THE INSURANCE INDUSTRY'S CONTRIBUTION TO A RESILIENT LOW CARBON ECONOMY

ClimateWise Independent Review 2014

ClimateWise
REDUCING THE RISK FOR TOMORROW

Facilitated by
UNIVERSITY OF CAMBRIDGE
INSTITUTE FOR SUSTAINABILITY LEADERSHIP

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pwc

About ClimateWise

ClimateWise leverages the insurance industry's expertise to better understand, communicate and act on climate change risk.

Members commit to action following six key principles and are independently reviewed against these annually. ClimateWise's membership includes non-life and life insurers, reinsurers, intermediaries, risk modellers and professional bodies from around the world covering Asia, Europe, North America and Southern Africa. Membership is led from the Company Board level and supported by senior practitioners from across the organisation.

ClimateWise is a voluntary initiative, driven by its members and facilitated on a not-for profit basis by the University of Cambridge Institute for Sustainability Leadership (CISL), which provides the Secretariat for the group.

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Chair's foreword

The *New Climate Economy Report: Better Growth, Better Climate* was launched in September. Led by a Global Commission of economic leaders from governments, academia, businesses and finance including Michel Liès of Swiss Re, it demonstrates the potential for improving economic performance at the same time as addressing the challenge of climate change.

Left unchecked, issues arising from unsustainable development would affect the actuarial assumptions underpinning the insurance products that our industry provides, potentially rendering significant proportions of the economy uninsurable and shrinking our addressable market.

ClimateWise provides a framework for its members to demonstrate how the insurance industry can contribute to a low carbon resilient economy. As a leadership group we know that this requires far sighted and innovative action and that best practice will continue to evolve. Consequently the way members are asked to provide evidence has changed to increase focus on materiality and impact. I am delighted that members have responded to this new process so positively, realising that it will make it easier to make the business case for action that has commercial, environmental and societal benefits.

Contributing to a low carbon resilient economy requires working in partnership and ensuring indicators of progress are understood and acted on by others within our value chain, both those that attribute value to our actions and those that require our services. This ongoing conversation to build consensus is reflected in many of the actions evidenced by members with particular commentary from a ratings agency and city authority network. Much more needs to be done to align interests to meet the future we need to help shape. As one of our customers so neatly put it "I want my pension to help create the future I want to retire into".

The New Economy Report sets out clear themes around resource efficiency, infrastructure investment and innovation. You will find examples of action on all these within the report and in my new role as ClimateWise Chair, I look forward to increasingly being able to demonstrate progress in terms of building resilience in our economies and encouraging low carbon energy transition.

Maurice Tulloch
Chair, ClimateWise

Introduction

This 2014 review is the first under the revised ClimateWise Principles and performance measurement approach. Following five successful years between 2008 and 2012, a strategic appraisal was undertaken in consultation with members, to ensure that the annual review process continues to remain relevant in achieving its objective of driving ambitious action through core business strategies. The process has therefore been revised in line with evolving good practice and has a greater focus on integration into core business and future activity planning.

This new approach raises the bar for performance in managing climate risk. Member scores have therefore fallen across the board in absolute terms. There continues to be notable variation in performance across the member group, with some excellent examples of innovation, integration into strategy and a desire to push the boundaries of leadership in climate risk. Key recommendations to members in terms of improving performance going forward include:

- linking research to impacts on core business strategy
- prioritising public engagement on material areas
- evidencing board-level engagement on climate change
- measuring impact
- exploring options to integrate climate change considerations into investment activities
- demonstrating planned activities

Climate change context

The current climate target of governments convened under the UN Framework Convention on Climate Change (UNFCCC) is to limit global average temperature rise to 2°C. The IPCC warns that our current trajectory, which would use the century's carbon budget within the next twenty years, will lead to estimated warming of 3.7 – 4.8°C over the 21st century. Without rapid and significant efforts to limit emissions, the world will need to brace itself for climate shocks of increasing frequency and severity, and resulting social and political impacts.

In December 2015, governments from around the world will meet at the UNFCCC summit in Paris with the aim of setting a framework for national governments to drive down carbon emissions to avoid extreme climate change and prepare for expected impacts. Under a global agreement, policy developments such as those that make carbon intensive activities more expensive, or that reward and enable financial flows into low carbon developments, may produce fewer shocks and challenges than unilateral action.

The build-up of momentum towards Paris 2015 began in September 2014 at a one-day summit hosted in New York by UN Secretary-General Ban Ki-moon, attended by over 120 government and state heads. The summit was the first time since Copenhagen 2009 that world leaders came together to discuss climate change and was notable as it included many business leaders. There was much positivity and goodwill in the scale and breadth of issues covered.

Many of the pledges made by governments and business were restatements of existing targets, but several important commitments emerged. A range of financial institutions announced the mobilisation of $200 billion for low carbon and climate resilient investment, along with the decarbonisation of additional investments and funds. 73 governments and over 1,000 businesses and investors also agreed to support carbon pricing, while the insurance industry-led '1-in-100' initiative set out plans to integrate disaster risk into the financial system.

Despite this progress, the fact remains that growth needs to be de-coupled from carbon.[1] This means transforming how we generate and use energy, and deploying at scale innovative

[1] The Low Carbon Economy Index: www.pwc.co.uk/assets/pdf/low-carbon-economy-index-2014.pdf

technologies with the potential to catalyse a new wave of sustainable growth. The scenarios and uncertainties involved may be physical, political or economic, and are important considerations for ClimateWise members in helping the public and private sectors, and civilians, move to a resilient, low carbon economy.

Climate change and insurance

In the current market, the insurance industry is under pressure to operate economically and efficiently, be profitable and preserve capital, comply with new and existing regulations and standards, meet competitive pressures, and take advantage of growth opportunities. Organisations that address these issues most successfully are likely to have a competitive advantage over peers. Climate change plays a part in this potential advantage: helping customers manage climate risk increases their resilience, it presents new markets and opportunities for the sale of products and services, low carbon technologies and behaviours can drive operational efficiencies, and climate change is an area of increasing expectation in annual reporting and regulatory submissions.[2]

The role for financial regulators to consider environmental risk has also been rising up the agenda. In the US, the SEC's Guidance Regarding Disclosure Related to Climate Change and the NAIC's Climate Risk Disclosure Survey have contributed to greater disclosure on climate risk by insurers. In the UK, insurance firms have been asked to respond to questions on how climate change affects their business to inform the Prudential Regulatory Authority (PRA)'s own reporting to government. The questions, which cover many of the areas the ClimateWise Principles cover, relate to current and future impacts of climate change on the organisation, its approach to managing climate risk, including risk thresholds, and the role of the insurance industry and its regulators in supporting adaptation.

There are other key stakeholders who also have a keen interest in the performance of the insurance industry on managing climate risk. Policymakers and public authorities (such as city municipalities) are interested in how the industry reduces the risk to economic (and social) stability from extreme weather events and takes a key role in building resilient cities. Rating agencies, though seeing climate change as a limited impact on ratings in the short term, are keen for the industry to manage exposures in both its insurance and investment books. In this report we provide executive summaries for city and rating agency stakeholders.

The revised ClimateWise approach

The focus of the revised approach for the 2014 ClimateWise Review is less on capturing process and more on trying to understand outcomes, both in terms of business outcomes and impact on social and environmental goals related to climate change through the following:

- **Integration and alignment with business focus:** The new approach encourages members to integrate the consideration of climate change impacts into core strategy and services.

  As members of ClimateWise carry out different types of business activity, the new review process is weighted to encourage actions that are most relevant to business type. For example, supporting awareness of customers for brokers, and risk analysis for risk modellers.

- **Prioritisation:** Members are asked to focus on their rationales for certain activities and how this relates to:
  - the organisation's main line of business, and
  - their understanding of wider low carbon and resilient impact.

  There may be reasons why this focus is not commercially possible, but highlighting these can help identify common barriers that need collective action to address.

[2] CDP www.cdp.net/en-US/Pages/disclosure-analytics.aspx and Environment Agency review of environmental disclosures www.gov.uk/government/uploads/system/uploads/attachment_data/file/290052/Disclosures_full_report_04c911.pdf

Figure 1: Overview of Member performance

The principles carry different weightings to reflect their materiality for the industry and the organisation types. Across the membership group the impact of weighting can be seen in the chart above showing points achieved by principle.

- **Disclosure of planned activities:** To make the provision of evidence more forward looking, members are encouraged to share provisional objectives for the coming year. While this is a difficult shift to make, it is essential if change is to be achieved.

You will see increased focus on these key areas in the commentary of this report. We also include a discussion of what identifying and measuring impact means for the insurance industry and ClimateWise members.

Key recommendations for further improvement among reporting members include:

- **Linking research to impact on core business strategy:** Members could better articulate how the research they conduct on climate change has led to changes in their business strategies or products
- **Prioritising public engagement on material areas:** Members could more clearly outline the climate change issues most relevant to them and how their public engagement activities focus on these
- **Evidencing board level engagement on climate change:** Members could improve their disclosure regarding the climate related information received and reviewed at senior level, and how this is used to make strategic decisions
- **Exploring options to integrate into investment decisions:** Members could increase dialogue with third party managers, communication of investment beliefs and monitoring of impacts from climate related investments
- **Measuring impact:** Members could better show how their climate change activities led to outcomes e.g. an increase in the number of 'green' products and services sold, or the resulting changes in investment decisions as a result of a responsible investment policy
- **Demonstrating planned activities:** Members should develop further processes to provide information regarding objectives, planned activities and how they intend to develop existing initiatives

Measuring impact

The pursuit of a resilient low carbon economy

The environment in which economies seek to be successful is changing fast. The threat of climate change is increasing the risk to stable growth, in particular in emerging markets – the areas of largest growth potential.[3] 'Resilient growth' is likely to become increasingly important to give stability to investments, economies and lives. For growth to be resilient (and sustainable) it must pursue a set of broader strategic outcomes with benefits for consumers, employees, suppliers, shareholders and society. It needs to recognise that there may be synergies and trade-offs and find the optimum path through potentially competing objectives (e.g. urban coastal expansion vs. flood defences).

ClimateWise members are already contributing in numerous ways to a resilient low carbon economy and its positive social and environmental outcomes, for example supporting homeowners to improve their resilience to flooding (sub-principle 3.1), the provision of micro-insurance products to consumers in emerging economies (sub-principle 3.4) and integrating climate change considerations into investment decisions (sub-principle 4.2). But how confident is the insurance industry that their initiatives really make a difference to the agenda? And do the initiatives represent the most effective use of company resources?

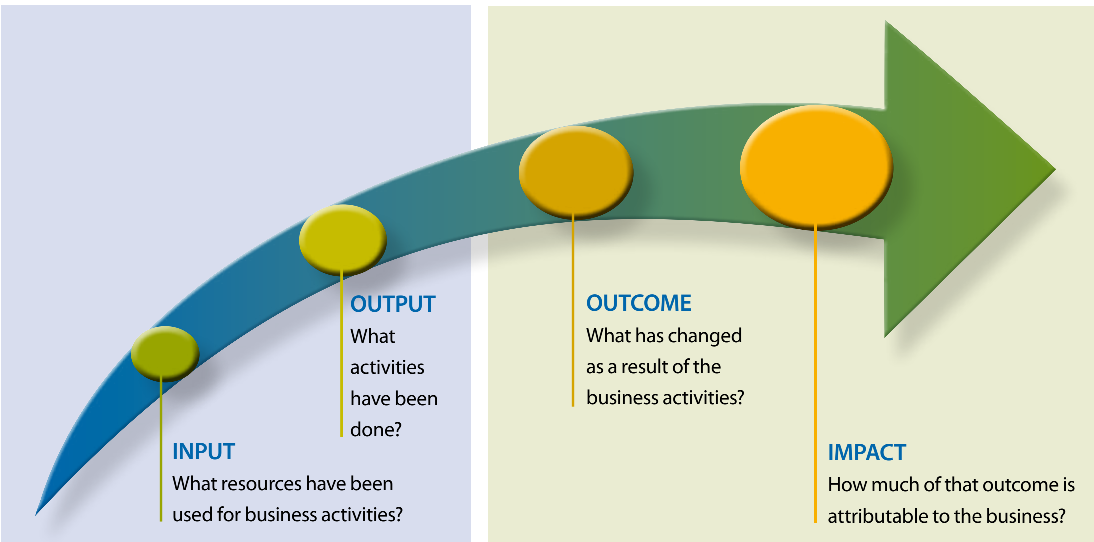
In this evolving business context, the industry needs a framework to better understand its impact in a more holistic way that includes environmental and social, as well as economic, impacts. The ClimateWise Review is incentivising a move towards:

- A consistent method for monitoring and evaluating the effectiveness of initiatives
- Developing and prioritising initiatives which have the most positive impact
- Providing more holistic information upon which to base management decisions
- Identifying new business opportunities
- Clearer articulation of the value created by an organisation
- Generating meaningful data for engagement with policymakers.

