution to sustainable development

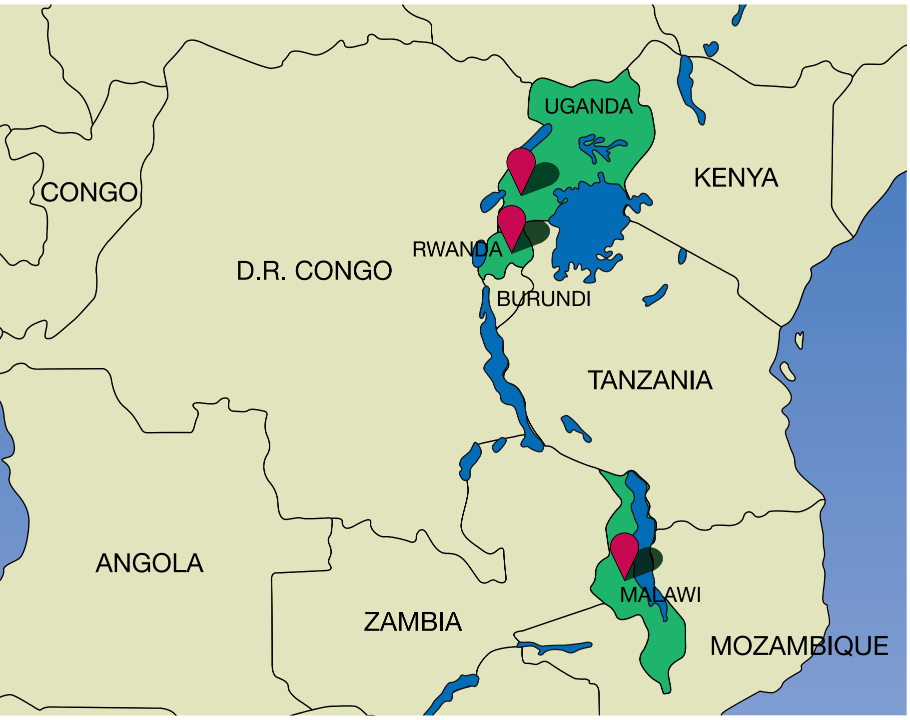
The project contributes to sustainable development in several key areas:

Water stewardship

The project provides the infrastructure for clean water supply for communities throughout Sub-Saharan Africa. In many cases, the boreholes have fallen into disrepair and communities need to travel long distances from their town to collect water or use unsafe water sources. Depending on the number of people in the community, a borehole can provide about one million litres of safe drinking water per year.

Health & 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.



The programme is implemented throughout Sub-Saharan Africa, with current activities primarily in Malawi and Uganda.

After the initial WASH training conducted by locally-based trainers who are employed by the project developer, there is a monthly follow-up to promote the adoption of good practices. The training includes both personal sanitation practices such as keeping water containers clean and storing the water correctly, and community practices such as developing a set of community by-laws, a fence to protect the borehole, rules stating no animals are to use the boreholes, and rules around local rubbish and latrines.

The rehabilitated boreholes provide the communities access to clean ground water making them less susceptible in case of severe droughts

Empowering women

The boreholes greatly reduce the time needed for collection of water and fuel and purification of water, allowing women to focus on other activities. Women are often the primary water gatherers, spending hours collecting water and firewood each day and then purifying it through boiling, exposing them to increased indoor air pollution.

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.

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.

The region

The programme is implemented throughout Sub-Saharan Africa, with the first projects in Uganda, Rwanda and Malawi, and is quickly expanding to other countries. Many Sub-Saharan countries are rated as Least Developed Countries and classed as "Low" on the United Nations Human Development Index (HDI)[2], which is a global comparative measure of life expectancy, literacy, education, living standards and quality of life.

Location

The programme is implemented throughout Sub-Saharan Africa, with current activities primarily in Malawi and Uganda but increasing into other areas.

[1] http://www.wateraid.org/uk/what-we-do/the-crisis/statistics
[2] http://hdr.undp.org/en/data

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1.2 The Market

1.2.1 Argo

Argo - 1 - CPCU Anaheim 2014

Argo - 2- Climate Change and Sustainability

Argo - 3 - Argo Group Makes Strides

Unpacking Climate Change and Sustainability
Three Subject Matter Experts Examine the Phenomenon

By Tony Cabot, CPCU, ARM

Climate change, also often referred to as global warming, is a growing concern in the United States and throughout the world. The effects of climate change cause a ripple effect in the insurance world, as resulting weather conditions plague insurers, producers, and legal counsel. Climate change is an issue that affects economic, social, and environmental sustainability.

The CPCU Society International Insurance Interest Group (3iG) aired a webinar on May 15, 2014, titled, "Hot or Cold? A Closer, Deeper Look at Climate Change and Other Sustainability Issues." The panelists, all of whom deal with the effects of climate change in their respective professions, included Joseph H. Louwagie, CPCU, SCLA, AIM, assistant vice president of Property Claim Services (PCS), a division of Verisk Analytics; Butch Bacani, program leader, United Nations Environment Programme Finance Initiative, Principles for Sustainable Insurance (UNEP FI PSI) Initiative; and William F. Stewart, Esq, partner of Stewart, Bernstiel, Rebar & Smith–Attorneys at Law.

In an interview developed for this journal, these three experts in their respective fields kindly agreed to share their concerns and ideas on the risks and opportunities associated with climate change.

Tony Cabot (TC): ***Let's start with Joe Louwagie, who has vast knowledge about weather catastrophes and alternative capital solutions. Joe, why should insurers care about the impact of climate change?***

Joseph H. Louwagie (JL): Insurance companies exist as a risk transfer mechanism for families and businesses. The price charged to cover transferred risks is based, among other things, on the predicted, expected loss of future events, strengthened by knowledge of historical patterns. The recent rise in catastrophe frequency—especially for smaller events—could present new challenges to the industry.

Actuaries carefully look at historical frequency and severity, but may also consider other aspects, such as expected future increases in frequency, to determine proper pricing. The challenges associated with developing proper pricing may be compounded by difficulties in obtaining regulatory approval.

Consequently, the topic of climate change—and its impact on catastrophe frequency and severity—is fundamentally important to individual carriers, their customers, and the industry as a whole. An increase in frequency that defies historical precedent could make the development of prospective prices a daunting and complicated matter.

TC: ***So how can carriers respond to changing catastrophe frequency and severity?***

JL: There are numerous approaches to risk and capital management that carriers can use to improve their financial results and the service they provide to customers. The two most significant relate to their effectiveness in risk mitigation and transfer. First, effectively educating policyholders about loss prevention and loss mitigation is critical. Carriers that leverage the knowledge within entities such as the Federal Alliance for Safe Homes (FLASH) and the Insurance Institute for Business & Home Safety (IBHS), and communicate some of those loss prevention practices to their policyholders, not only have a competitive advantage but are truly serving their policyholders by educating them on how to prepare for extreme weather.

Second, simply being aware of the wide range of risk transfer alternatives can help. Beyond traditional reinsurance risk transfer, carriers now have access to a number of new tools for transferring the low-frequency, high-severity risks at the extremes, which can significantly, negatively impact their capital base and policyholder surplus. Insurance-linked securities (ILS) provide a relatively new way to address potential large loss events and thus optimize capital deployment and risk management.

TC: ***Let's talk about catastrophe bonds. Why is there so much interest in them?***

JL: Carriers are likely interested in them because they provide collateralized, multiyear protection and diversification outside the insurance and reinsurance industries. And for investors, cat bonds can have two advantages. First, the yields have tended to be higher than other fixed-income instruments, although pricing has come down significantly this year. Also, they are not correlated with broader financial markets, providing a unique opportunity to diversify.

