

ClimateWise the 2009 review



ClimateWise

REDUCING THE RISK FOR TOMORROW



Forum for the Future – the not-for-profit sustainable development organisation – works in partnership with more than 120 leading companies and public sector organisations, helping them devise more sustainable strategies and deliver these in the form of new products and services.

Registered charity number: 1040519
Registered office: Overseas House,
19-23 Ironmonger Row, London,
EC1V 3QN

www.forumforthefuture.org

CARBON DISCLOSURE PROJECT

The Carbon Disclosure Project (CDP) is an independent not-for-profit organisation holding the largest database of primary corporate climate change information in the world. Thousands of organisations from across the world's major economies measure and disclose their greenhouse gas emissions and climate change strategies through CDP, who put this information at the heart of financial and policy decision-making. Almost half of the current ClimateWise members (19 out of 40) report on their emissions to CDP, and 15 are CDP signatories.

Designed by The Good Agency

foreword: Andrew Torrance	2
foreword: HRH The Prince of Wales	3
introduction	4
executive summary	5
methodology for the review	9
the ClimateWise principles	10
overall compliance	11
detailed review of compliance, principle by principle	15
principle 1 – lead in risk analysis	16
principle 2 – inform public policy making	21
principle 3 – support climate awareness amongst customers	27
principle 4 – incorporate climate change into investment strategies	31
principle 5 – reduce the environmental impact of the member's own business	37
principle 6 – report and be accountable	41
comments on disclosure in general	44
appendix 1: composition of ClimateWise signatories for 2008-9	47
appendix 2: detailed methodology for review	48
appendix 3: details of initial written disclosure by members (anonymised)	50
appendix 4: details of compliance by members (anonymised)	51

foreword

by Andrew Torrance, chairman of ClimateWise



The publication of this Second Independent Review of member performance against the ClimateWise Principles marks a further important step in the evolution of our initiative.

Over the first reporting cycle, the challenge for all members was to embed the intentionally holistic and demanding ClimateWise Principles across all aspects of our business strategies. But with the second reporting cycle, we now have the opportunity to assess the progress we are making, individually and collectively, relative to that initial baseline. Delivering continuing progress is surely integral to an initiative striving to lead in reducing the risks of climate change.

With this in mind, I am delighted that our Independent Reviewers – Forum for the Future, in collaboration with the Carbon Disclosure Project – have concluded that, overall, ClimateWise members continue to demonstrate good progress across the six ClimateWise Principles. This has been accomplished in the most challenging macro-economic environment experienced for at least 70 years and therefore is an achievement not to be underestimated.

It is particularly gratifying that this Review draws attention to the fact that the majority of members have found ClimateWise to be an important enabling factor in their progress over the last year. ClimateWise itself has also allowed the sector as a whole to make some important steps forward in responding to this global challenge. Two notable achievements from the past year exemplify this well.

Firstly, the new members that we have welcomed during the year mean that ClimateWise itself has now become a truly global initiative covering Europe, North America, Southern Africa and Asia. It is our hope and expectation that this global reach will continue to expand over the coming year. Secondly, the ClimateWise group has produced a powerful and compelling policy statement to feed into the Copenhagen negotiations. We launched this statement at the UN Environment Programme Finance Initiative's Global Roundtable in October, speaking directly to finance and sustainability policy-makers and practitioners.

We must thank HRH The Prince of Wales and our colleagues at the University of Cambridge Programme for Sustainability Leadership (CPSL) for doing such an important job in bringing us together in the first instance and continuing to support the initiative.

Finally, I wish to thank Forum for the Future, as well as the Carbon Disclosure Project, for delivering another first-rate piece of work, the findings of which will contribute directly to shaping our direction and progress in the next year.

Andrew Torrance

A handwritten signature in black ink that reads "Andrew Torrance". The signature is written in a cursive style and is underlined with a single horizontal line.

Chairman, ClimateWise

foreword

by HRH
The Prince
of Wales



CLARENCE HOUSE

I am delighted to introduce the second annual review of the insurance sector's ClimateWise Principles.