From inputs to impacts

Conventional performance measurement focuses mainly on inputs and outputs. Rarely does it consider the resulting outcomes and impacts whose significance may not be measured, calculated or fully understood. Impact measurement techniques can address these shortcomings by considering the longer-term outcomes and associated impacts of business activities.

Figure 2: From input to impact



[3] IMF World Economic Outlook www.imf.org/external/pubs/ft/weo/2014/02/pdf/text.pdf

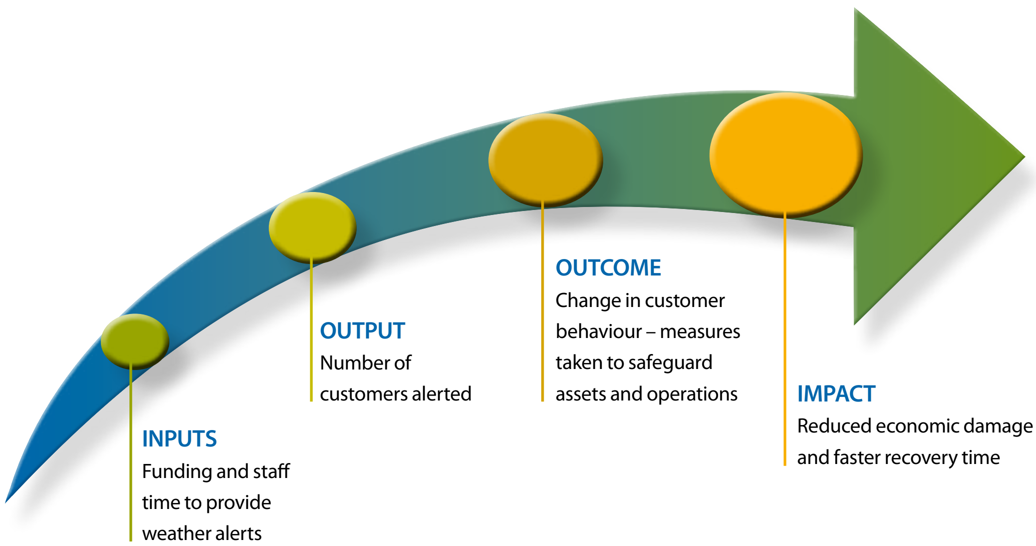
Impact measurement in ClimateWise reports

ClimateWise members are at the beginning of measuring impact, with progress to date being on measuring inputs and outputs. Areas of measurement include, for example:

AREA	INPUT	OUTPUT	OUTCOMES
Environmental performance	Cost of planning and implementing efficiency activities (including staff time and resources)	Installed technology	Avoided contribution to climate change and its associated impacts on the economy
Products and services to help customers/clients manage their exposure to climate change	Product development	Number of products sold or customers/clients engaged	Customer/client behaviour change and faster recovery time after weather events

Figure 3 provides an example for a messaging alert service provided by an insurer to its customers in advance of extreme weather events occurring, thus allowing them to take precautionary measures to safeguard their property. Thinking about impact measurement in this way can also be applied to other examples of insurance industry activity, whether products and services targeted at reducing risk in renewables or investment in green bonds. The industry would generally be able to track the inputs and outputs of such an initiative, i.e. the resources used during its development and implementation, and the activities conducted as a result. By taking a further step to monitor the outcomes and impacts of the initiatives, the industry can demonstrate the actual change that has occurred as a result of the activity conducted, and link this change to a positive impact on the agenda by the business.

Figure 3: Considering the outcomes and impacts of a weather alert messaging service



ClimateWise is facilitating a number of collaborative approaches on energy transition and resilience and the impact of these should also be considered over the coming year.

Overview of current performance

1

Principle 1: Lead in risk analysis

Key strengths/progress achieved

Members provide evidence of significant research efforts, undertaken individually and in collaboration with academic and research institutions, which cover a wide range of climate related subject matter, from tsunamis to wild fires and flooding to stranded assets. There is good practice in the sharing and wider dissemination of research. A number of reports published by members have been made publicly available and some proactively shared with key stakeholders including international and national policymakers, development agencies and development banks e.g. through working groups and external conferences. Examples have been disclosed showing members increasing their scope and focus of risk research, but these are limited.

Members illustrate a range of activity to support national and regional forecasting of future weather and catastrophe patterns and are identifying new areas of risk research to refine and improve catastrophe modelling. There is evidence of modelling outputs informing and influencing business practice including pricing decisions, the purchase of outwards reinsurance and risk-based capital assessments. Some members also identify areas of knowledge and data quality that need improving to reflect new risks and provide evidence of how these inform business strategy.

Recommended areas for development

We see a number of examples of good practice in both new and ongoing research in this year's member reporting, but evidence of its integration into core business strategy and activity remains an area for greater disclosure and action. For example, few members report how their research and knowledge outputs are informing and influencing their business practices and decisions and vice versa.

A particular area of research that could be enhanced by members is the understanding and mitigation of the costs and risks in insuring new technologies. The few examples provided covered autonomous vehicles, carbon capture and storage and renewable technologies, with the greatest focus being on the latter. More can be done to broaden and deepen thinking on products and services for insuring the technologies of tomorrow.

There was little demonstration of specific planned activity across the membership. Some members outline specific examples of publications or events planned for the next year but these were limited in number and detail. Evidence that forward plans are being made in a more strategic way should be indicated in a non-commercially sensitive way going forward, in particular for reinsurers and risk modellers, for whom risk analysis is of relatively high importance.

Principle 2: Inform public policy making

Key strengths/progress achieved

Members describe a range of activities undertaken to inform climate related public policy making, predominantly through participation in national and international organisation-led working groups, publications and events such as conferences and workshops. Additionally, senior leaders of member organisations continue to speak publicly on the impact climate change is having, and will continue to have, on the industry. Primarily, engagement covers adaptation and resilience, although there are also examples of engagement on mitigation areas such as carbon capture and storage. Progressive members also articulate how public engagement efforts are linked to core business priorities and, where applicable, how research efforts are used as a basis for public engagement on climate change. Members highlight a range of activity here, including efforts to explain the role of the insurance industry in climate change adaptation and mitigation, and in facilitating the development of the renewable energy market through prioritising key relationships with industry associations and NGOs. Members, particularly **risk modellers** and **reinsurers**, are using their modelling capability to inform focused engagement with policymakers.

Professional bodies and associations, as voices of the industry, play a key role in informing public policy making and engaging in public debate on the various roles of the industry in driving resilient, low carbon societies and economies. There are good examples of driving awareness including integration of climate change into exam syllabi and professional development courses, and championing not-for-profit schemes to support affordable flood insurance.

Brokers typically act through engagement with policymakers, particularly in supporting government action to enhance resilience of infrastructure and communities. By contributing to national and international initiatives such as the United Nations International Strategy for Disaster Reduction (UNISDR), brokers are helping to ensure that the development and implementation of policy is better informed on climate related risks.

Recommended areas for development

Going forward, members need to provide greater transparency on the areas of public policy most material to them and how they target engagement on these areas. For example, some members identify low carbon investment or flood risk as material issues, and are prioritising engagement activities accordingly. Some identify the climate change related products and services they are looking to develop and grow, e.g. renewable energy technology, and prioritise engagement efforts with industry associations relevant to those products.

Principle 3: Support climate awareness amongst our customers

Key strengths/progress achieved

All organisation types (bar the exempt professional bodies and associations) provide good examples of supporting customers on climate awareness. Insurers understandably perform well on informing customers of climate risk, providing support and information tools, encouraging customers to adapt to climate change and reduce their greenhouse gas emissions through information, insurance products and premiums where possible, and seeking to increase the proportion of sustainable claims. For example, the use of emails and microsites offering practical guidance to customers, text and radio alerts warning of extreme weather events, and motor insurance initiatives offering bikes as an alternative to rental cars have all been established and implemented by members. Insurers are identifying and capitalising on the value these can provide to the business, in particular reducing exposure to future risks and claims. However, there remains an opportunity to mainstream the provision of information to customers across all markets and client segments.

Brokers show good progress on informing customers of climate risk and providing support and tools so that they can assess their own levels of risk, as part of their service of matching customers to products/providers. They also perform well on assisting markets with low insurance penetration to understand and respond to climate change (sub-principle 3.4). The assistance relates mostly to weather-related insurance for developing market customers, but also includes micro-insurance.

Recommended areas for development

The largest potential area for improvement is assisting markets with low insurance penetration, through their products and services, to understand and respond to climate change. More consideration is needed on which markets have low insurance penetration – whether geographic locations (including countries), industry sectors or social groups – and how these may be supported. Once this has been further assessed against potential suitable products and services, more examples of action may emerge.

For **brokers** a key area for improvement is encouraging clients and corporate risk managers to adapt to climate change and reduce their greenhouse gas emissions through insurance products and services (sub-principle 3.2) e.g. buildings policies with 'green clauses' that allow for additional costs to be covered if the latest environmentally friendly materials and techniques are used in reinstating the property. Another area is to provide greater climate risk management advice to customers, particularly indirect or systemic climate risks such as in supply chains or overseas investments.

Due to the nature of their business, supporting climate awareness amongst customers is of particular importance to **loss adjusters**. There is good evidence of significant provision of weather forecasting services and surge and subsidence watch reports. There is opportunity for loss adjusters to further demonstrate innovative approaches to raising awareness and supporting customers on managing the climate risk challenge, and greater engagement with insurers to develop sustainable building repair specifications.

Principle 4: Incorporate climate change into our investment strategies

Key strengths/progress achieved

As government bonds and fixed income, rather than equities, make up the majority of investment portfolios for insurers and reinsurers, their opportunities to achieve positive climate impact through investment may be more limited than those of other investors. However, there are some potential opportunities such as increasing investment in low carbon assets, reducing exposure to high carbon ones and investing in infrastructure that has positive climate benefits such as flood defences.

Many members outsource investment management to specialist third parties. A large proportion of members provide investment teams or external managers with 'responsible investment' policies or equivalent. There were a number of good examples of members showing how such policies are implemented in practice, for example through new research and analysis across investment portfolios, the exercise of voting rights, publishing voting effectiveness or requiring external managers to provide updates on ESG issue management.

Members provide numerous examples of how they evaluate the implications of climate change for the financial performance of investments, including research on stranded assets, economic impacts of climate change, the factoring of environmental risks into bond prices, energy performance of property investments or the management of ESG issues more broadly. There is also increasing evidence of members starting to examine opportunities for innovation in investments, with a number describing their growing interest in green bonds as an investment product.

Recommended areas for development

The communication of investment principles and strategy on climate change remains an area of mixed performance across members. There are limited examples of communication on websites, dialogue with stakeholders, including managing agents. The '1-in-100' initiative is a good example of driving change in this area, and one to watch going forward.