TC: ***What has happened with cat bonds in the first half of 2014?***

JL: The cat bond market in 2014 has been active at a record pace. Through July 1, there have been $5.6 billion in new issuance cat bonds and eighteen total transactions. The concentration of cat bonds is mostly around U.S. risk, with 14 of 18 bonds, or 78 percent, including North American risk.

TC: ***Do you foresee any cat bond trends on the horizon?***

JL: Several things appear likely:

- Sponsor diversity is likely to grow—and not just geographically. While cat bonds covering new regions are coming to market, we may also see new lines of business addressed as well. PCS, for example, is actively looking at the possibility of global energy and marine loss aggregation and index platform.
- Even with the potential for diversification, Florida exposures will probably remain the epicenter of the cat bond market. While investors worldwide have shown interest in diversifying risks, peak peril remains a priority, and there are not many places in the world like the Sunshine State in this regard.
- Sponsors are increasingly using indemnity triggers, a trend likely to continue to gain momentum (absent a market-changing event). Abundant capital and low levels of catastrophe losses for several years have contributed to this trend. While many sponsors generally prefer indemnity triggers as a way to reduce basis risk, investors tend to prefer index triggers. For this reason, there appears to be room for both in the market for the foreseeable future.

Of course, as we all know, one major catastrophe event could change everything.

TC: ***The United Nations and the insurance industry have created a global initiative to tackle action on climate change and other sustainability issues through the Principles for Sustainable Insurance Initiative. Butch, what is sustainable development, and what are some examples of sustainability issues?***

Butch Bacani (BB): Sustainable development is "development that "meets the needs of the present without compromising the ability of future generations to meet their own needs."[1] It has three dimensions—economic, social, and environmental.

Companies are facing a wide range of environmental, social, and governance issues relevant to business strategies, operations, and supply chains in varying degrees and scales that undermine sustainable development. Examples include climate change and extreme weather events, natural resource degradation, rapid urbanization, water scarcity, aging populations, social inequality, emerging health risks, unfair treatment of customers, lack of accountability and transparency, and trust and reputation issues.

Sustainable thinking and practice entails understanding and managing risks and opportunities in a proactive, holistic, responsible, and forward-looking way; to deliver sustainable business value; and to support economic, social, and environmental sustainability.

TC: What are the Principles for Sustainable Insurance and what is their purpose?

BB: Endorsed by the U.N. Secretary-General, the Principles for Sustainable Insurance (PSI) serve as a global framework for the insurance industry to address environmental, social, and governance risks and opportunities. They are voluntary and aspirational principles, and they represent a global roadmap for the insurance industry's role in sustainable development.

These are the four Principles for Sustainable Insurance:

- Principle 1: We will embed in our decision making the environmental, social, and governance issues relevant to our insurance business.
- Principle 2: We will work together with our clients and business partners to raise awareness of environmental, social, and governance issues; manage risk; and develop solutions.
- Principle 3: We will work together with governments, regulators, and other key stakeholders to promote widespread action across society on environmental, social, and governance issues.
- Principle 4: We will demonstrate accountability and transparency in regularly disclosing publicly our progress in implementing the Principles.

As of July 2014, seventy organizations have adopted the PSI, including insurers representing approximately 15 percent of world premium volume and $8 trillion in assets under management.

[1] General Assembly of the United Nations, "Report of the World Commission on Environment and Development: Our Common Future" (Oxford, United Kingdom: Oxford University Press, 1987), p. 16, www.un-documents.net/our-common-future.pdf (accessed Aug. 4, 2014).

Furthermore, the principles have become part of the insurance industry criteria of main sustainability indices, such as the Dow Jones Sustainability Indices[2] and FTSE4Good.[3]

The principles have led to the largest collaborative initiative between the United Nations and the insurance industry—the PSI Initiative.[4] The vision of the PSI Initiative is of a risk-aware world, where the insurance industry is trusted and plays its full role in enabling a healthy, safe, resilient, and sustainable society. The purpose of the PSI Initiative is to better understand, prevent, and reduce environmental, social, and governance risks and to better manage opportunities to provide quality and reliable risk protection.

TC: What is sustainable insurance?

BB: The PSI provides this definition:

> Sustainable insurance is a strategic approach where all activities in the insurance value chain, including interactions with stakeholders, are done in a responsible and forward-looking way by identifying, assessing, managing and monitoring risks and opportunities associated with environmental, social and governance issues.
>
> Sustainable insurance aims to reduce risk, develop innovative solutions, improve business performance, and contribute to environmental, social, and economic sustainability.[5]

TC: Can you give examples of how individual insurers are implementing the principles, as well as collaborative projects of the PSI Initiative?

BB: Swiss Re has developed a Sustainability Risk Framework[6] to identify and address environmental, social, and governance risks in their core business. This risk management framework includes policies on sensitive sectors and issues, including oil and gas, defense, mining, dams, forestry and logging, animal testing, nuclear weapons proliferation, and human rights and environmental protection. There is a due-diligence process for case-by-case assessments, as well as criteria for company and country exclusions. The framework is applied to all business transactions—insurance, reinsurance, and investments—to the

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[2]The Dow Jones Sustainability Indices were launched in 1999 as the first global sustainability benchmarks. The family tracks the stock performance of the world's leading companies in terms of economic, environmental, and social criteria. The indices serve as benchmarks for investors who integrate sustainability considerations into their portfolios and provide an effective engagement platform for companies that want to adopt sustainable best practices. For more information, see www.sustainability-indices.com.
[3]The FTSE's FTSE4Good series was developed in response to growing investor demand for socially responsible investment (SRI) indices and products. For more information, see www.ftse.com/Indices/FTSE4Good_Index_Series/.
[4]For more information, see www.unepfi.org/psi.
[5]PSI Principles for Sustainable Insurance, "The Principles," June 30, 2014, www.unepfi.org/psi/the-principles/ (accessed on July 23, 2014).
[6]See www.swissre.com/corporate_responsibility/managing_env_risks.html.

extent that Swiss Re can influence various elements. For Swiss Re, implementing this framework is an example of how they are turning Principle 1 into practice.

In Australia, rising economic losses due to natural disasters highlighted ~~resulted in~~ the lack of investment in disaster risk reduction and the need for collaborative action. Insurance Australia Group led the formation of the Australian Business Roundtable for Disaster Resilience and Safer Communities.[7] In line with Principle 3, the roundtable's vision is to work collaboratively with governments to effect change in public policy and increase investment aimed at building safer and more resilient communities, and to actively improve the capacity of people and businesses to better withstand future natural disasters.

The annual public disclosures[8] of PSI signatory companies, which demonstrate accountability and transparency, are examples of Principle 4 in action. These disclosures show how insurers around the world are implementing the principles and enabling sustainable progress.

For the PSI Initiative, the current flagship collaborative project is the PSI Global Resilience Project. This project aims to deepen understanding of disaster risk reduction globally; assess the social, economic, and environmental cost of disasters; and use this information to help governments and communities around the world to manage risk. Last June, we completed the first phase of the project, which assessed the effectiveness of a range of disaster risk reduction measures across the three natural hazards that have created the most devastation globally—cyclone, earthquake, and flood. The findings are outlined in the report, *Building Disaster-Resilient Communities and Economies*.[9]

The next phase will develop a global disaster map to identify communities most in need of risk reduction efforts. The project will then seek to engage communities, governments, and other stakeholders in investing in disaster resilience and in implementing the measures most effective in protecting lives and property.

Other projects of the PSI Initiative span areas such as developing environmental, social, and governance risk assessment criteria across lines of insurance; climate information services for insurers to advance climate change adaptation; and insurance for low-income communities.