I launched the ClimateWise Principles in 2007 to encourage the insurance industry to take a more holistic approach to the issue of climate change and to provide a common platform for further collaborative action. Since then, the scale and urgency of the climate challenge has become even greater.

In the year when political leaders from around the globe will meet in Copenhagen to negotiate an agreement that, we hope, will take us forward in the battle against climate change, it is reassuring that the insurance industry is continuing to develop its thinking and taking steps towards integrating climate change practice into core business strategies.

The ever greater impact of a changing climate is being felt all around the world; forest fires on the Canary Islands, changing monsoon patterns in South Asia leading to droughts and floods, and numerous changes to biodiversity occurring much faster than could have been expected.

It is clear from this review that ClimateWise members are continuing to take an important lead in tackling climate change. In the past year alone, I have been heartened to see members joining forces in a number of important ways; from voicing your support at the heart of the UN climate change negotiations in Poznan last December to working with my Rainforests Project to find urgent solutions to tropical deforestation. I am also delighted that new companies from around the world are signing up to the Principles and I look forward to seeing their engagement with ClimateWise over the coming years.

Over the next few critical months I hope that the ClimateWise members will demonstrate their ability to be a truly global force for change and support the political negotiators' meeting in Copenhagen. Looking further ahead, the importance of your role as society's trusted managers of risk cannot be understated. You have a fundamental role to play in the essential task of building the largest public-private partnership that the world has ever seen, to tackle the biggest challenge that it has ever faced.

A handwritten signature in black ink, which appears to be "Charles". Below the signature is a long, horizontal, wavy line.

introduction

There are three very good reasons why insurance companies are at the forefront of the fight against climate change. They need to identify and assess the impacts it will have across their business. They must price their products to reflect the developing awareness of the risk it poses. And they have strong vested interests in reducing that risk, by supporting the transition to a low-carbon economy. Insurance also offers an important contribution within a wider framework of adaptation, building resilience within communities by helping customers to recover after extreme weather incidents, and sharing climate research so that the risks to society can be better understood.

So the sector has a vital role to play in the response to climate change across the whole economy, helping society both to mitigate its effects and to adapt to a changing world.

The ClimateWise initiative, launched in September 2007, encourages insurance companies to take steps to fulfil this role as quickly and effectively as possible. By signing up to ClimateWise they commit themselves, individually and collectively, to make constant progress on this agenda. In its second full year, ClimateWise has grown to include 40 members domiciled across Europe, North America, Southern Africa and Asia, over a quarter of which were listed in the Fortune Global 500 for 2009.

The credibility of the initiative depends on a clear reporting process and independent verification to confirm that members are taking genuine action. The reports submitted to ClimateWise by its members are the subject of an annual independent review.

The ClimateWise Managing Committee has commissioned Forum for the Future to carry out this independent review for the second year, with support from Nick Silver and Dr. Andrew Dlugolecki of the Carbon Disclosure Project.

This review covers the reports submitted by the 37 organisations whose membership spanned the reporting period, June 2008 to June 2009 (the remaining three members having joined ClimateWise too late in the reporting year to be included).

executive summary

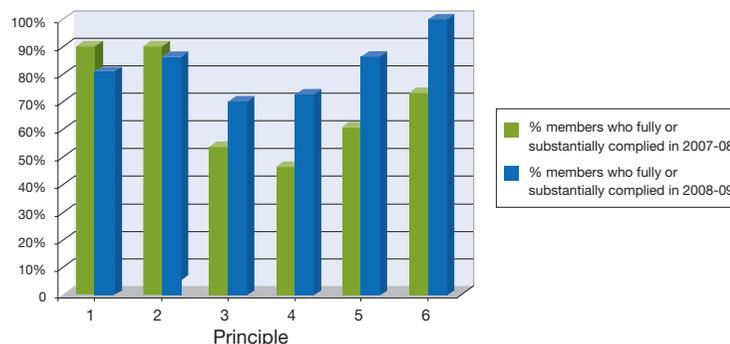
The ClimateWise initiative sets out six Principles¹, designed to cover all aspects of the insurance industry's response to climate change. Members should:

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

The current review considers members' compliance and concludes that they continue to demonstrate good progress across these six Principles. The majority of members cited the ClimateWise initiative as an important enabling factor in their progress.