Members could develop performance on incorporating climate change into investment strategies by:

- taking further steps to systematically assess climate risk and opportunity in investments, including seeking areas of potential innovation that could reduce potential climate risks such as flood defence infrastructure bonds
- communicating and engaging externally on investment principles (an example would be defining ESG risk appetite in investment mandates)
- setting targets for, and measuring progress in, responsible investment activities (coverage, level of engagement etc.)

Principle 5: Reduce the environmental impact of our business

Key strengths/progress achieved

This principle, the least material for the member group (but applicable to all), saw many examples of good practice. Members demonstrate some implementation of formal and informal sustainable procurement policies and procedures, for example screening potential suppliers against environmental criteria including climate change. Evidence suggests most members seek and prioritise suppliers that have established environmental policies and management systems (and in some cases, third-party certification) and request evidence of these during supplier evaluation. Some members are extending their selection criteria and minimum standards to include their suppliers' own supply chain standards, including clauses regarding environmental goals in supplier contracts and working collaboratively with suppliers on environmental issues.

For their own operations, common areas of performance include reducing greenhouse gas emissions, water usage and waste, e.g. increasing renewable energy use, carbon offsetting, energy and water efficiency measures, and recycling initiatives. Members disclose GHG emissions, typically according to Defra guidelines (for UK members) or the Greenhouse Gas Protocol and, in a number of cases, breakdowns by Scopes 1, 2 and 3. Many also outline a number of targets, either absolute or intensity carbon reductions, though the ambition and duration varies.

Looking forward, members generally demonstrate planned activities by setting emission reduction targets and outlining proposed environmental impact reduction projects and initiatives, for example establishing energy efficiency measures, appointing energy champions or installing remote water metering.

Recommended areas for development

Going forward, members could advance performance on reducing the environmental impact of their businesses by:

- providing greater transparency on the process and results of implementing sustainable procurement policies, for example, evidence of suppliers being selected or deselected based on environmental criteria
- providing data regarding targets and uptake by employees of activities or initiatives to reduce company and individual footprints

Principle 6: Report and be accountable

Key strengths/progress achieved

Members are generally able to identify senior owners of climate risk and strategy, and describe committees to address climate change drawn from a variety of core functions beyond sustainability or corporate responsibility. Disclosing the highest level of direct responsibility for climate risk within the organisation is the main way members demonstrate efforts to incorporate all principles into business strategy and planning. It is encouraging to see that ownership for climate risk sits mainly with senior executives in the core business, such as chief science officers, chief operating officers and chief executive officers. Disclosure could be further improved by providing greater levels of detail on how climate change data is submitted to and reviewed at board level.

Most members publicly report their approach to, and activities that go into, managing climate risk. This is typically through company websites, sustainability reports and also annual reports and accounts. Although the standard of reporting and level of self-exclusion from sub-principles remains varied across members, the overall level of performance continues to advance.

Recommended areas for development

Members could improve reporting on climate risk and strategy by providing clearer evidence on how the organisation's position on climate change is periodically reviewed or refreshed by a board-level sponsor. An indication of the types of strategic information reviewed by the board, including any measurement of the impact of climate change activities, would provide further supporting evidence of strategic consideration is considered strategically by an organisation's senior leaders.

Beyond the board level, members could provide greater levels of disclosure on initiatives to engage employees on how climate change impacts the organisation's core business operations and strategy, and how they can integrate climate change considerations into their roles and responsibilities.

Stakeholder expectations

Climate risk extends across economies, geographies and industries, and co-operation is required to address the challenges it presents. It's therefore important to understand how evidence provided through the ClimateWise Review process is used by key stakeholders of climate risk.

This year we have provided summaries targeted at two key stakeholder groups, representatives of which have provided a view on how they can use the evidence provided. The first is the C40 Cities Climate Leadership Group, a network of the world's megacities committed to addressing climate change. The second is the financial rating agency Standard & Poor's.

Cities

Key principles of interest: 1, 2, 3.4, 4

Urban areas face rising risks from flooding and extreme weather events that are exacerbated by climate change as well as the trends of population growth and urbanisation. Resilience to extreme events, as well as longer term climate change impacts, needs to be factored into urban spending to protect communities and economies. It is estimated that over the next 10 years, $8 trillion will be spent on infrastructure in the four cities of Beijing, London, New York and Shanghai alone.[4]

Historically, efforts to build climate resilience in cities have been led by public policy and planning approaches from city mayors and local governments. But the extent of exposure to and management of disaster risks are highly dependent on the scale and nature of private investments. Insurers as both insurance providers and investors have a role to play to improve public-private collaboration, to identify shared goals and establish a coordinated approach to achieving a resilient city. Insurers are well placed to recognise the signals that an urban area requires improved resilience without which the costs of providing insurance cover may become prohibitive.

Cities and local governments around the world are not ignorant of the risks. Many have made political commitments through global campaigns such as those launched by ICLEI – Local Governments for Sustainability, United Cities for Local Governments (UCLG), the C40 Cities Climate Leadership Group, the Making Cities Resilient Campaign (led by UNISDR), and the new Compact of Mayors. At the 2014 UN Climate Summit in New York, the Resilient Cities Acceleration Initiative (RCAI) was another positive effort to improve city resilience with objectives such as working with 500 local governments to develop resilience action plans by 2020, mobilising greater finance into urban resilience investment and developing knowledge sharing platforms.

Evidence provided in support of the ClimateWise principles demonstrates some examples of emerging good practice in relation to city resilience. For example, in terms of risk analysis (Principle 1) Swiss Re provided technical input on economic impacts of projected changes in vulnerability to coastal storms to the *A Stronger, More Resilient New York* report for the city authority. Good evidence is provided for engagement with policymakers (Principle 2), though mostly in relation to national-level discussion and collaboration. In Norway, If P&C is, through its membership of the Norwegian Insurance Federation, participating in collaborative research with Norwegian cities to improve methods and preparedness to manage climate change-related risks. By providing claims statistics, they are helping to identify the most critical issues and risks related to climate change.

ClimateWise members have demonstrated several initiatives to engage with the resilient and low-carbon city agenda including the *Institute for Catastrophic Loss Reduction RSVP for Cities in Canada* (Aviva, Lloyd's, RSA, Swiss Re) and the *South African Adopt a Municipality Programme* (Santam). The ClimateWise collaboration workshop series *Building Climate Resilience in Cities*, which took place in North America, resulted in a report highlighting priorities for collaborative

[4] PwC analysis 'Cities of Opportunity'

action. ClimateWise members **Swiss Re** and **Aviva** were part of the advisory panel that provided guidance throughout the design, development and conduct of the workshop series. The initiative highlighted the fact that *the resilience of interdependent systems such as utility and transport infrastructure is critically important to the resilience of individual assets*. Systems thinking must be a consideration for investors when evaluating the potential impact of climate change on future value.

Based on stakeholder views and the findings of the 2014 Review, we recommend that members further:

- Consider insurance areas relevant to cities such as micro-generation and electric vehicles
- Consider physical climate risks and adaptation in their investment decisions, with particular regard to real estate
- Establish, together with city governments, post-disaster plans for the most vulnerable cities and work collaboratively with other insurers, relief agencies and rebuilding organisations.

C40 CITIES CLIMATE LEADERSHIP GROUP

A comment from the C40 Cities Climate Leadership Group

The C40 Cities Climate Leadership Group (C40) is a network of the world's mega-cities committed to implementing climate-related actions locally that reduce global emissions and climate risks. C40's flagship research publication, Climate Action in Megacities 2.0 (CAM) shows that, 98% of C40 members consider climate change a serious risk to their city and have taken more than 1,000 actions to adapt to climate change to date. To guide these efforts, a further 78% of C40 cities have conducted local climate risk assessments.

Still, there is much more to be done. Combining the expertise held in cities with that of the insurance industry would drive even more effective solutions to their shared challenges in confronting climate risks. C40 is encouraged by the examples of public-private sector collaboration detailed in this report and looks forward to more research to identify the full range of opportunities for a collective response to climate change.

Rating agencies

Key principles of interest: 1, 3, 4

Climate risk requires new disclosure and understanding between the insurance industry and rating agencies. For example, rating agencies may have an interest in understanding how the industry considers climate risk in operational risk management and underwriting, investment decision making, collaboration with other sectors, educating buyers, and product development. The ClimateWise reporting and review process can be a useful source of information for this purpose.

Risk analysis (Principle 1) and risk management maybe key areas of interest for rating agencies, specifically the ways the industry considers climate change and extreme weather events in their approaches to risk selection, exposure management and analysis of emerging risks. The quality of approaches may also be an indicator for overall enterprise risk management. Although the potential impact of climate change is hard to calculate, rating agencies may have greater confidence in organisations that demonstrate understanding of the correlation and causality of different climate risks and build consideration of climate change driven extreme weather events into modelling. In turn, consideration of exposure should be linked to planning for financial income and expenditure and capital adequacy.

Product development needs to evolve in step with the changing needs of customers (Principle 3) in insuring against climate related extreme weather events. Organisations that lead on product innovation, identifying under-penetrated markets and raising awareness among customers of climate insurance options are likely to see a positive impact on the bottom line, another area of interest to rating agencies.

Extreme weather events may present a double exposure to insurance companies through increased numbers of claims and reduced value of investments (Principle 4). These exposures need to be identified and mitigated. However, this is not currently seen in member reporting. Rating agencies may wish to understand how an organisation's investment policies cover climate risk tolerance levels and appraisal of climate risks of investment options as well as robust asset-liability management to mitigate double exposure.

Meanwhile, the insurance industry is interested in knowing how rating agencies consider climate risk management through their rating and decision making processes, both for itself and its potential options for investments. To effectively appraise investment options the industry needs continued accurate ratings (for bonds, equities etc.) that reflect the latest thinking and data on climate risks.

Based on stakeholder views and the findings of the 2014 Review we recommend that members further:

- **Continue to integrate climate change into risk management.**
- **Raise further awareness amongst clients on the business impacts of climate change and develop products and services to help clients manage these risks.**
- **Work with others, particularly regulators, ratings agencies and investor groups, to improve climate risk management and disclosure in their own investment books and companies they invest in.**
- **Continue to advance the depth, quality and reliability of disclosure on managing climate risk.**

STANDARD & POOR'S RATINGS SERVICES
McGRAW HILL FINANCIAL

A comment from Standard & Poor's

While our insurance ratings methodology captures climate risk that exists today, it does not explicitly anticipate future climate change. However as an emerging risk, insurers' management and understanding of the potential risks informs our analysis in a number of ways. There continues to be much uncertainty in the scientific and insurance communities on the extent of the impact of climate change on extreme weather events, and the resultant impact on the insurance industry. Is climate change a threat today or one for the future? While the jury may be out on the timing of the impact on the industry, we believe it is unwise for insurers to disregard the potential threat today. Thus, while we do extensive analysis on current exposure to extreme events, we would also take a favorable view of an insurer's financial risk when they consider how climate change, despite its uncertainties, may affect extreme events in capital modelling, risk selection and exposure management. Our assessment of business risk factors is a view of the diversification of an insurer's book of business and the inherent risk of the markets in which it operates, where we include an allowance for the exposure to and possible severity of extreme weather events. For insurers that can leverage their underwriting expertise to develop products that provide protection against climate risk, there is possibility that this could enhance their brand, and potentially improve operating performance.

Compliance with ClimateWise Principle 1 – 'Lead in Risk Analysis' can help to inform our rating analysis with regards to competitive position, capital adequacy, earnings and enterprise risk management. Insurers can bolster their brands as thought leaders by supporting and undertaking research that educates buyers of insurance on how to protect themselves from the risk of climate change and extreme weather. This research could also lead to new products or services that could improve their diversification, risk selection and, potentially, their earnings stability. The improvement in data quality that could inform pricing levels, risk exposure and reserves could also lead to increased stability for an insurer's balance sheet, which we would view favorably. Active monitoring of emerging risks, such as climate change, is also an important consideration in our assessment of enterprise risk management.