TC: ***Let us direct our attention to the intersection of climate change and insurance. Bill Stewart shares his experience with current regulations and insurance and his dealings with nuisance litigation that evolved as a result of climate change. Bill, how do (and will) climate change issues intersect with insurance?***

William F. Stewart (WS): The most obvious way, of course, is that warmer and less-predictable weather will result in a variety of increased risks: everything from more intense storms, to flooding, to more devastating wildfire. To the extent that our climate is altered, actuarial models will become less reliable.

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[7]See www.australianbusinessroundtable.com.au/.
[8]See www.unepfi.org/psi/signatory-companies/.
[9]See www.unepfi.org/psi/wp-content/uploads/2014/06/201406_PSI_press_release.pdf.

But climate change will also result in liability lawsuits (like the recent public nuisance actions brought against energy and oil companies) and D&O suits asserting that the physical and financial impacts of climate change should have been anticipated. Insurer risk disclosures and a variety of new products will also continue to emerge.

TC: ***Can you elaborate on the types of public nuisance cases related to global warming?***

WS: The first major wave of climate litigation took the form of climate nuisance lawsuits. The plaintiffs in these suits (often governmental entities or litigant classes) sued power companies, arguing that these defendants, by emitting greenhouse gases, had caused a warmer world that, in turn, caused various forms of environmental damage. While two federal appellate circuit panels concluded that these claims were viable, the U.S. Supreme Court (in *Connecticut v. AEP*) recently concluded that causation hurdles and the political question defense[10] barred liability.

TC: ***You mentioned new climate change products and opportunities earlier. Can you expound on that?***

WS: The first wave of sustainable insurance products were pretty simple—such as pay-as-you-go auto insurance and “green replacement” coverage. But more sophisticated products such as climate change D&O coverage and underground carbon sequestration policies followed thereafter. The most interesting niche is the growing renewable-infrastructure opportunity. Currently, 87 percent of our energy needs are met by fossil fuel, but much of that market will be replaced by solar, wind, geothermal, hydrogen, hydroelectric, and tidal projects. That represents a huge new market that someone will insure.

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[10]The political question defense is based on the federal court’s determination that the issue should be decided by elected officials.

Argo Group Makes Strides as Corporate Social Responsibility Leader

8/14/2014 Corporate Communications

Argo Group Makes Strides as Corporate Social Responsibility Leader

With Its Commitment to 'Securing the Future,' Company Champions Standard of Excellence in Industry, at Home

By Jamie Pachomski and Katie O' Brien

ARGO GROUP—These days, an insurer's key stakeholders have high expectations of the company's ability to serve in the best interest of the greater good. And where many companies fall short, others—like Argo Group—are answering the call.

Adapting to Change

In recent years, Argo Group has been making significant headway to become more active in the global sustainability movement. Through its participation in *ClimateWise*, the company joins dozens of its industry peers to collaborate on ways to drive action on climate change risk.

As a term of membership, Argo Group and fellow corporate social responsibility (CSR) leaders commit to meaningful action against a set of principles and are independently reviewed against them each year in the annual *ClimateWise* Report published by Lloyd's. A recent study on the state of sustainable business revealed companies that engage in such transparent business practices, and demonstrate social and environmental impacts in doing so, are best positioned to build the public's trust—the Number One driver of business success.

"The fact that the world is getting warmer is a very real challenge that companies today simply cannot afford to ignore," said Tony Cabot, director, product development (EMEA), Argo Group, and the company's unofficial *ClimateWise* representative. "Our involvement in CSR-related arenas—such as *ClimateWise* and others—continues to serve employees, shareholders, customers, business partners and the like, as living proof that Argo Group is committed to ensuring long-term business success. As a responsible and resilient business leader, it's what our stakeholders expect of us and thus, it is incumbent upon us to constantly be striving to meet, if not exceed, those expectations."

Cabot also partnered recently with the Chartered Property Casualty Underwriters (CPCU) Society to host a Webinar on sustainability, where he and other environmental experts shared their thoughts on how the insurance industry can move forward on the global sustainability front.

Protect and Serve

Microinsurance is another area to which Argo Group is actively contributing. Through its involvement in the research undertaken to launch the Microinsurance Innovation Facility, the company has supported this global initiative to investigate better ways to protect the lives and enhance the livelihoods of low-income families.

For Argo's part, it's about innovating ways insurers can help underprivileged businesses, such as sustenance farms, family-owned business and manufacturers, that do not have access to the traditional insurance market, better manage their exposures to the effects of climate change—and subsequent risk of loss—to break the cycle of poverty.

"Though it's usually a natural response, throwing money at the problem is not a sustainable solution," said Cabot. "Instead, we need to create a virtuous cycle of payment of premiums and claims, and introduce better risk management practices to improve how these businesses can thrive in the long run." Cabot added, "While the facility is still in the process of being developed, we will continue to monitor the Facility's efforts in the coming year."

Working Smarter, Better

While Argo Group continues to do its part as a good corporate citizen in the industry and outside world, the company has also made some noteworthy enhancements on the home front.

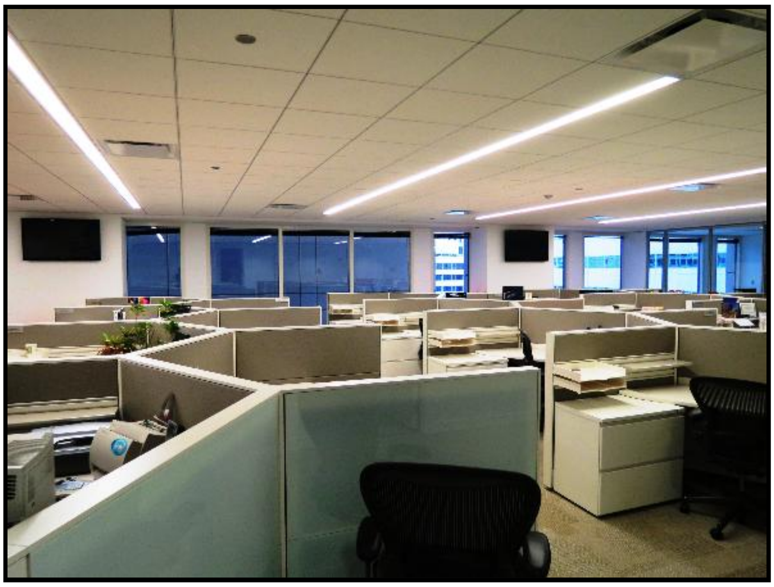
In fact, Garth Erickson, manager, U.S. facilities, Argo Group, has been spearheading a sustainability initiative to design more energy-efficient spaces at the company's office locations around the world. During the past year alone, Argo Group—under Erickson's leadership—**has helped to reduce its carbon footprint by 34 percent**.

"It's really encouraging to see the company leading the way as an environmental leader," he said. "When an office lease expires, we're now taking advantage of the opportunity to rethink how the space can be utilized more efficiently. With the many rewards that our employees, our business and our environment reap as a result, it's a challenge our corporate facilities team is more than happy to take on."

Leading by Doing

In all, nine Argo Group offices have benefitted from a number of internal architectural improvements. To maximize an office building's total square footage, offices and cubicles have been reconfigured, yet maintain the same amount of space employees have to work in. As a result, work stations function more efficiently and the company is poised to accommodate new employees more effectively.

Lighting has also been taken into account. **Since lighting is the biggest energy consumer in an office building** (44 percent), Erickson and his team have been replacing existing lights with high-efficient fixtures. More windows are also being added to leverage the value of natural light. This largely cuts down on the company's total energy spend and helps to make for a more comfortable work environment for employees.