On each of the Principles there was a significant fall in the number of members demonstrating no evidence of compliance or progress, and on most of the Principles there was an increase in the number of members showing substantial compliance or better.

Comparison of member's compliance in 2008 and 2009



The comparison with the 2007-08 reporting period (see details on page 13) provides insight into those areas where members have made significant progress, and those where it has proved more difficult to advance.

Actions that demonstrate significant progress or sector leadership over the past year, are highlighted in the boxed case studies in this report. Firm criteria were used to select these leadership examples with insight from CDP's holistic cross-sector viewpoint, developed through its work to encourage over 2000 investees to disclose their climate change strategy.

Members are to be commended for maintaining their commitment to the Principles, despite the ongoing difficult financial environment. Members have made progress on nearly all of the recommendations from last year's review, and this year's recommendations build on this progress. Particularly encouraging is the extent to which members are responding to the need to measure and disclose their own carbon footprint, alongside activities to reflect future climate risk more accurately in their own products. This demonstrates that they recognise climate change as a core driver of business value, and accordingly have not allowed it to be de-prioritised by an increased focus on the bottom line. However, the economic climate has intensified consumer focus on cost as the key issue when selecting insurance cover, and this has restricted the opportunity for product and service innovation, an area highlighted for action in recommendation 4 of last year's report.

Forum for the Future believes, however, that members now need to significantly raise the speed and scale of their response to the challenge of climate change.

¹The complete wording of the Principles is on page 10.

The importance and pressing nature of this challenge, and the scale of its impacts in both the developing and developed world, are underlined by the latest scientific evidence which continues to suggest that more urgent action on emissions reduction is required to avoid dangerous climate change. In order for ClimateWise members to move forward swiftly with new products and services that encourage consumers to reduce their emissions or adapt to climate change, the sector needs to clearly explain to consumers the value of climate-friendly insurance products. Members should also redouble their efforts to encourage new research and incorporate findings into business strategy, and capital allocation.

what ClimateWise members are doing well

Key progress this year has been concentrated in three areas: (i) members' measurement and reduction of their own emissions, (ii) engagement in the international debate, and (iii) better analysis of climate risk.

(i) measuring and reducing emissions from members' own businesses (Principle 5)

Measurement and disclosure of greenhouse gas emissions from offices that a member leases or owns is a minimum requirement for ClimateWise members. In light of this it is noteworthy that it was on this principle that members demonstrated the largest improvement in compliance between 2008 and 2009. In 2009, 86% of members (compared with only 56% in 2008) disclosed at least a significant proportion of their direct emissions using a globally recognised standard. In order for this to be a meaningful exercise it should drive year-on-year reductions, and 13 members have developed realistic quantitative targets to guide reduction of greenhouse gas emissions, with ten members indicating plans to develop internal targets in the next year.

(ii) engaging in the public debate (Principle 2)

The leading companies are keenly focused on the climate agenda. They clearly see the relevance of engaging in the public debate on climate change, particularly in the run-up to COP15, the UN Climate

Change Conference in Copenhagen in December 2009². Across the sector there have been a number of public policy interventions involving ClimateWise members, with smaller members seeking influence through collaborative activities. ClimateWise successfully co-ordinated the public voice of the industry by publishing a collective statement on the Poznan negotiations.

(iii) risk analysis (some areas of Principle 1)

The majority of ClimateWise members are supporting or undertaking climate-related research. Most research is being developed through collaborative groups, ensuring that information is shared and interpretations discussed across the sector. Members are most active in research areas relating to predicting increased occurrence and severity of extreme weather events, in the context of their potential to inflict damage to property. This is an area where climate change effects are arguably already being observed. Members' reports demonstrate significant progress on incorporating climate change risks into pricing and current risk models, although this data tends to look at recent weather changes and projections for only the next 12-36 months.