We would welcome improved disclosure and transparency in insurers' exposure to extreme weather, as it would allow us to enhance our benchmarking of the industry's exposure, and identify outliers. We also believe that the industry has a long-term and important role to play in developing awareness and acceptance of insurance-backed solutions for states' and corporations' exposure to climate risk. Continued research and discussions with other industries on their exposure can help corporations and governments explain to investors the climate related risks they face and how they are managing them.

The ClimateWise Principles

Principle 1: Lead in risk analysis

The sub-principles

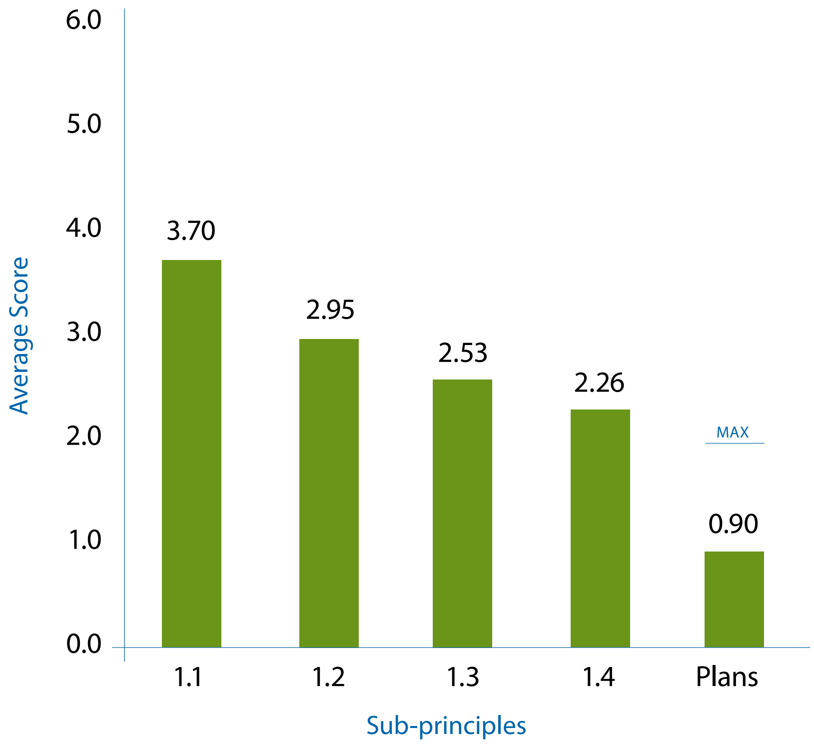
Research: 1.1 Support and undertake research on climate change to inform our business strategies and help to protect our customers' and other stakeholders' interests. Where appropriate, share this research with scientists, society, business, governments and NGOs in order to advance a common interest.

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

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

Innovation: 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.

Principle 1: Average Score



Undertaking research and building knowledge through climate risk analysis are critical for the insurance industry. Members need to be able to measure and accurately price risks associated with climate change and use this to inform products and services. Risks from climate change are increasing; the IPCC identified in its Fifth Assessment Report earlier this year that "global climate change risks are high to very high with a global mean temperature increase of 4 degrees or more…" Members demonstrate good practice in both new and ongoing research but evidence of integration into core business strategy and activity remains an area for development.

Research (Sub-principle 1.1) is the highest scoring sub-principle within Risk Analysis, with organisations demonstrating greatest impact by describing the areas of research undertaken, how these areas align with key business priorities, and how research has informed core business strategies. Members provide evidence of significant research efforts, undertaken both individually and in collaboration with academic and research institutions. It is interesting to note the diversity of subject matter, each linked to climate change, being investigated. **Tokio Marine** has focused on the future risks associated with tsunamis, typhoons and heavy rains, performing joint research with a number of universities. **Hiscox** and **Lloyd's** published a report on the increasing risk of wildfires and identified emerging trends and at-risk regions. **Aviva**, working with the University of Oxford, Smith School of Enterprise and the Environment, has focused on building understanding of stranded assets and their implications on insurers as investors and asset owners. We see good practice in the sharing and wider dissemination of research. A number of reports published by members have been made publicly available and some proactively shared through workshops, events and external conferences with national and international policymakers and disaster risk prevention communities. For example, **Tokio Marine**'s work on earthquake and tsunami losses informed discussions with the UNISDR, Government of Japan, World Bank and Asian Development Bank among others. We also see proactive engagement and awareness-raising of climate risk with new joiners to the insurance broking profession through **CII**'s Insurance Broking New Generation Group. This year's report was focused on UK flooding and its implications for the insurance market. However, compared to these good examples we see fewer cases of members demonstrating how research is an integral part of, and influence on, core business strategy and activity. Few members report how their research and knowledge outputs are informing and influencing their business practices and decisions.

Case study

Swiss Re worked with the City of New York (municipal government) on the "A Stronger, More Resilient New York" report, to help the city prepare for more severe climate impacts, and in the wake of the significant impacts already experienced during Hurricane Sandy. The project involved quantifying annual expected weather losses and how they could develop during different future climate change scenarios. The project enhanced Swiss Re's understanding of how cities are exposed to climate risk, an important element for its strategy to develop risk transfer solutions for the public sector, including cities. The project also provided valuable data to support Swiss Re's climate change strategy which aims to promote the need for investment in resilience building measures – an essential component to ensure the long-term insurability of high-risk areas.

In **Forecasting** (sub-principle 1.2) members are able to exhibit greater performance by providing evidence of activities to support forecasting, and how outputs of these activities influence business practice and are shared with other parties. Members illustrate a range of activity to support national and regional forecasting of future weather and catastrophe patterns. **Cunningham Lindsey's** subsidiary company, WeatherNet, has manned and automatic weather stations across the UK and provides a forecasting service to around 90% of the insurance industry as well as regular surge and subsidence watch reports. A number of members highlight their in-house capabilities on natural catastrophe modelling and management, including **Hiscox**, **Marsh** and **Zurich** who are identifying new areas of risk research to refine and improve catastrophe modelling. There is evidence of modelling outputs influencing business practice by informing pricing decisions, the purchase of outwards reinsurance and risk-based capital assessments, and being shared more broadly through external conferences and publicly available reports. **Zurich** is using catastrophe model output in its risk- based capital assessment, reinsurance and risk tolerance assessment and primary pricing calculations and is engaging internationally through its Natural Catastrophe Advisory Council. **RMS** has made significant efforts to update its North Atlantic Hurricane and European Windstorm climate risk models to incorporate emerging trends relating to climate change, such as increased levels of intense storms.

In **Application** (sub-principle 1.3), members can demonstrate greatest impact where they are able to show how they identify areas of data quality requiring improvement and how this translates into new research areas. There are examples of members identifying areas of data quality that need improving to reflect new risks and provide evidence of how this has informed business strategy. We see some examples of members increasing their areas of risk research but these are limited. **RSA** has worked with WWF to create GIS maps to better track ecologically and biologically significant areas throughout the Canadian Arctic and sea ice coverage patterns and changes over time. **Tokio Marine** and **RMS** have agreed to share information on Japanese earthquake and typhoon risk over a long-term period to enhance quality of natural catastrophe risk analysis.

Innovation (sub-principle 1.4) proved the area of weakest performance by members across Principle 1, and therefore an area for continued and greater focus in future. High-scoring members are able to show how their support of new technologies addressing climate change impact their organisation, and demonstrate an increase in evaluation of risks associated with such technologies. There were a limited number of examples of research and initiatives to understand and mitigate the costs and risks in insuring new technologies. **Lloyd's** has produced a report on autonomous vehicles, examining the role of insurance in the development and adoption of this new technology and analysing the opportunities and risks they present. Autonomous cars could have a positive environmental impact, reducing carbon emissions by achieving more consistent speeds, less accelerating and braking and more efficient routes. **Zurich** continues its work with ClimateWise on identifying insurable risk implications of carbon capture and storage (CCS) and working with government bodies and industry associations to support the development of CCS in the UK and Europe. Members, including **Willis** and **RSA**, have also focused on supporting the development of renewable technologies. More can be done, however, to broaden and deepen thinking on products and services for insuring new technologies.

HISCOX

Case study

Hiscox *and the development of new products.* Recognising growing customer interest for products related to environmental risks and climate change, Hiscox has developed a bespoke insurance product for renewable energy installers. This has been developed by working closely with the National Association for Professional Inspectors and Testers. The product includes cover for negligent advice, as installers provide customer advice regarding the energy and cost savings likely to arise from adopted renewable technology. Hiscox currently has 542 policyholders of this product.

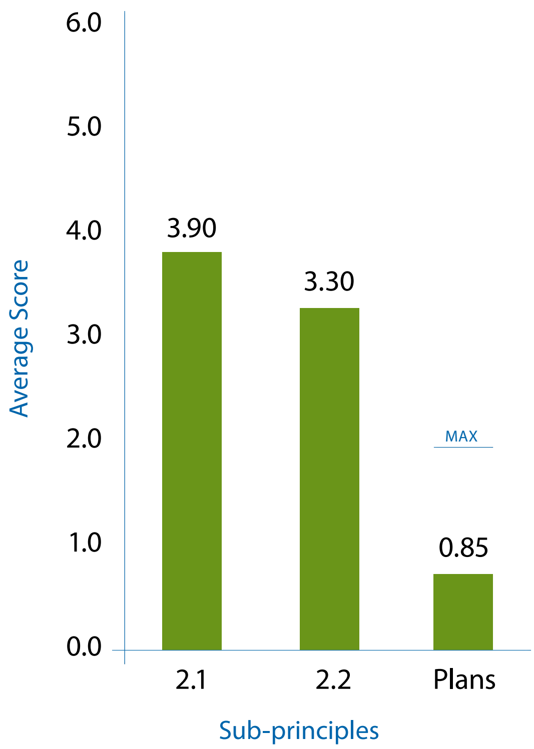
On planned activities, there was little demonstration of forward-looking objectives and initiatives by the members. Some members outline specific examples of publications or events planned for the next year but these were limited in number and detail. More often, members highlight objectives and commitments to undertake research in specific new areas or to build on existing research projects. For example, **Hiscox** plans to publish a report on hurricanes, including an analysis of the performance of hurricane forecasts. In the longer term, Amlin, an independent insurer operating in the **Lloyd's** market, has an objective to develop a risk management scorecard to better manage the level of systemic risk of modelling in its decision-making processes.

Principle 2: Inform public policy making

The sub-principles

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

Principle 2: Average Score



The insurance industry plays a critical role in helping society mitigate the impacts of climate change, and to improve its resilience both pre- and post-disaster. The expertise, experience and information it possesses are key for informed public policy. Members describe a range of engagement, predominantly through their participation in national and international organisation-led working groups, publications and participation in and facilitation of events such as conferences and workshops. Additionally, senior leaders of the members continue to speak publicly on the impact climate change is having, and will continue to have, on the industry and its role in achieving resilience. Primarily, engagement covers adaptation and resilience but with examples of engagement on mitigation such as carbon capture and storage. Progressive members articulate how their engagement is linked to core business priorities, and where applicable, how research efforts have been used as a basis for focused engagement on climate change.

For **Policy** (sub-principle 2.1), members demonstrating the greatest impact were able to show how their policy engagement prioritised areas that most affected their ability to address climate risk. Members provide good examples evidencing initiatives in working with policy makers, where engagement continues to take place mainly at a national level. For example, **If P&C** is using its expertise in climate resilience and adaptation to engage with both the Danish and Norwegian governments on climate policy. In the United States, **Lloyd's** has engaged with a number of federal agencies in response to proposed rules implementing the Biggert-Waters Flood Reinsurance Act (a five year extension and reform of the National Flood Insurance Program). Lloyd's engaged the US government to encourage lenders to accept surplus lines flood coverage, thus increasing the availability of flood insurance. This year, several members have profiled their involvement in international initiatives such as the UNISDR, the UN's office overseeing the development of disaster reduction worldwide. For example, the head of **Willis**' Capital, Science, and Policy Practice chairs the private sector working group for the UNISDR's Hyogo Framework for Disaster Risk Reduction. Meanwhile, **Tokio Marine** contributed to the Geneva Association's NAT-CAT Case Study Report by submitting an article on how the Japanese residential earthquake insurance system responded to the 2011 Tohoku earthquake and tsunami. Some members also demonstrate examples of policy engagement linked to priority areas for the business. For example, **Zurich**'s commitment to Carbon Capture and Storage has seen it work with government bodies to support the development of the technology in the UK and Europe. Given their role as professional bodies for the industry, this sub-principle is particularly important for **ABI** and **CII**. Both disclose good examples of their work with policy makers, with the former working closely with the UK government to set up Flood Re, and the latter presenting the Broking New Generation Group's "UK Flooding: The Implications for the Insurance Market" report to Defra officials.