New, energy-efficient light fixtures illuminate the Chicago office

Additionally, Erickson added that throughout this rehab journey, Argo Group has spared local landfills **more than 150,000 square feet of discarded material**. Instead, old furniture is donated to local non-profit organizations and replaced by furniture systems that are certifiably "green," including conference tables and task chairs that are made from almost entirely recycled material. Moreover, all break room appliances are Energy Star-rated and only environmentally-friendly carpeting is being installed throughout the offices.

Currently, Erickson and his team are working on a number of energy-efficient improvements at Argo Group's New Jersey and Greenfield, Mass. office locations.

Stay tuned to ArgoNet for more information on the company's ongoing CSR achievements.

-end-

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Hot or Cold? A Closer, Deeper Look at Climate Change and Other Sustainability Issues

Presented by 3iG, UNEP FI and William Stewart

An affiliate of The Institutes

Agenda

- Introductions
- Tony Cabot
  - Setting the stage
- Butch Bacani
  - Principles for Sustainable Insurance—Blueprint for success
- Bill Stewart
  - Current regulations and insurance—What can we offer now?
- Questions and answers

Polling Question Number 1

Do you agree with this statement:

- “Climate change is happening here and now."

Addressing the Threat

- UN Intergovernmental Panel on Climate Change report
  - Temperature rise of 2° Celsius will wipe out up to 2 percent of world income by 2050
  - Combined cost of crop loss, rising sea levels, higher temperature, and fresh-water shortages could total $70 to $100 billion per year
- "Nothing poses a bigger threat to our water, our livelihood and our quality of life than a warming climate."
  - Bill Richardson, former New Mexico governor
- The science tells us that much deeper reductions are needed
- Dealing with reality is key

Addressing the Threat

- We are now witnessing how it is changing our world
- The past winter was the eighth-warmest on record
- For 348 consecutive months—29 years—global temperatures above average

Polling question number 2

- What role should the government play in reducing carbon emissions?

A. None
B. Establish a federal cap and trade scheme
C. Provide a list of emission reducing ideas
D. Wait for the Florida to be submerged before taking action
E. Take a multi pronged approach consensus driven approach that involves all stakeholders (individuals, businesses, communities and States) to address the complex issues that cause climate change.

The insurers’ role

- The insurance industry is uniquely placed for the sharing risks associated with global climate change.

- Without this support individuals, households, businesses, governments and other societal entities must bear the risks

- What is being done to develop frameworks that improve the accessibility and affordability of a range of risk management tools

Less words, more action

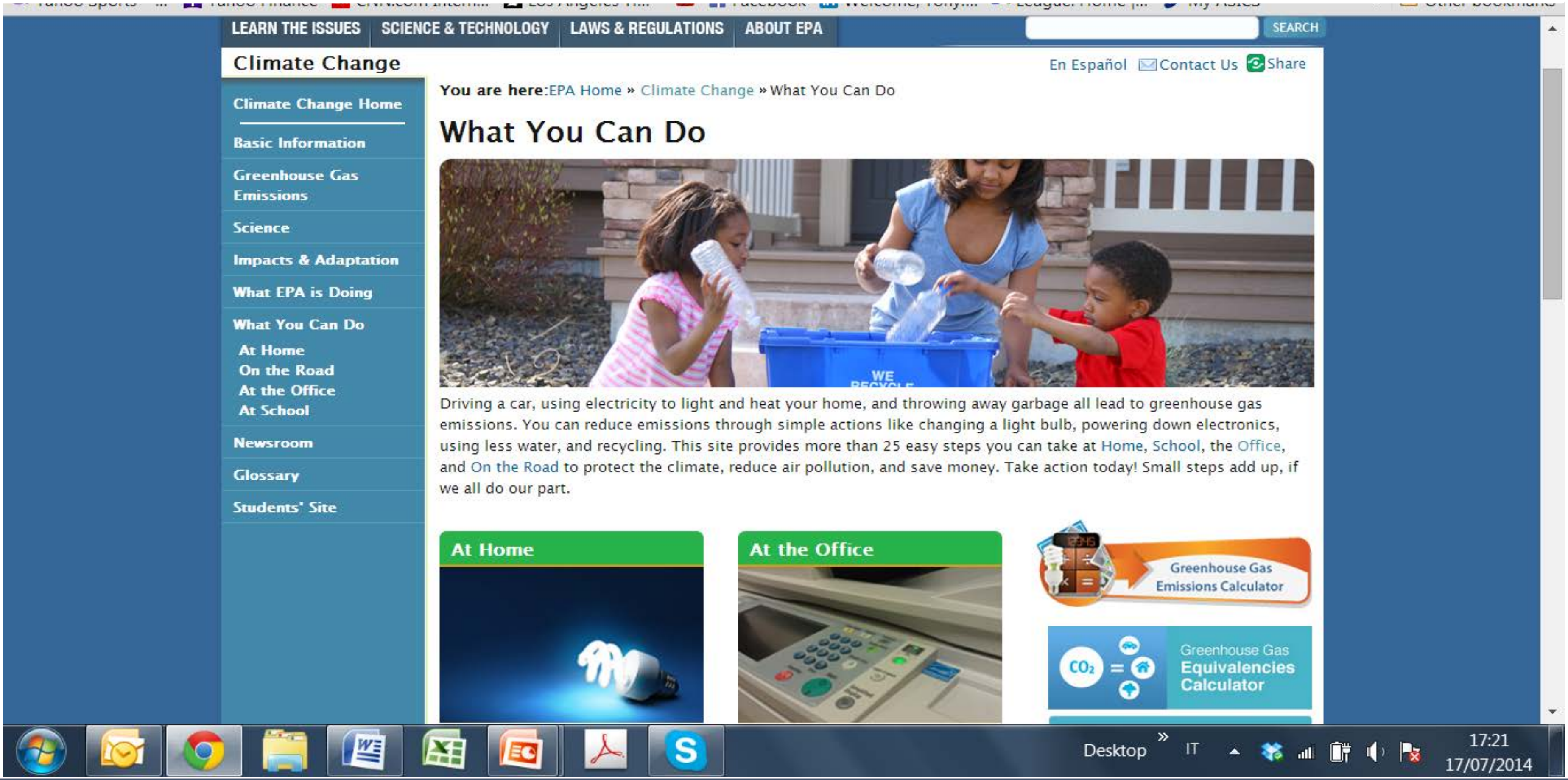
- Local leaders are responding to climate impacts and building more resilient communities.
- At the federal level additional funding has been allocated for climate resilience
- The Climate Data initiative started to arm communities with better information about climate change.

Climate Data Initiative

http://www.whitehouse.gov/share/climate-action-plan

What can you do?

http://www.epa.gov/climatechange/wycd/



Hot or Cold?

The UN's Principles for Sustainable Insurance

Butch Bacani
Programme Leader, UNEP FI Principles for Sustainable Insurance
United Nations Environment Programme Finance Initiative (UNEP FI)

Polling question number 3

- Save for Butch

Environmental, Social, and Governance Issues Relevant to Insurance

- Climate risks and extreme weather events
- Natural catastrophes
- Resource depletion
- Biodiversity loss and ecosystem degradation
- Water management and scarcity
- Food insecurity
- Pollution
- Human rights and labor standards
- Social and financial exclusion
- Emerging health risks and pandemics
- Aging populations
- Regulations (building codes, workplace and product-safety standards, environmental laws)
- Accountability and transparency
- Trust and reputation
- Treating customers fairly
- Business principles and ethics
- Corruption
- Misaligned interests

What Is Sustainable Insurance?

- **Not about philanthropy**
- Supports Bruntland Commission's definition of **sustainable development**:

  "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs"[1]

- "**Sustainable insurance** is a strategic approach where all activities in the insurance value chain, including interactions with stakeholders, are done in a responsible and forward-looking way by identifying, assessing, managing and monitoring risks and opportunities associated with environmental, social and governance issues.