² The United Nations Framework Convention on Climate Change (UNFCCC) aims to stabilise greenhouse gas concentrations in the atmosphere "at a level that would prevent dangerous anthropogenic interference with the climate system". The original 1992 treaty was considered legally non-binding but made provisions for subsequent protocols, notably the 1997 Kyoto Protocol, to set mandatory emissions limits for participating countries. Review of implementation of the Convention is conducted by the Conference of the Parties (COP), the countries that have ratified the UNFCCC. CoPs have taken place annually since 1995, and 2009 is a particularly significant year as it is essentially the last chance to reach an agreement that can be approved and ratified in time to come into force after the first commitment period of the Kyoto Protocol expires in 2012. COP14, held in Poznan in 2008, set the scene for the negotiations leading to COP15 in Copenhagen in December 2009. A successful outcome at Copenhagen could deliver a truly global successor agreement to the Kyoto Protocol, with both the USA and China setting their first binding emissions limits.



what needs improvement?

Areas which have proved more difficult for members to progress are: (i) the systematic analysis of climate change risk for investment strategies, (ii) inclusion of the long-term step change in weather patterns in forecasting, and (iii) the development of products that support technologies for tackling climate change beyond property and renewables.

(i) recognising that climate change is a driver of financial value (Principle 4, Observation 1-4)

All members should consider the strategic risk that climate change poses to their investment portfolios. Only 60% of ClimateWise members reported that they had investment strategies which consider the implications of climate change for company performance and shareholder value – the same proportion as in 2007-08. These members however tend to be taking a holistic view of climate change across their portfolio, and are making significant progress on this agenda. Even those insurers with only a small percentage of funds invested in equities are exposed to climate change risk and we expect them to consider this risk when evaluating portfolio performance, alongside traditional drivers of value.

ClimateWise members should recognise that climate change will affect the context of their investments, and ensure they have a strategy to understand where value will be affected. Climate change may not currently

materially impact all companies in all sectors in all regions, but it is changing the regulatory, market and physical landscape. This will offer new investment opportunities whilst changing the risk profile of existing investments across a number of areas: regulatory risk; market/product risk; legal risk; physical risk; and supply chain risk.

Although it is true that there is generally less understanding of how climate risk affects assets other than equities, it is nevertheless important that the insurance sector address this, given that equities are typically a small proportion of portfolios in this sector. Movement in this area is possible. F&C, for instance, has extended its reo® engagement to cover corporate bond portfolios, while PRUPIM has developed the Improver Portfolio to examine ways of reducing a 'typical' property portfolio's carbon footprint while maintaining or even enhancing investment returns.

(ii) reflecting the current impacts of climate change (Principle 1, Observation 1 & 3)

Members have made little progress on incorporating the long-term step changes in weather patterns into forecasting and business planning beyond the 36-month timescale. This is partly because insurance contracts are typically renewed on an annual basis to reflect changing risk, so there is little immediate reason to look further ahead. But by continuing to focus on historical

data, the current models may understate the expected increase in frequency and severity of extreme weather events in the medium and long term. The ABI is advancing research in this area through its work to combine state-of-the-art climate models and the most recent climate data with the industry catastrophe models to understand their climate sensitivity over a longer timescale.

(iii) develop products that support technologies for tackling climate change beyond property and renewables (Principle 1, Observation 3)

Members should look beyond the current focus on renewables and CCS (carbon capture and storage) to develop products that support emerging technologies for tackling climate change. These are important areas, but there is little coverage or exploration of other key sectors. For example, shipping contributes an estimated 4.5% of global emissions so it is important to encourage technologies which drive down marine emissions. Aviation is similarly important. Deforestation is now recognised as a significant contributor to climate emissions: new insurance instruments will be needed to support interventions by the public and private sectors to protect forests, particularly the tropical forests.

impact of the financial environment

The ongoing difficult financial environment appears to have had little impact on the ability of individual members to move forward on the ClimateWise Principles. In discussion with members it appears that once a member recognises that climate change is a core driver of business value, and manages it alongside existing business risks and opportunities, it will not be de-prioritised by an increased focus on the bottom line.