Case study

RMS *and the Risky Business Project*. The Risky Business Project, a joint partnership between Bloomberg Philanthropies, the Paulson Institute, and TomKat Charitable Trust, engaged RMS to use its catastrophe modelling expertise to quantify and publicise the economic risks posed to the United States from the impacts of climate change. As part of this, RMS simulated the likelihood and impact of storms and flooding events across the coasts of the country against a range of scenarios using its models. RMS co-authored the final report published in June 2014. The output of the analysis will be used to inform public policy by forming a basis for engaging with the communities most at risk from climate change. This will help leaders in these communities to prepare a response to the climate-related challenges they face.

In **Stakeholder engagement** (sub-principle 2.2), high-scoring members clearly illustrate how their engagement activities on climate change are aligned to their organisation's material issues. In general, members highlight a range of activity to promote and actively engage in public debate on climate change. **Swiss Re** has used its public engagement activities, including addresses from senior management at events including Climate Week NYC and the Clinton Global Initiative Annual Meeting, to not only promote the need for action on climate change, but to also explain the roles the company and the wider industry play in addressing its risks. **RSA**'s interest in renewable energy has led it to prioritise its public engagement with organisations such as the World Wildlife Fund, Renewable UK and the European Wind Energy Association. There were also some examples of members demonstrating a leadership position on climate change issues, particularly professional bodies and associations who play a key role in informing climate change public policy making and engaging in public debate. The **CII**, prioritising its efforts based on its unique role as a professional body, has taken a number of steps to incorporate climate change into its offerings for members. For example, it has integrated climate change into the material used by candidates and practitioners to complete half the exam units of their Continuing Professional Development (CPD) syllabus.

The **ABI**, continuing its focus on Flood Re, outlines how it has supported the process of Flood Re legislation being debated in Parliament. In line with its Corporate Responsibility strategy to use its position and voice to encourage action on environmental issues, **Lloyd**'s senior leaders engaged in public debate on climate change on numerous occasions throughout the reporting year, including its Head of Exposure Management and Reinsurance presenting on climate change at events, speaking and writing on climate change in a range of newspapers, and hosting a Twitter Q&A session.

The new sub-principles and scoring methodology presented some difficulties for members responding to Principle 2. Whilst members were generally able to provide examples of initiatives to inform public policy making, members did not explicitly identify the areas of public policy most relevant to them. As a result, there was little evidence linking public policy actions to the organisation's priority areas or material issues. This is a key area for members to engage with in the future. Disclosing public engagement activities helps demonstrate that members are prioritising efforts in areas most material to their business and where they can deliver most impact.

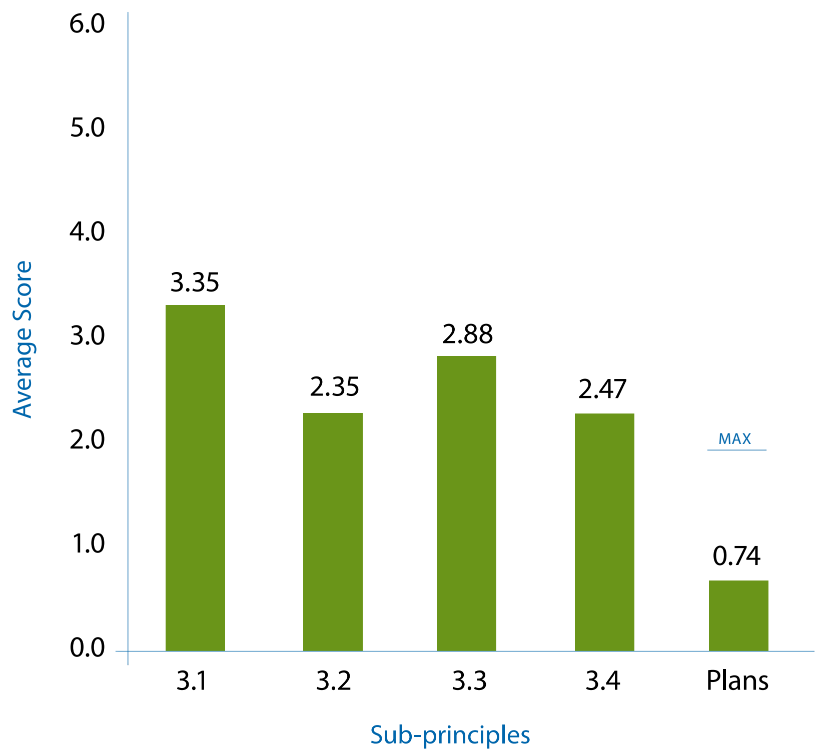
On planned activities there was little evidence across the membership, whether in terms of new activities or extensions of existing ones, regarding future objectives and initiatives. Where members have described initiatives to engage in public debate on climate change, they should look to indicate how these initiatives are being taken further or supplemented in the coming year.

Principle 3: Support climate awareness amongst our customers

The sub-principles

Advice: 3.1	Inform our customers of climate risk and provide support and tools so that they can assess their own levels of risk.
Products: 3.2	Encourage our customers to adapt to climate change and reduce their greenhouse gas emissions through insurance products and services.
Claims: 3.3	Seek to increase the proportion of non-life claims that are settled in a sustainable manner.
Market Penetration: 3.4	Through our products and services assist markets with low insurance penetration to understand and respond to climate change.

Principle 3: Average Score



Supporting and enabling customer groups to move towards more sustainable behaviours is a great opportunity and area of potential significant positive impact for the insurance industry. Good examples are emerging that demonstrate the opportunities inherent in following a more sustainable claims process, e.g. by repairing flood-damaged houses with more resilient materials, the likely impacts on the residents and future exposure of the insurer are reduced. Members are identifying and capitalising on the value that these can provide for the business, though more can be done through the products and services themselves to further facilitate change towards climate resilience and low carbon behaviour.

In **Advice** (sub-principle 3.1), members show the greatest impact by clearly identifying areas of behaviour change required to address climate risk, and communicating and providing tools to their customers to help assess their vulnerability to climate risk. The members show good performance in informing and supporting customers of various types to assess their exposure to climate risk, with all members providing examples of established initiatives. **Hiscox**, through emails, and **Zurich**, through a microsite, are supporting prevention of weather impacts by providing practical guidance to help homeowners assess their risk exposure to severe weather. Some members have also developed sophisticated tools that can be used by customers. **Swiss Re**'s "CatNet®" tool provides natural hazard (weather and earthquake) information combined with Google Maps™ and satellite imagery to provide an assessment of exposure for any location worldwide. The tool is provided free to Swiss Re's clients along with user training sessions. Similarly **If P&C**'s VisAdapt™ tool provides homeowners with location-specific risk data for climate changes including temperature and precipitation.

In Denmark **RSA** sent text alerts to 10,000 customers and emailed a further 70,000 to provide warning of the arriving St Jude storm enabling people to secure cars and premises and get to places of safety. The overwhelming majority of customers who signed up for alerts used the service, and the initiative resulted in a material reduction in small claims. RSA has also put out alerts on the radio in Canada, and in the UK provided an emergency response vehicle to visit flood-hit customers. As a critical link between insurance companies and customers, Principle 3 as a whole is particularly important for insurance brokers. In terms of sub-principle 3.1, **Marsh** provides weather parametric solutions which allow companies, whose activity is weather-driven, to hedge exposure to variability in order to protect their results and stabilise profitability. **Willis** regularly communicates the latest disaster and climate risk research to its reinsurance clients through its research network.

ZURICH

Case study

Zurich *and social housing providers*. Zurich Municipal, the company's public sector insurance division, supports social housing providers on climate risk management through awareness raising e.g. building design to adapt to future weather scenarios. Strategic risk consultancy services are also provided with regard to National Indicator 188 (Planning to Adapt to Climate Change).

Products (sub-principle 3.2), is the area of performance (driving customer behaviour through insurance products and services) that members most struggled to provide evidence on. Members can demonstrate higher performance by clearly illustrating how the organisation is considering and developing products and services to help customers address climate change issues, and that they have a process in place to estimate the revenue and impact of such products and services. Members continue to demonstrate the design and implementation of innovative approaches to encouraging customers towards sustainable behaviours. As well as offering lower premiums for customers using electric or hybrid cars, **Allianz** offers discounts to customers holding annual public transportation passes. **Tokio Marine** has expanded the list of insurance products that qualify for its 'Green Gift' of two mangroves planted for each policy chosen with online wording. The project was expanded to policies and renewal instructions and broader initiatives to raise environmental awareness in communities. Last year Green Gift II reduced annual paper use by approximately 2,450 tons. **Hiscox** is driving product innovation by working with IPSOS to survey consumers on attitudes towards valuing the environment and their appetite for certain environmentally linked product options.

Claims (sub-principle 3.3), expanded under the revised Principles beyond repairs to broader claims activities that may be settled in a sustainable manner. This follows ClimateWise's Sustainable Claims initiative in which several members are involved, including **ABI, Allianz, Cunningham Lindsay** and **The Co-operative Insurance**. The objectives of the initiative include engaging with claims fulfilment suppliers and claims handling teams, educating customers, seeking innovation, making environmentally sound replacement versus repair decisions and improving management of waste and water. As such, members showing the most impact on this sub-principle not only described activities to make the claims process more sustainable, but also outlined efforts to educate their customers and suppliers on sustainable claims and measure the uptake of these activities. An innovative example which demonstrates the potential options of sustainable claims, and also has broader outcomes for customer behaviour, is If **P&C**'s motor insurance initiative to offer a free bike as an alternative to a rental car. This initiative has seen success during its pilot rollout in Norway. Also in motor insurance, **If P&C** requires that the contractors who repair damaged vehicles must have a certified environmental management system and have monitored CO_2 savings from the reuse and recycling of material from damaged cars. In 2013 the recycling of plastic, steel and aluminium resulted in an estimated saving of 13,000 tons of CO_2. To maximise the opportunities from a sustainable approach to claims management several members, including **RSA** and **Cunningham Lindsey**, have designed and delivered technical training on sustainability to both their suppliers and claims handlers. **Zurich**'s Adaptation Clause and **Willis**' Green Clause allow customers to reinstate properties to a higher energy standard and with more sustainable materials than the original.

AVIVA

Case study

Aviva *and efficiency upgrades on replacement*. Further to its renewable energy endorsements in Canada, Aviva launched a new policy endorsement available to all household insurance which upgrades damaged items to the most energy-efficient modern versions. For example, broken double-glazed windows may be replaced with triple-glazed argon gas-filled units, improving insulation and reducing emissions.

Market Penetration (sub-principle 3.4), also expanded under the revised Principles beyond developing countries to also include broader under-penetrated insurance markets, such as certain social groups or industry sectors (e.g. new technologies). As a result, high-performing members were able to demonstrate how they can best support these markets, engage with customers, and work in collaboration with them. The new expansion of this sub-principle is not yet reflected in member responses, with the focus remaining on developing countries where there are a variety of good initiatives. There is a need to increase insurance penetration in developing countries where greater uninsured losses can have a significant impact on a country's economic stability. The potential for negative impact is increasing where insurance penetration lags behind growth in middle class wealth and uninsured losses are growing faster than insured losses.[5] In developing countries, good progress in increasing penetration is still being seen. Over the period 2011 – 2013, **Allianz** increased the number of customers protected by its micro-insurance products from 3.9 to 24.9 million, with 18 products on offer. **Swiss Re** recently supported the launch of the African Risk Facility, the continent's first-ever natural disaster insurance pool, which will initially offer drought insurance to five governments, including Kenya, Mauritania, Mozambique, Niger and Senegal. **Swiss Re** is also engaged in the two other sovereign risk transfer pools – the Caribbean Catastrophe Risk Insurance Facility and the Pacific Catastrophe Risk Insurance Pilot, both helping provide insurance products to countries with low insurance penetration.