  "Sustainable insurance aims to reduce risk, develop innovative solutions, improve business performance, and contribute to environmental, social and economic stability."[2]

1. "Our Common Future," UN World Commission on Environment and Development, 1987.
2. "Principles for Sustainable Insurance," UNEP FI, 2012.

Creating a Pioneering Global Framework and Global Initiative

- **Phase 1—Global Framework**
  - Create **voluntary and aspirational global principles, including possible actions**, to better understand and manage risks and opportunities in the insurance business associated with environmental, social, and governance issues

- **Phase 2—Global Initiative**
  - Create **UN and global insurance industry initiative** to promote adoption of Principles
  - **Vision**—"A risk-aware world where the insurance industry is trusted and plays its full role in enabling a healthy, safe, resilient and sustainable society"
  - **Purpose**—"To enable the global insurance industry to better understand, prevent and reduce environmental, social and governance risks and better manage opportunities to provide quality and reliable risk protection"

The Principles:
A Global Sustainability Framework

- **Principle 1**
  - **"We will embed in our decision-making environmental, social, and governance issues relevant to our insurance business."**
    - Possible actions (sphere of influence): Company strategy, risk management & underwriting, product & service development, claims management, sales & marketing, investment management

- **Principle 2**
  - **"We will work together with our clients and business partners to raise awareness of environmental, social, and governance issues, manage risk and develop solutions."**
    - Possible actions (sphere of influence): Clients, suppliers, insurers, reinsurers, intermediaries

The Principles:
A Global Sustainability Framework

- **Principle 3**
  - **"We will work together with governments, regulators and other key stakeholders to promote widespread action across society on environmental, social, and governance issues."**
    - Possible actions (sphere of influence) : Governments, regulators, policymakers, other key stakeholders

- **Principle 4**
  - **"We will demonstrate accountability and transparency in regularly disclosing publicly our progress in implementing Principles."**
    - Possible actions (sphere of influence): Public

Message From UN Secretary-General

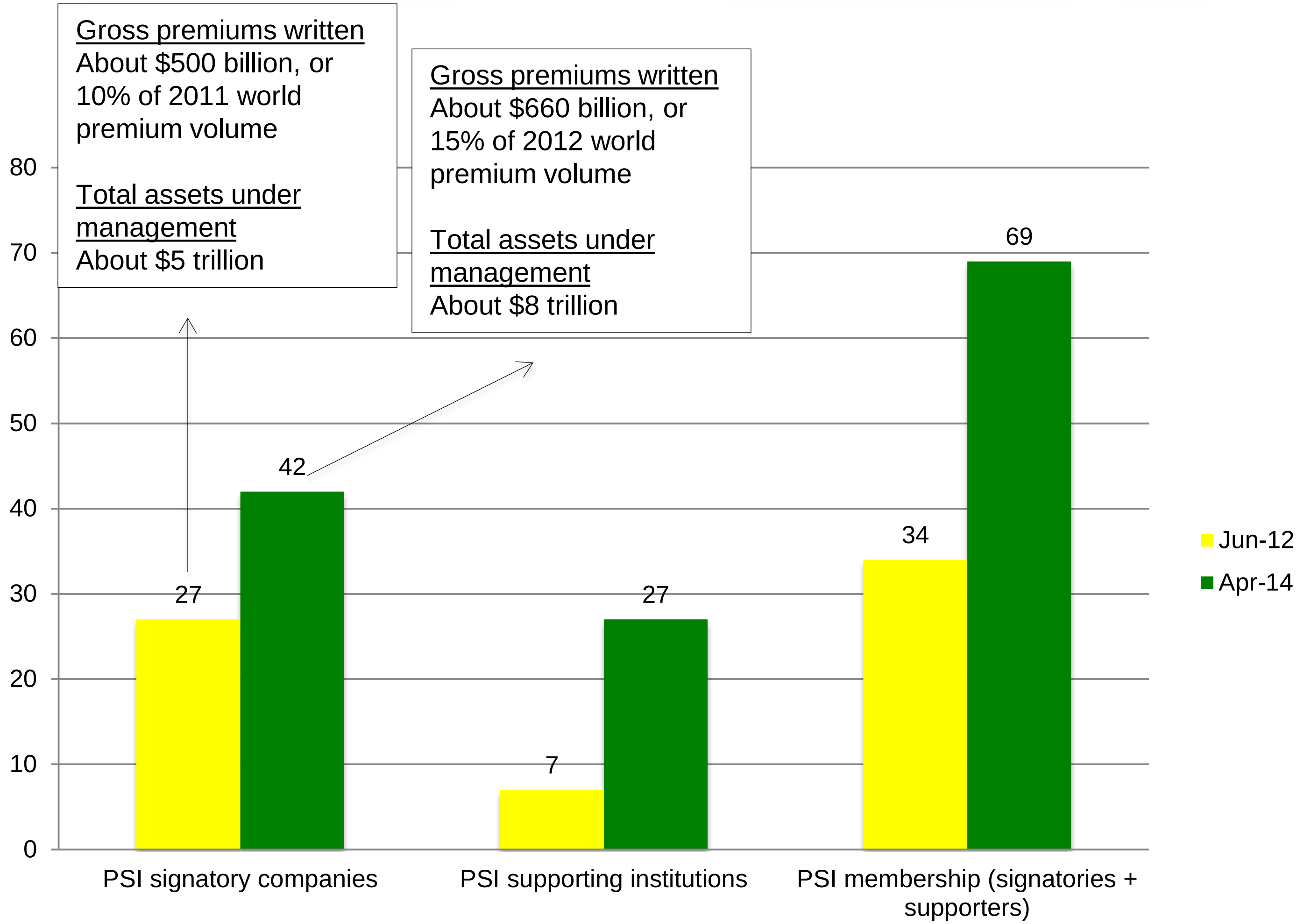
- “The Principles for Sustainable Insurance provide a global roadmap to develop and expand the innovative risk management and insurance solutions that we need to promote renewable energy, clean water, food security, sustainable cities and disaster-resilient communities.

  “The United Nations looks forward to working with all sectors of society towards the global embrace of this important new initiative as we shape the future we want.”

  - **Ban Ki-moon, UN Secretary-General**

Growth in PSI Membership

June 2012–April 2014



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Examples of CEO Messages

- "Beginning in 2014 the Allianz ESG [Environmental, Social, and Governance] Guidelines will cover sensitive topics for all new business globally. This is a further milestone on our way to becoming the most sustainable insurer and asset manager, initiated by our ESG Board in 2012. We are now in the position to meet the aims of the Principles for Sustainable Insurance and to work together to accelerate the adoption of ESG by our industry. We feel it is critical to achieve integration of ESG across the entire insurance industry value chain."
  - **Michael Diekmann, CEO, Allianz Group**

- "As an insurer, our business is to protect people over the long term; we therefore have a responsibility to leverage our skills to help build a stronger and safer society. I am very proud the AXA Group is signing the Principles for Sustainable Insurance. I believe that by integrating, with the other signatories, environmental, social, and governance (ESG) issues into decision-making across the insurance value chain, we will contribute to a more sustainable insurance industry. This is another step for us in our engagement towards corporate responsibility, but also a call for action for the coming years. I am convinced that, with these Principles, we will better serve our clients and society as a whole."
  - **Henri de Castries, CEO, AXA Group**