In addition, climate change continues to maintain a high profile on the international policy stage, as governments prepare for COP15 in Copenhagen in December 2009. The one exception is investments, where fund managers' focus on addressing losses and financial instability meant little capacity for engagement on other issues.

Indirectly a reduction in headcount has had an impact on some members' ability to move forward consistently across the Principles. In discussions members noted that where staff in different departments have an increased workload, their willingness to engage on ClimateWise can be reduced. This acts to exacerbate areas where there has traditionally been a lack of engagement.

how ClimateWise has helped members to move forward

In its second year, members noted that the ClimateWise initiative had been helpful in enabling them to take action on climate change in a number of ways:

- the annual reporting process helped to structure organisational thinking on climate change, and to identify areas of focus for the upcoming year. One member explicitly noted that a low ranking in the 2008 review led them to reconsider their approach, and to take significant steps forward in a number of areas;
- the sharing of best practice and discussion in ClimateWise seminars helped them to understand the art of the possible for organisations of their size;
- ClimateWise provided a collective voice in areas where some members felt they were too small to engage individually, either as a result of resource constraints, or their size in the market;
- during discussions, a few members candidly observed that they had initially signed up to ClimateWise as 'the right thing to do' without reflecting on how this would impact their operations, but the clarity of the principles and exposure to the activities of their peers had made them fundamentally rethink their approach in some areas. In addition, a number of smaller members highlighted the importance of tailored feedback from the Secretariat on issues where they had found it difficult to move forward.

methodology for the review

In completing this report, Forum for the Future:

- reviewed the reports submitted to the ClimateWise Secretariat by the 37 ClimateWise members, relating to the 2008-9 year;
- prepared a summary of the disclosure that each member made in respect of each element of the six ClimateWise Principles (see Appendix 3);
- prepared a summary of the compliance of each member with each element of the six ClimateWise Principles (see Appendix 4), noting why certain elements are not relevant to particular members;
- gathered case studies from the reports;
- had conversations with 35 out of the 37 members to clarify issues relating to their submissions, to get more information, and to gather additional insights;
- analysed and summarised the findings to produce this report;
- through the ClimateWise Secretariat, circulated the report amongst members to get comments on the accuracy of the scoring and other feedback;
- revised the report to allow for additional information and to correct errors where relevant.

The methodology is described in more detail in Appendix 2.

the ClimateWise principles

Working individually and collectively to reduce the economy's and society's long-term risk from climate change, and within the confines of a competitive market, we will:

1 lead in risk analysis

- a Support and undertake research on climate change to inform our business strategies and help to protect our customers' and other stakeholders' interests.
- b Support more accurate national and regional forecasting of future weather and catastrophe patterns affected by changes in the earth's climate.
- c Use research and improve data quality to inform levels of pricing, capital and reserves to match changing risks.
- d Evaluate the risks associated with new technologies for tackling climate change so that new insurance products can be considered in parallel with technological developments.
- e Share our research with scientists, society, business, governments and NGOs through an appropriate forum.

2 inform public policy making

- a Work with policy makers nationally and internationally to help them develop and maintain an economy that is resilient to climate risk.
- b Promote and actively engage in public debate on climate change and the need for action.
- c Support work to set and achieve national and global emissions reduction targets.
- d Support Government action, including regulation, that will enhance the resilience and reduce the environmental impact of infrastructure and communities.
- e Work effectively with emergency services and others in the event of a major climate-related disaster.