Going forward we hope to see more activity and reporting on assisting other forms of markets with low insurance penetration. For example, insurance plays a key role in facilitating investment in new technologies such as renewables, in particular in geographic markets where these technologies may be less established. More consideration needs to be given to which markets have low insurance penetration - whether specific geographic locations (including countries), industry sectors or social groups – and how these may be supported. Once this has been further assessed against potential suitable products and services, more

[5] S&P, Munchener Ruckversicherungs-Gesellschaft, NatCatSERVICE

examples of action can emerge. For all low-penetration markets, whether countries or sectors, a key part of the assistance is education. Insurers and the insurance market need to demonstrate to business, investors and governments the value of insurance as a key risk management tool.

For brokers the main area for improvement is encouraging customers to adapt to climate change and reduce their greenhouse gas emissions through insurance products and services (sub-principle 3.2). Going forward we hope to see loss adjusters as a source of innovative approaches to raising awareness and supporting customers on managing the climate risk challenge. We also hope to see greater engagement between insurers and loss adjusters to develop sustainable building repair specifications.

On planned activities there was mixed performance. A few examples disclosed included:

If P&C's initiative that gives extra financial damages payments where customers chose to re-buy a car with CO_2 emissions lower than 120 g / km is to be launched in Norway this autumn.

RSA is planning the next phase of its environmental systemic risk initiative which will see its commercial lines customers and brokers engaged to encourage adaptation to risks identified during an initial phase of research and work with its property and casualty underwriting teams. RSA is also to enhance climate change related information sent to its personal lines customers. This follows research undertaken over the past year into consumer responses and needs in relation to climate change, extreme weather and resiliency options.

Planned activities reported by Hiscox include:

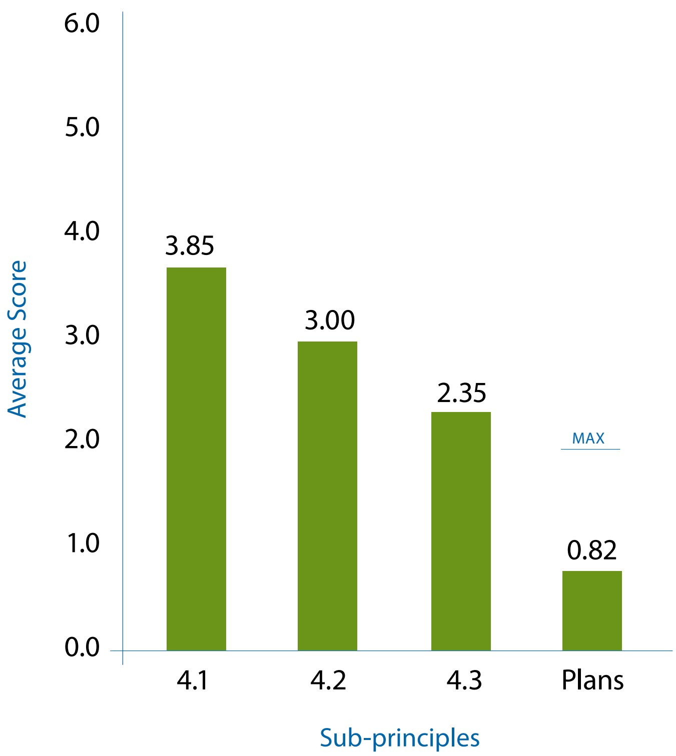
- Publishing articles in its 'Informed', magazine available by mobile app, on how business customers can become more environmentally aware and reduce their own carbon footprint.
- Further increasing the number of climate-related blog articles.
- Reviewing an action plan on opportunities for integrating positive environmental change into its products and services following a research project by a member of staff on the relevance of consumer behaviour to the insurance industry and how best to engage and influence customers for positive environmental change.

Principle 4: Incorporate climate change into our investment strategies

The sub-principles

Evaluate: 4.1	Evaluate the implications of climate change for investment performance and shareholder value.
Incorporate: 4.2	Incorporate the material outcomes of climate risk evaluations into investment decision making.
Engage: 4.3	Communicate our investment beliefs and strategy on climate change to clients and beneficiaries.

Principle 4: Average Score



The volume of assets directly and indirectly owned by the insurance industry provides further potential to influence the consideration of climate risk, though the degree of this would depend on the mix of asset classes. Many members demonstrate their commitment to taking climate into account in investment decisions through 'responsible investment' policies or equivalent. There were a number of good examples of members showing how such policies are implemented in practice, and also increasing evidence of members starting to examine opportunities for innovation in investments, such as green bonds. However, demonstration of how investment principles and strategy are communicated and measurement of progress and their uptake are areas for development.

In **Evaluate** (sub-principle 4.1) members show greater performance where they articulate a strategy for integrating climate considerations into investment activity and how this strategy is used to identify and prioritise risks and opportunities in their investment portfolio. Members provide numerous examples of the ways they evaluate the implications of climate change for the financial performance of their investments, in particular in terms of areas of research and analysis. **Aviva** Investors has recognised stranded assets as an increasingly important issue for its portfolio and is using research commissioned from the University of Oxford, Smith School of Enterprise and the Environment to understand the materiality of environment-related risks and the potential impacts on investors and its portfolio. Given that most of its investments are in bonds, **RSA** commissioned research with WWF to investigate the extent to which environmental risks are factored into bond prices. The research found that materiality varied by sector, and encouraged investors to monitor risks and assess exposures on a sectoral basis. Members also outlined efforts taken to identify risks and opportunities in their portfolios. M&G, a subsidiary of **Prudential**, identified energy as a sustainability issue in its property investments, and has taken steps to drive improved performance. It undertook risk analysis across its funds in order to prioritise efforts to commission Energy Performance Certificates, require property managers to set reduction targets and implement operational improvements, and use capital projects as an opportunity to improve energy performance. Similarly, **Zurich** has identified climate change as a highly relevant issue for its real estate investments, and has set targets to reduce the carbon footprint of its Swiss real estate portfolio. Meanwhile, **Swiss Re** engages an external expert to review its externally-managed portfolios for environmental, social and governance (ESG) issues. The expert provides research, ratings and analysis of the ESG practices prevalent in these portfolios.

In **Incorporate** (sub-principle 4.2) members best demonstrate performance by indicating objectives for climate risk in investments, providing evidence of how their approach in this area has been applied, and how investment decisions have been influenced by evaluations of climate risk. A number of members describe their increasing interest in green bonds as an investment product. **Aviva** Investors expresses its interest in funding green bonds, particularly in light of the move towards green bond standards. Meanwhile, **If P&C** and **Zurich** have already invested in them. The latter committed to investing up to US$1 billion in green bonds and to track and report on the impact of the projects. By the end of 2013, Zurich had already invested US$236 million. Some members demonstrate application of their responsible investment policy by describing the exercise of voting rights and engaging with investees on ESG issues. For example, F&C, **Lloyd's** overlay manager, voted 145 times and engaged with 108 investee companies of Lloyd's Central Fund, leading to changes in ESG management. Similarly, **Aviva** publishes details of its voting effectiveness, having voted at over 3,500 company meetings on ESG resolutions in 2013. A number of members express their intent to require external asset managers to provide updates on ESG management, but little evidence is seen of this currently in action. **Lloyd's** intends to incentivise the incorporation of ESG considerations into investment decisions by asking external managers to report annually on progress, while **Direct Line** has a discussion on ESG improvement with its external managers as a planned activity for the year.

HISCOX

Case study

Hiscox *and the economics of climate change*. Following similar analysis conducted in 2009, Hiscox's internal investment team refreshed its analysis of the economics of climate change and the implications for the company's investments. This was based on a number of high-profile international studies on climate change and academic papers on social discounting and mitigation costs. The paper produced informed climate considerations with regard to the organisation's investment strategy. A refreshment of this research is scheduled to take place in 2016.

Engage (sub-principle 4.3) is the area of Principle 4 where evidence of action and progress remain weakest. Nevertheless, there were some good examples of initiatives to communicate investment beliefs and strategy to clients and beneficiaries. Scottish Widows, a subsidiary of **Lloyds Banking Group**, communicates its investment approach to climate change through its customer website. In addition to information and reports on its responsible investment activities, the website contains a permanent survey to gauge what further information customers would find useful, the views they might have on certain investment issues, and their expectations of Scottish Widows with regards to these. **Aviva** met with ShareAction, a charity promoting responsible investment among pension funds and fund managers, and seven of its customers to discuss their concerns regarding how pensions were invested with respect to climate and broader ESG issues.

Case study

Lloyd's *and responsible investment in fixed income*. Recognising that responsible investment is more advanced in equities compared to fixed income, Lloyd's Treasury and Investment Management (LTIM) plans to invite an investment manager to present to Lloyd's managing agents on how they incorporate ESG considerations into their decision-making process for fixed income investments. The hope is that this will encourage managing agents to improve their own ESG management, where fixed income assets are managed in-house, or to engage with their external investment managers to achieve this.

While there were instances where companies had undertaken a systematic assessment of climate risks and opportunities in their investments, these were generally isolated. Limited evidence was provided of communication on investment beliefs, either online or engaging in discussions with stakeholders. There was also an overall lack of measurement of the progress and changes arising from responsible investment activities, whether in terms of the proportion of assets covered by policies or details of external stakeholders engaged.

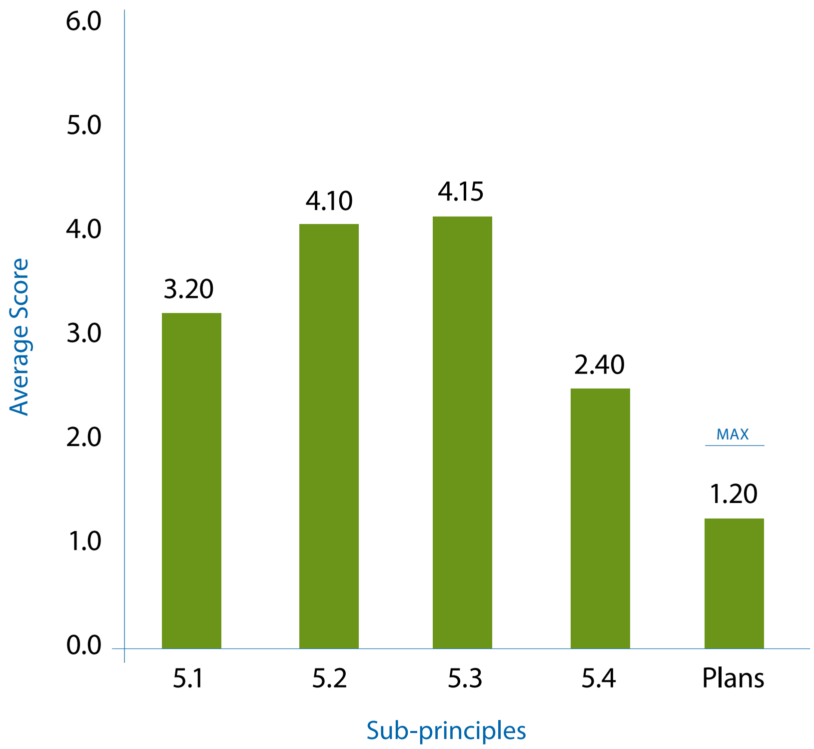
On planned activities there was little evidence regarding the incorporation of climate change into investment strategies. Implementation of actions arising from reviews or analysis of investment portfolios, planned communication and engagement with external stakeholders on responsible investment activities, and responsible investment targets or goals are examples of additional disclosure members could look to provide on this principle.