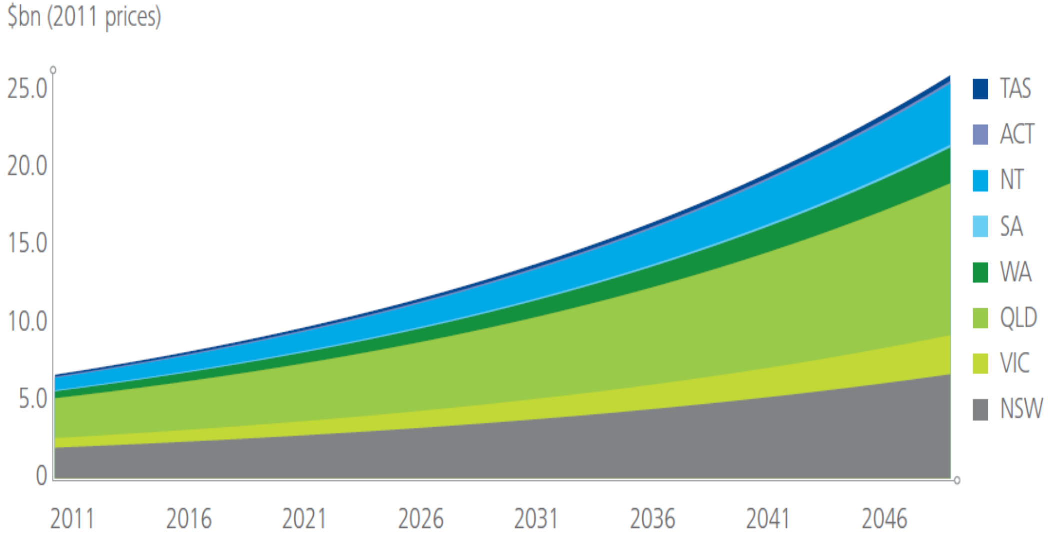
Polling question number 4

- Save for Butch

Implementing the Principles—Examples

The Australian Business Roundtable for Disaster Resilience and Safer Communities

Chart 2.2: Forecast total economic cost of natural disasters: 2011 – 2050



Source: Deloitte Access Economics (2013)

- Cost of Australian natural disasters: $6.3 billion per year
  - Because of material growth and urbanization, projected to be $23 billion by 2050
- Australian government invests $50 million per year in mitigation; more than $560 million on relief and recovery
  - $1 on disaster mitigation for every $10 on disaster relief and recovery
- Insurance Australia Group recognized:
  - This level of investment is unsustainable
  - Governments acting alone cannot address challenges
- Initiated Australian Business Roundtable for Disaster Resilience and Safer Communities in December 2012

Implementing the Principles—Examples

- **Swiss Re's Sustainability Risk Framework spans industry sectors and ESG issues**
  - Oil and gas
  - Defense
  - Mining
  - Dams
  - Forestry and logging
  - Animal testing
  - Nuclear proliferation
  - Human rights and environmental protection

- **Report by Chief Risk Officers Forum on ESG factors in country risk management**
  - Insurance underwriting
  - Investment management
  - Reputation management
  - Sustainable development

Implementing the Principles—Examples

- **PSI signatories demonstrating accountability and transparency**
  - Annual public disclosure of implementation progress by PSI signatory companies
  - 2014 Dow Jones Sustainability Indexes methodology update includes PSI as new assessment criterion for insurance industry

Implementing the Principles—Examples

- **PSI Initiative working with the UN system and governments**
  - UN Environment Programme
  - UN Global Compact
  - UN Office for Disaster Risk Reduction
  - UN Framework Convention on Climate Change
  - International Labour Organization
  - World Meteorological Organization

Examples of Projects and Activities by the PSI Initiative

- Global Resilience Project — **Disaster risk reduction activities and investments** to build disaster-resilient communities and economies
- Understanding links between **insurance regulation and ESG issues**
  - International Association of Insurance Supervisors
- **ESG risk assessment and underwriting principles** for surety bonds
- Insurance industry input on **UN and global policy frameworks**
  - UN Office for Disaster Risk Reduction, UN Framework Convention on Climate Change
- Global infrastructure to deliver **climate impact information services** for insurers, banks, and investors to advance adaptation
- **Microinsurance** knowledge sharing

Examples of areas for exploration:

- **ESG risk assessment and underwriting principles** across life and non-life lines
- Tools to support **fair customer treatment** and good insurance practices and to enhance **trust and reputation** across the industry
- Project on **aging populations**

The PSI Global Resilience Project

- **Phase 1: 2014**
  - Analyze and consolidate efforts across regions to reduce disaster risk from cyclones, floods and earthquakes (including tsunamis)
  - Identify key learnings and outcomes, elements of success, and themes
- **Phase 2: 2014-15**
  - Develop a global disaster map showing economic, social and human costs along with key insurance information
  - Conduct cost-benefit analysis, looking at government and NGO investment in the context of disaster risk reduction (pre-disaster) and disaster relief and recovery (post-disaster)
  - Determine areas of highest vulnerability and mentor relevant stakeholders on government and private sector engagement in order to build disaster resilience

Annex 1—PSI Signatory Companies

(as of April 30, 2014)

1. Achmea (Netherlands)
2. AEGON (Netherlands)
3. Allianz (Germany)
4. AmGeneral Insurance (Malaysia)
5. ASR Nederland (Netherlands)
6. Atlanticlux (Luxembourg)
7. Aviva (United Kingdom)
8. AXA (France)
9. Banco Santander (Spain)
10. Bradesco Seguros (Brazil)
11. Continental Re (Nigeria)
12. Custodian & Allied (Nigeria)
13. Delta Lloyd (Netherlands)
14. FATUM Schadeverzekering (Suriname)
15. Grupo Segurador Banco do Brasil e MAPFRE (Brazil)
16. HSBC Insurance (UK)
17. ING (Netherlands)
18. Insurance Australia Group (Australia)
19. Interamerican Hellenic Insurance Group (Greece)
20. Itau Seguros (Brazil)
21. La Banque Postale (France)
22. MAPFRE (Spain)
23. Mitsui Sumitomo Insurance (Japan)
24. Mongeral AEGON (Brazil)
25. Munich Re (Germay)
26. Peak Re (China)
27. Porto Seguro (Brazil)
28. RSA Insurance Group (UK)
29. Sanlam (South Africa)
30. Santam (South Africa)
31. SCOR (France)
32. Seguradora Lider (Brazil)
33. Sompo Japan Insurance (Japan)
34. Sovereign (New Zealand)
35. Storebrand (Norway)
36. SulAmerica (Brazil)
37. Swiss Re (Switzerland)
38. TAL (Australia)
39. Terra Brasis Resseguros (Brazil)
40. The Co-operators Group (Canada)
41. Tokio Marine & Nichido Fire Insurance (Japan)
42. Zwitserleven (Netherlands)

Annex 2—PSI Supporting Institutions

(as of April 30, 2014)

1. Association of Insurers & Reinsurers of Developing Countries (Philippines)
2. Brazilian Insurance Confederation (CNseg) (Brazil)
3. Cadre d'Actions et de Recherche pour la Démocratisation de l'Assurance (Association CAREDAS) (Senegal)
4. Ceres (US)
5. ClimateWise (UK)
6. Dutch Association of Insurers (Netherlands)
7. Environment & Security Initiative (Switzerland)
8. Finance Norway (Norway)
9. Financial Services Council of New Zealand (New Zealand)
10. Global Organizational Learning & Development Network for Sustainability (Belgium)
11. Insurance Association of the Caribbean (Barbados)
12. Insurance Commission of the Philippines (Philippines)
13. Insurance Council of Australia (Australia)
14. Insurance Council of New Zealand (New Zealand)
15. Insurance Institute for Asia & the Pacific (Philippines)

9\. Insurance Institute of India (India)

17\. Interamerican Federation of Insurance Companies (FIDES) (Peru)

18\. International Cooperative & Mutual Insurance Federation (UK)

19\. International Finance Corporation (US)

20\. International Insurance Society (US)

21\. Italian Banking, Insurance & Finance Federation (FEBAF) (Italy)

22\. Mexican Association of Insurance Institutions (Mexico)

23\. National Committee on International Cooperation & Sustainable Development (NCDO) (Netherlands)

24\. Philippine Insurers & Reinsurers Association (Philippines)

25\. Philippine Life Insurance Association (Philippines)

26\. South African Insurance Association (South Africa)

27\. University of Cape Town, Centre of Criminology (South Africa)

Hot or Cold?