3 support climate awareness amongst our customers

- a Inform our customers of climate risk and provide support and tools so that they can assess their own levels of risk.
- b Encourage our customers to adapt to climate change and reduce their greenhouse gas emissions through insurance products and services.
- c Increase the proportion of repairs that are carried out in a sustainable way through dialogue with suppliers and developers and manage waste material appropriately.
- d Consider how we can use our expertise to assist the developing world to understand and respond to climate change.

4 incorporate climate change into our investment strategies

- a Consider the implications of climate change for company performance and shareholder value, and incorporate this information into our investment decision-making process.
- b Encourage appropriate disclosure on climate change from the companies in which we invest.
- c Encourage improvements in the energy-efficiency and climate resilience of our investment property portfolio.
- d Communicate our investment beliefs and strategy on climate change to our customers and shareholders.
- e Share our assessment of the impacts of climate change with our pension fund trustees.

5 reduce the environmental impact of our business

- a Encourage our suppliers to improve the sustainability of their products and services.
- b Measure and seek to reduce the environmental impact of the internal operations and physical assets under our control.
- c Disclose our direct emissions of greenhouse gases using a globally recognised standard.
- d 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.

6 report and be accountable

- a Recognise at Company Board level that climate risk has significant social and economic impacts and incorporate it into our business strategy and planning.
- b Publish a statement as part of our annual reporting detailing the actions that have been taken on these principles.



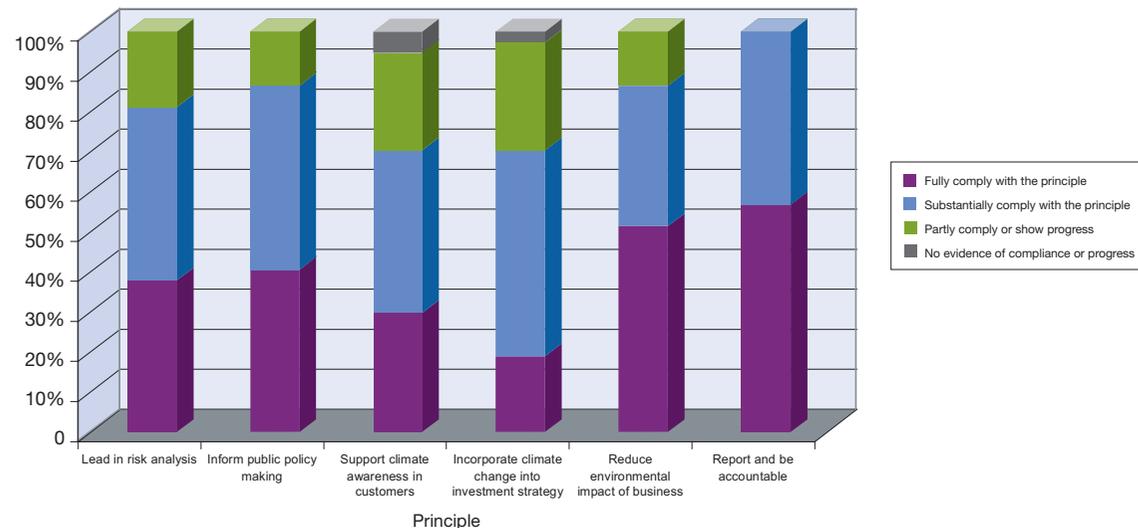
www.climatewise.org.uk

overall compliance

Members have been rated on their compliance with each sub-element of the Principles, according to whether they comply, partially comply, or do not comply in each case. These scores have then been combined (see the detailed methodology at Appendix 2). The results show that the vast majority of ClimateWise members continue to demonstrate progress across the Principles.

- Most members provided stand-alone reports detailing the actions they have taken to support each principle during the year.
- Only a few members were unable to provide evidence of compliance or progress for a specific principle, with only three members having made no progress in supporting customers in climate awareness (Principle 3) and one member unable to move forward on any aspect of incorporating climate change into their investment strategy (Principle 4).
- Compliance scores take account of the size and scope for the member to meaningfully move forward on the elements of the Principles. Whilst all members are expected to show continuing momentum, the larger members should demonstrate more substantive progress in terms of scale and size, with smaller organisations focusing on significant progress in a few core areas.
- A very small number of reports disclosed very limited information on the member's core business activities, focusing instead on the member's environmental impact, and employee engagement activities. Following discussion with these members, this appears to reflect a lack of activities and not simply a lack of disclosure. Additional feedback was provided to these members on how they could more fully move forward on the Principles, with the support of the ClimateWise Secretariat.