Principle 5: Reduce the environmental impact of our business

The sub-principles

Supply chain: 5.1	Engage with our supply chain to work collaboratively to improve the sustainability of their products and services.
Operations: 5.2	Measure and seek to reduce the environmental impact of the internal operations and physical assets under our control.
Direct emissions: 5.3	Disclose our direct emissions of greenhouse gases using a globally recognised standard.
Employee incentives 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.

Principle 5: Average Score



Reducing direct environmental impact is an area of lower materiality for the members. However, it is still important for the industry to contribute to climate mitigation and is a useful way of engaging employees, demonstrating public commitment and adding credibility to policy engagement. Members provide a number of examples of good practice but evidence of measuring and improving employee engagement, particularly on the impacts of climate change on core business strategy, remains an area for development. Encouraging employees to think more strategically about climate change and its impacts, and the risks and opportunities it presents to the company, can further embed climate change into the business culture.

In **Supply Chain** (sub-principle 5.1) members demonstrating the most impact were able to illustrate the existence and application of a sustainable procurement policy, and provide examples of collaboration with selected suppliers to improve products and services. Members provide examples of formal and informal policies and procedures in place, requiring potential suppliers to be screened according to criteria including climate change. We find that most members tend to seek and prioritise suppliers with established environmental policies and management systems (and in some cases third-party certification) and request evidence of these during the evaluation of tenders. Some members, for example **Hiscox**, are extending their criteria to include suppliers' own supply chain standards. Members including **If P&C** include clauses regarding environmental goals in supplier contracts. However, we have yet to see evidence of suppliers being selected or deselected based on environmental criteria. Only a limited number of members appear to work collaboratively with suppliers. **RSA** works directly with suppliers to help them improve when an area of under-performance is identified and **Swiss Re** held supplier events with the same aim. Swiss Re also decided to terminate its engagement with a copy paper supplier, which was not able to deliver copy paper at a level of quality compliant with its minimum environmental requirements. **Prudential** manage a 'Waste Action Group' with its cleaning and waste disposal supplier, where ways of reducing environmental impact are discussed.

Operations (sub-principle 5.2) saw the majority of members score well, with the highest performers disclosing key environmental data and demonstrating broader coverage of impact areas. Most members focus on demonstrating reduced greenhouse gas emissions, water usage and waste. The majority were able to provide relevant environmental data and current performance trends as well as examples of recent and ongoing impact reduction projects, but fewer expanded approaches. Notably, six members achieved full compliance with this sub-principle with good practice examples including: **Direct Line** and **If P&C**'s work on increasing the proportion of energy from renewable sources (all of If P&C's Nordic offices have now switched to renewable energy), and **If P&C** and **Aviva**'s work on carbon offsetting. Aviva has worked with its carbon offset provider to better understand the community impact of the projects it purchases carbon credits from.

Case study

Tokio Marine *going beyond Carbon Neutral.* The group continues to set short, medium and long term emissions reduction targets through to 2050 to continue to reduce its environmental impact. Impact reduction projects include converting to "thin client" ICT system network designs, and introducing smaller, more fuel-efficient, hybrid and electric vehicles to the company fleet. Tokio Marine achieved carbon neutrality and carbon positive status for the fiscal year 2013 through mangrove planting mainly in Asia and the purchase and use of green electricity certificates (wind power, etc.). Under the concept of "Insurance for the Future of the Earth", Tokio Marine has engaged in the Mangrove Planting Project since 1999. As of March 2014, 8,405 hectares of mangrove forest have been planted in nine countries, primarily in Asia. Forests planted in seaside areas can also serve to create a rich ecosystem and conserves biodiversity and act as "green coastal breakwaters" that protect people from high waves, storm surges and tsunamis.

Direct emissions (sub-principle 5.3) was another area where the majority of members score well with nine achieving full compliance. Members disclose GHG emissions, typically according to Defra guidelines (in the UK) and the Greenhouse Gas Protocol and, in a number of cases, breakdowns by Scopes 1, 2 and 3. Many members disclose emissions in annual reports or online, as well as through participation in the Carbon Disclosure Project. Higher performers disclose emissions against an absolute or intensity target, and support this with narrative outlining performance trend. **RSA**, for example, has introduced a new target based on CO2(e) per employee aimed to greater engage employees and change behaviour and **Tokio Marine** has set short, medium and long term targets, through to 2050.

Employee incentives (sub-principle 5.4) was the area in which evidence was most limited. In addition to disclosing employee engagement activities, members can demonstrate impact in this area by providing targets and a measure of uptake for these activities. Members appear to engage employees on initiatives to reduce company and individual direct environmental footprints but employee uptake of these activities or initiatives is rarely collected and monitored. **If P&C** offices each have their own environmental management group which locally develops management plans and arranges theme weeks on priority areas such as energy efficiency, printing reduction, and food waste. **Aviva** has launched a virtual office environment – 'Empower'– in conjunction with the Carbon Trust which allows employees to learn about the company's environmental impacts, look at ways to help reduce them and informs management of current employee behaviour. However, targets for employee engagement and a comprehensive engagement programme are rarely evidenced by members. A similarly limited number of examples exists of members engaging employees regarding the impact of climate change on the company's core business strategy, and how they can look to integrate climate change considerations into their roles. **Prudential**, as one example, has integrated the Principles for Responsible Property Investment into its staff induction and training and the employee survey now includes questions relating to the investment strategy and an individual and team's ability to contribute to its implementation.

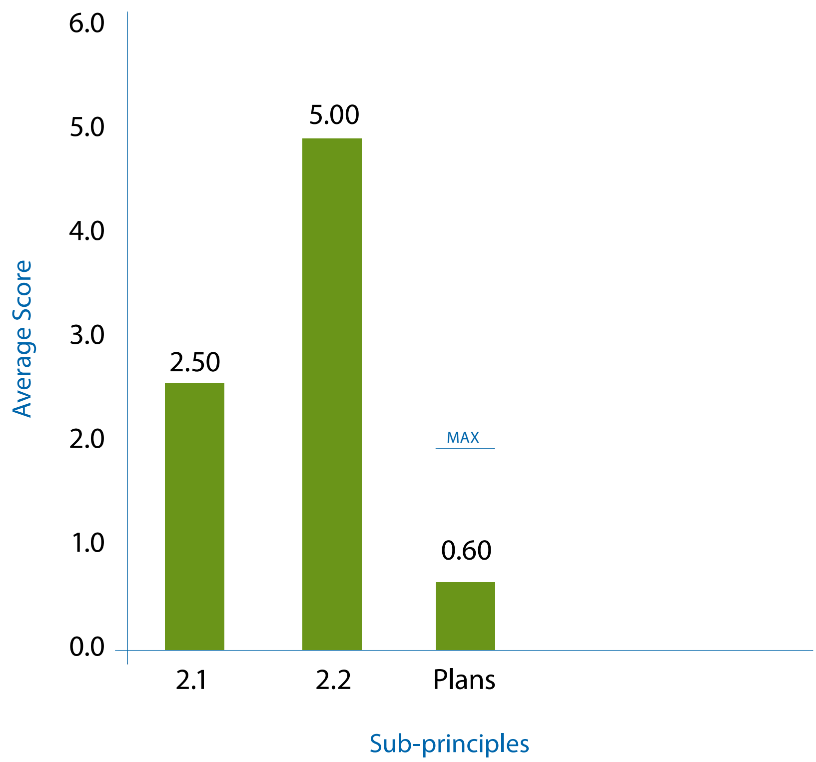
On planned activities members show good evidence for this Principle, including planned disclosure of emission reduction targets as well as targets in other areas such as water use and recycling. Some members also disclose planned environmental impact reduction projects and initiatives, for example establishing energy efficiency measures, appointing energy champions and installing remote water metering.

Principle 6: Report and be accountable

The sub-principles

Strategy: 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.
Transparency: 6.2	Publish a statement as part of our annual reporting detailing the actions that have been taken on these principles.

Principle 6: Average Score



The integration of climate change into core operations is often largely driven by the level of senior endorsement and how it is incorporated into a company's business strategy and planning. Members generally identify specific senior owners of climate risk and sustainability strategies, and many describe how they have formed committees drawn from a variety of core functions beyond sustainability or corporate responsibility. Disclosure could be improved by providing greater levels of information on consideration of climate change at Board level.

Members demonstrate higher performance on climate **Strategy** (sub-principle 6.1) by not only disclosing senior responsibility for climate change issues, but by providing an indication of the types of climate change related information and metrics reviewed at senior level, and the actions taken as a result. Members demonstrate in a variety of ways their efforts to incorporate all Principles into business strategy and planning, predominantly by disclosing the highest level of direct responsibility for climate change within the organisation. It is encouraging to see that ownership for climate change sits mainly with senior executives in the core business, such as chief science officers, chief operating officers and chief executive officers. Some members also describe specific committees in place which focus on climate change issues. For example,

AIG's Chief Science Officer leads an Environmental Working Group comprising representatives drawn from across different functions and responsible for reviewing progress against climate change objectives. Similarly, **Tokio Marine** convenes a CSR Board consisting of the company's Group President and presidents of individual group companies that evaluates climate change initiatives and proposes and agrees actions across the group. Tokio Marine also engages with external experts to solicit opinions on the group's climate change approach.

Case study

RSA *and integrating climate change at Board level.* RSA manages climate change through both its risk and corporate responsibility functions, with oversight from its Executive Committee. Ultimate responsibility for climate change is held by the Group Chief Executive Officer, and is supported by a Group Corporate Responsibility (CR) Steering Committee comprising members of the Executive Committee and senior leaders from business functions such as operations, environment and communications. The CR Steering Committee is responsible for integrating RSA's CR strategy into core business functions across the organisation, and meets three times a year to discuss emerging climate risks, review key performance indicators and recommend actions to the board if required. Additionally, climate risks and responses to these are put on the RSA Board agenda through quarterly reports to the Board Risk Committee.

Members could improve reporting by providing clearer evidence on how the organisation's position on climate change is periodically reviewed or refreshed by a board level sponsor. Greater levels of disclosure on whether and how climate change issues are discussed at board meetings would also support compliance with this sub-principle. Members generally do not provide examples of the types of strategic information reviewed by the board, for example, the ongoing measurement of the impact of an organisation's climate change activities. Inclusion of such information would provide further evidence that climate change is considered strategically and systematically by an organisation's senior leaders. Additionally, where activities of environmental working groups are described, a clearer indication of how they engage with and report to the Board would help to provide clearer evidence of how work on climate change is being reviewed, discussed and integrated at Board level. This may be through a wider governance framework on how board and management are linked to implement programmes.

Transparency (sub-principle 6.2) was the highest scoring sub-principle this year across all members. This is a reflection of the new scoring methodology where members achieve full compliance for reporting actions against all ClimateWise sub-principles relevant to its organisation type. A member's score against this sub-principle decreases in the event of self-exclusions from other sub-principles, though these were few in number. Nevertheless, the quality of reporting provided by members varied considerably. Some reported against each principle at a higher level rather than against each sub-principle, while others provided a list of web links without supporting narrative and explanation.

On planned actions there was minimal demonstration of planned activities regarding reporting and being accountable. Providing information regarding upcoming focus areas of committees reporting to the Board, Board activity on reviewing climate-related information and proposed changes to the way climate risk is governed are examples of disclosure that would further enhance performance against this principle.

Outlook and policy context

Outlook and policy context

The road to a climate deal in Paris 2015: what role can the insurance industry play?

The UN Climate Summit in New York in September this year, followed by the UNFCCC climate negotiations in Lima in December, set in train the process for agreeing a global climate deal in Paris in 2015. The ambition for the deal is to set an international framework to move towards a lower carbon society, but also to support tools that manage the risks and impacts associated with a changing climate. PwC explores what this means for the insurance industry and the implications and opportunities for ClimateWise members.