Climate Change and Litigation

William Stewart
Partner
Stewart, Bernstiel, Rebar & Smith—Attorneys at Law

Polling question number 5

- Save for Bill

Public Nuisance Litigation

- *Comer v. Murphy Oil, USA, et al. (Comer I* and *Comer II)*
  - US District Court for the Southern District of Mississippi
- *California v. General Motors Corp.*
  - US District Court for the Northern District of California
- *Connecticut v. American Electric Company, Inc.*
  - US District Court for the Southern District of New York
- *Native Village of Kivalina v. ExxonMobil Corp.*
  - US District Court for the Northern District of California

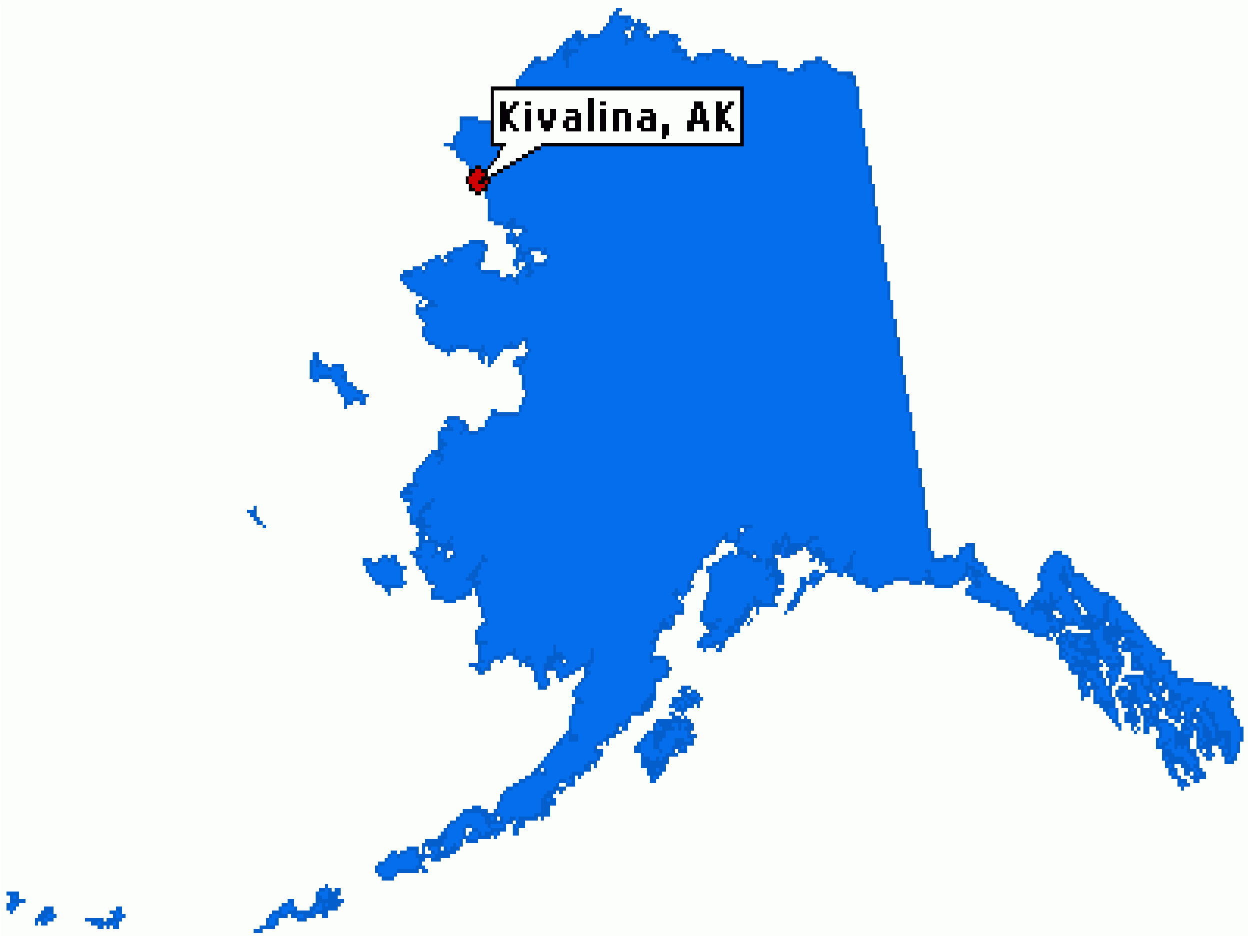
Comer v. Murphy Oil, USA, et al.

- Claims:
  - Residents and property owners assert public and private nuisance claims against oil, coal, and chemical company defendants
  - Allege defendants' contributions to global warming helped strengthen Hurricane Katrina
- 5th Circuit's finding:
  - Oct. 16, 2009, Court of Appeals reversed federal district court, holding plaintiffs claims do not present nonjusticiable political questions
  - Rehearing en banc granted May 25, 2010; because of loss of quorum, trial court dismissal reinstated
  - Plaintiffs' petition for writ of mandamus ordering 5th Circuit to reinstate appeal denied by US Supreme Court on Jan. 10, 2011
  - May 27, 2011, plaintiffs filed class action complaint in *Comer II*

Connecticut v. American Electric Co.

- Claims:
  - Plaintiffs and various states and environmental groups sought to abate "public nuisance of global warming"
  - Alleged defendants contributed to elevated levels of carbon dioxide, beach erosion, droughts, and floods
- 2nd Circuit finding:
  - Sep. 21, 2009, Court of Appeals reversed Federal District Court, holding that greenhouse gas emitters do not present nonjusticiable political questions and that private organizations have standing to pursue litigation upon showing of injury different in kind from that of the public at large
- US Supreme Court:
  - June 10, 2011, reversed 2nd Circuit and reinstated district court's dismissal of federal common law claims

Native Village of Kivalina v. ExxonMobil Corp.



Native Village of Kivalina v. ExxonMobil Corp.

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Native Village of Kivalina v. ExxonMobil Corp.

- Federal District Court finding:
  - Sep. 30, 2009, dismissed claims against power companies
  - Attenuated nature of causal link between claimed injuries and any one defendant's conduct
  - Regulation of greenhouse gas emissions best left to political branches of government
- 9th Circuit:
  - Appeal pending (fully briefed)
  - Nov 28, 2011, oral argument held before three-judge panel in San Francisco, Calif.
  - Dismissal affirmed on Sep. 21, 2012

Coverage Litigation
Steadfast Ins. Co. v. AES Corporation

- Virginia circuit court entered judgment in favor of Steadfast
  - No obligation to defend or indemnify AES in *Native Village of Kivalina v. ExxonMobil Corp.*
- On appeal, Virginia Supreme Court affirmed ruling, finding no occurrence
  - Oct. 16, 2009, Court of Appeals reversed Federal District Court, holding plaintiffs claims do not present nonjusticiable political questions
- Petition for rehearing granted. Oral argument held Feb. 27, 2012.
- On rehearing, Virginia Supreme Court affirmed that Steadfast has no duty to defend AES in connection with Kivalina claims