The voice of the private sector in the UNFCCC climate negotiations is increasing.
The UNFCCC negotiations have in the past followed a 'closed-door' policy with relatively limited private sector engagement and involvement. This visibly changed at the UN Climate Summit in New York in September. Business representatives attended and made public pledges and commitments. This trend looks likely to continue, with the Peruvian government conscious of the need to engage the private sector at the UNFCCC negotiations in Lima in December. Now is the time and the opportunity for the private sector including the insurance industry to engage.

The insurance industry should be showing an awareness of, and engaging in, international and national policy debates, particularly on the theme of adaptation but also on mitigation. The ClimateWise submissions show good collaboration at national level but fewer members active at the international level on climate risk. One example international level is Tokio Marine's engagement with the UNISDR on earthquake and tsunami losses. We have seen more of an ambitious tone set at the New York Climate Summit however, with the pledge by the insurance industry to double its climate-smart investment to USD 84 billion by the end of 2015, and a commitment to the creation and monitoring of a Climate Risk Investment Framework under the UN Hyogo Framework. At the national level, we have seen policy engagement aimed particularly at the response to flood events and attempts to build longer term resilience to flooding. We see continued action from some in the industry, predominately reinsurers, in delivering new products and services that manage changing climate risks. Swiss Re, for example, has recently supported the launch of the African Risk Facility, the continent's first-ever natural disaster insurance pool, which is initially offering drought insurance to five national governments in Africa.

Greater action from the insurance industry, and the private sector more widely, can set the tone for more ambitious policy outcomes.
Greater partnership between the public and private sector, including insurance industry players, on both climate change adaptation and mitigation is needed. A show of commitment to engaging in the UNFCCC work programmes and mechanisms could illustrate to governments the insurance industry's desire to influence and play a role in a future global climate deal. New collaborations are also possible, and needed, as evidenced by the recently launched UNISDR R!SE Initiative[6] and the 1-in-100 Initiative.[7] The goal of R!SE is to make all investments risk-sensitive, seeking tangible action to achieve risk-sensitive investments through bringing together the necessary actors and techniques required to manage disaster risk. The activity stream on Insuring Resilience is led by Willis and aims to increase access to optimal and sustainable disaster insurance. Willis, Standard and Poor's, UNISDR, ICMIF and IIS among others have committed to the 1-in-100 Initiative, which aims to integrate climate and disaster risk into the financial system.

6 http://www.preventionweb.net/rise/home
7 http://www.un.org/climatechange/summit/wp-content/uploads/sites/2/2014/09/RESILIENCE-1-in-100-initiative.pdf

So what more can and should the insurance industry be doing to engage in, and positively contribute to, the road to Paris 2015?

We set out five areas ClimateWise members could drive forward:

1. **Engaging and providing input and advice to relevant UNFCCC work programmes and mechanisms and setting up new partnerships (Principle 2).** The insurance industry has much to contribute in an advisory capacity to supporting the UNFCCC process, by producing and interpreting data, through its specialist technical knowledge of modelling and pricing risk, and risk transfer and sharing. New collaborations such as the R!SE and 1-in-100 Initiatives are already emerging and should be encouraged, supported and further developed. Engaging and acting as observers on decision making bodies and committees could help the insurance industry inform regulations, with potential benefits to all stakeholders including itself.

2. **For companies active in emerging markets, building greater understanding and data accuracy on climate risks and national capacity in emerging markets (sub-principles 1.1 & 1.2).** Developing countries will provide new markets and new opportunities for growth for the insurance industry where low insurance penetration still exists. Relatively little has been done to date, however, in fully understanding the risks of climate change to these potentially highly exposed countries. Standard and Poor's recent analysis on sovereign vulnerability to climate change suggests that the degree of risk exposure could widen between countries over the longer term as climate impacts are felt in poorer, riskier countries. Lack of accurate data in these emerging markets also remains a real issue to be resolved. Historical data and information cannot be used to forecast future risk, and new methods to accurately measure risk will be needed. Governments and institutions in these markets may lack capacity and experience to analyse, prevent and manage risks related to climate variability and change. Building country capacity, for example to develop local hazard and risk assessment capabilities, will also be critical.

3. **Innovating to deliver new products and services that help mitigate climate risk (sub-principle 3.2).** Global insurers and reinsurers have made progress in providing new insurance products to grow their markets in new territories, new risks and new technologies e.g. micro insurance products for low-income communities such as those increasingly offered by Allianz, and CAT bonds and weather index products such as those offered by Swiss Re and Tokio Marine. There is also a role for professional bodies and associations that represent the insurance industry to help advance their members towards this goal. For example, CII has drafted fact files on climate change related topics such as managing disaster risk exposure in India.

4. **Innovating to deliver new products and services for insuring low carbon industries (sub-principle 1.4).** Some insurers have demonstrated progress in understanding and seeking to mitigate the costs and risks in insuring renewable technologies, such as Willis. There are further opportunities to innovate and develop new risk insurance products in emerging and developing markets for low carbon industries. One example is the development of a new geothermal drilling risk insurance product for the Kenyan and Ethiopian markets.[8] Reducing risk for these industries could facilitate investment and catalyse the implementation of projects and inform countries' Intended Nationally Determined Contributions (INDC). Other opportunities may exist in developing insurance for energy savings. A pilot project

8 http://cdkn.org/2014/07/geothermal_insurance_kenya/?loclang=en_gb

is currently under development by the Danish Government and the Inter-American Development Bank to test the feasibility of insurance products and services for companies in the event that financial flows expected from energy efficiency savings do not materialise. [9]

5. **Engaging with customers to build climate and disaster resilience (Principle 3).** Building customer resilience can help to reduce the industry's insured losses. In a warmer world insurers may face large liabilities from assets harmed by severe climate and disaster impacts. To date in the developed markets, focus has been on engaging customers to reduce their energy usage and greenhouse gas emissions, and to a lesser extent, to build their climate, particularly flood, resilience. Hiscox, If P&C, RSA, Swiss Re and Zurich are already engaging customers in this area (see Principle 3.1). ClimateWise member submissions show less evidence of customer engagement on building climate and disaster resilience in emerging and developing country markets. Tokio Marine is making early efforts to work together with customers to protect local biodiversity and promote nature conservation efforts; these projects may also have climate resilience benefits. This is an area that would benefit from being targeted by the industry in future.

The insurance industry can have a role to play in promoting climate change mitigation – they make up a large part of institutional investors whose assets could be significantly affected by climate impacts and can innovate to deliver new products and services for insuring low carbon industries. However it is their expertise in managing and transferring risk that will be invaluable to the international climate deal and any subsequent implementation at national level. A warmer world will force industry players to manage higher risks and discover new opportunities to remain competitive. It will also require the industry to collaborate and create partnerships with public sector actors, both at national and international levels, to develop new solutions and mechanisms. Any deal struck in Paris would have implications for the future of the global insurance industry for decades to come, so engaging early may also shape the road for the industry beyond 2015.

A warmer world will force industry players to manage higher risks and discover new opportunities to remain competitive

[9] http://www.ens.dk/sites/ens.dk/files/energistyrelsen/Nyheder/2014/ee_fact_sheet_15102014.pdf

Appendix 1 – Scoring methodology

Scoring methodology changes

As outlined in the introduction to this report, the Review process and principles were revised in order to encourage members to prioritise climate change-related activity based on the issues most material to their organisation and potential for most impact. Each sub-principle now has three levels of evidence against which members are scored as follows:

Six points	All three levels of evidence are provided
Five points	All three levels of evidence are partially provided
Four points	Two levels of evidence are provided
Three points	Two levels of evidence are partially provided
Two points	One level of evidence is provided
One point	One level of evidence is partially provided
Zero points	No evidence is provided

An **additional two points** are available against each Principle for demonstrating planned activities. This has been included to encourage members to provide evidence of proposed activities and initiatives to drive improvements against each Principle.

Member scores are also weighted based on their organisation type to reflect the need for prioritisation of efforts on the most material areas.

Members are also exempt from responding to certain sub-principles based on their organisation type. These exemptions are summarised below:

A Professional Bodies and Associations	1.3, 3.1, 3.2, 3.3, 4.1, 4.2
B Insurers	None
C Brokers	4.1, 4.2
D Risk Modellers	1.3, 1.4, 3.3, 4.1, 4.2
E Loss adjusters	4.2
F Reinsurers	3.2, 3.3

Members can also exempt themselves from up to a further four sub-principles, providing a justifiable explanation is provided.

Scoring process

1. **Detailed review of ClimateWise submissions**
   Members submitted their reports and supporting documents to CISL which are in turn reviewed and scored by PwC analysts using the methodology described above.
2. **Distribution of initial feedback**
   An initial feedback template was shared with each member showing the initial score against each of the six Principles and highlighting areas of where further clarification could be provided.
3. **Discussions with members**
   Following the distribution of initial feedback, all members were given the opportunity to participate in a call to discuss their initial score, provide clarifications and submit additional relevant documentation.
4. **Reassessment of scores**
   Some member scores were then amended as a result of the discussions with members and the review of additional relevant documentation.
5. **Distribution of final feedback and scores**
   A final feedback template was then shared with each member including a breakdown of the final score, a high-level summary of key strengths and areas for development, and a summary of performance relative to other members.

Appendix 2 – List of members

Appendix 3 – Compliance breakdown

Compliance breakdown by sub-principle

The table below provides the number of members obtaining each score.

Score available:	0	1	2	3	4	5	6	N/A or exemption
1. Lead in risk analysis								
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.	2	0	1	6	3	6	2	0
1.2 Support national and regional forecasting of future weather and catastrophe patterns affected by changes in the earth's climate.	3	3	1	3	3	6	0	1
1.3 Use research and improve data quality to inform levels of pricing, capital and reserves to match changing risks.	1	4	1	7	4	0	0	3
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.	5	3	1	5	2	3	0	1
Demonstrating planned activities	7	8	5					0
2. Inform public policy making								
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.	1	1	1	4	4	7	2	0
2.2 Promote and actively engage in public debate on climate change and the need for action.	1	4	1	3	4	7	2	0
Demonstrating planned activities	7	9	4					0
3. Support climate awareness among 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.	0	1	2	8	2	4	0	3
3.2 Encourage our customers to adapt to climate change and reduce their greenhouse gas emissions through insurance products and services.	2	5	1	5	3	0	1	3
3.3 Seek to increase the proportion of non-life claims that are settled in a sustainable manner.	2	1	2	5	4	2	0	4
3.4 Through our products and services assist markets with low insurance penetration to understand and respond to climate change.	7	0	0	4	3	0	3	3
Demonstrating planned activities	7	10	2					1

Score available:	0	1	2	3	4	5	6	N/A or exemption
4. Incorporate climate change into our investment strategies								
4.1 Evaluate the implications of climate change for investment performance and shareholder value.	1	1	0	2	2	7	0	7
4.2 Incorporate the material outcomes of climate risk evaluations into investment decision making.	1	2	0	6	1	3	0	7
4.3 Communicate our investment beliefs and strategy on climate change to clients and beneficiaries.	4	1	3	4	4	1	0	3
Demonstrating planned activities	7	6	4					2
5. Reduce the environmental impact of our business								
5.1 Engage with our supply chain to work collaboratively to improve the sustainability of their products and services.	1	2	2	7	3	5	0	0
5.2 Measure and seek to reduce the environmental impact of the internal operations and physical assets under our control.	1	1	1	6	0	5	6	0
5.3 Disclose our direct emissions of greenhouse gases using a globally recognised standard.	2	1	2	2	2	2	9	0
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.	2	5	1	8	3	1	0	0
Demonstrating planned activities	4	8	8					0
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.	0	7	3	5	4	0	1	0
6.2 Publish a statement as part of our annual reporting detailing the actions that have been taken on these principles.	0	1	2	1	2	0	14	0
Demonstrating planned activities	8	12	0					0

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