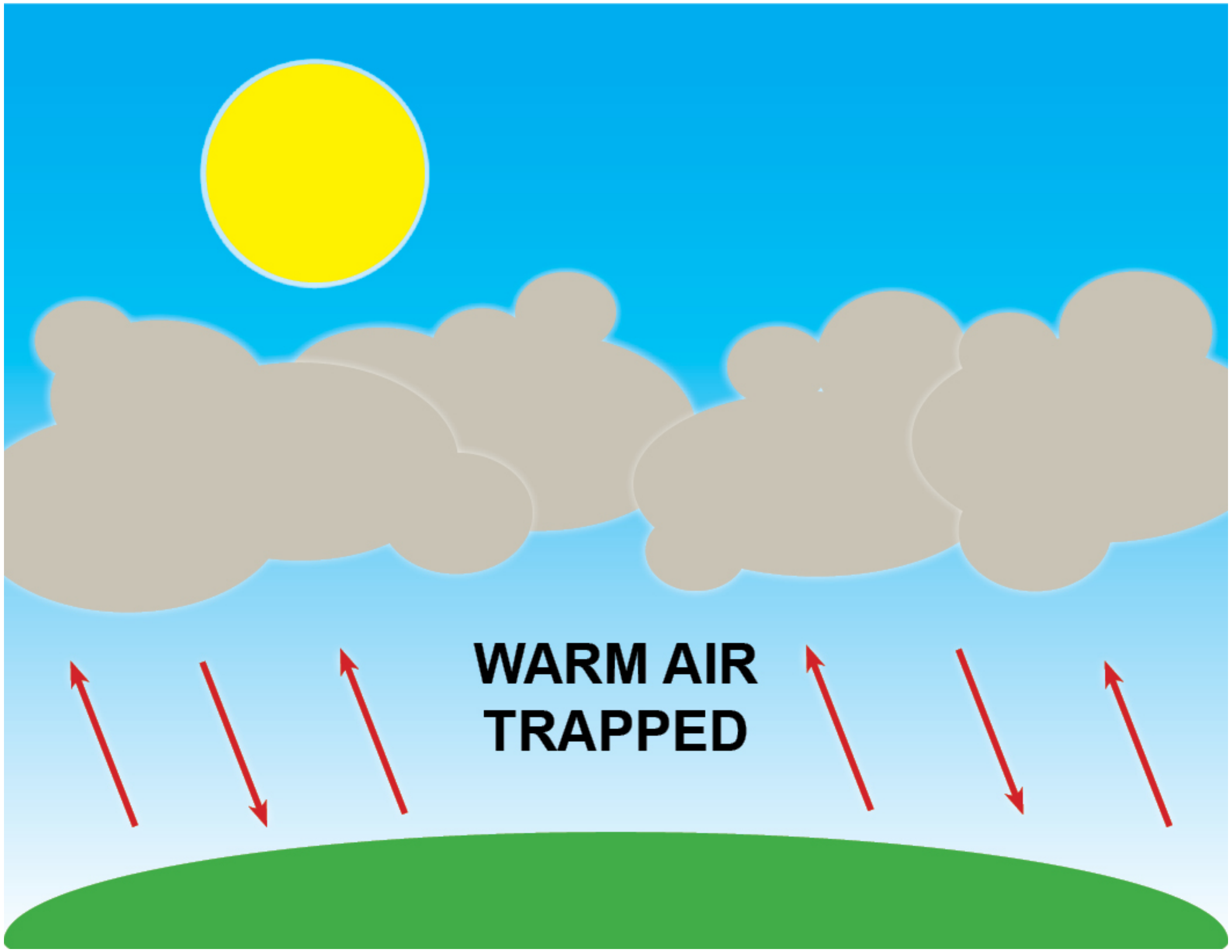
Uncertainties Associated With Climate Change

- Solar variance
- Feedback loops
- El Niño
- Global dimming
- Urban heat islands
- Carbon sinks
- Role of water vapor

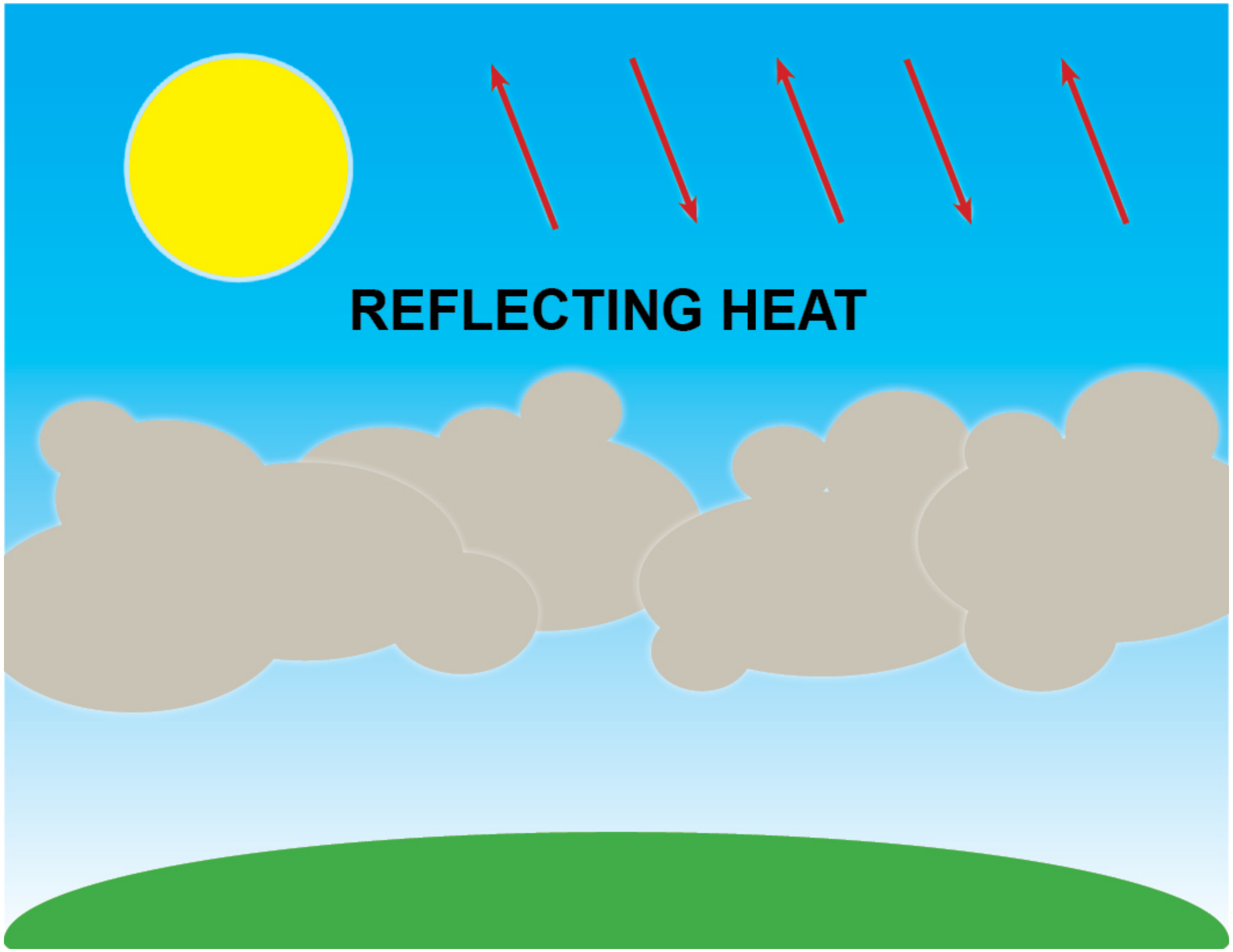
Polling question number 6

- Save for Bill

Uncertainties Associated With Climate Change



Uncertainties Associated With Climate Change



Questions?

Thank you for your participation!

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