Current compliance by ClimateWise signatories



Catlin: whole company approach to climate change

Catlin has taken a significant step forward across each of the Principles by adopting a wide-ranging and innovative approach to climate change through parallel workstreams.

Under the Principle of understanding risk (Principle 1), Catlin has, like other proactive underwriters, reviewed its underwriting tools in the light of emerging climate change projections. However, additionally, Catlin is working with leading scientists to improve the knowledge base in key areas of uncertainty. The Catlin Arctic Survey which ended in May 2009, returned with unique new measurements of the thickness and extent of sea ice in the Arctic. Plans are underway for a similar research expedition next year.

The Catlin Arctic Survey is also providing the base for work with policymakers (Principle 2). Catlin is collaborating with WWF to ensure that the findings will be available in time for the UN Climate Change summit in Copenhagen (COP15) in December 2009. The plan is to integrate the results with other data, to produce a report that will examine recent trends in sea ice, and make more accurate long-range projections. This could help to bring about a more satisfactory outcome at COP15 in terms of determined policies to deal with climate change. Likewise, one objective of next year's planned expedition is to gather data on key areas of scientific uncertainty to inform national/international public policy.

In terms of Supporting Clients (Principle 3), Catlin is striving to identify potential threats to existing products and opportunities for new product and services due to climate change and the low-carbon economy. This research has included several workshops with underwriters and broker institutions from key relevant Product Group areas (i.e. Liability, Energy and Property, Casualty and Credit).

A specific example of this is "FleetDirections", an initiative targeted at the motor fleet manager, to prompt customers to take note of climate change and adapt their behaviour through measures like vehicle selection, performance monitoring, driver training, route planning, and trip avoidance (see <http://fleetdirections.net/>). Catlin is currently implementing a new marketing strategy to increase awareness of these products and is exploring other partnerships to implement products that drive customer behaviour and demand.

Catlin also sponsored a public Claims Clinic with the Insurance Times on 5th July ('The impact of climate change, natural catastrophes and disasters'). The discussion in the seminar focused on three main areas: potential for claims on casualty insurance originating from companies who have been impacted by class action litigation arising from climate change associated events; need for more accurate data on a local and regional basis to understand the increasing risks caused by climate change; encouraging customers to change their behaviour.

Catlin is tackling its own environmental impact too (Principle 5). The 2008 carbon footprint for UK operations was calculated under standard methodologies, using an independent consultant, Enviros Consulting Ltd, and this will be extended to all other worldwide operations. Catlin has also been offsetting the CO2 emissions from employees' business-related air travel since 2007.

Finally, regarding reporting (Principle 6), the Catlin Arctic Survey has provided an opportunity to engage employees and raise general awareness about climate change. Regular updates have been posted on the Group Intranet and a series of newsletters has been produced detailing progress, for internal readership and brokers. As a component of the project, Arctic Survey Education has been developed – an initiative to inspire and engage young people with facts about the Arctic and its role as a barometer of climate change. A number of modules targeted at specific age groups have been developed with the University of Cambridge, including a complete teaching toolkit (see <http://www.arcticsurveyeducation.com>).

comparison with the 2007-08 reporting period

- Whilst the Principles remain unchanged, there is an expectation that members will continue to move the agenda forward, and demonstrate continuing activities. Responses are therefore reviewed in terms of how members are moving the agenda forward. Assessment of compliance may be more challenging for members in their second year, since their first year reports established a level against which progress could be measured.
- In order for the ClimateWise initiative to continue to be relevant to the industry, it is important that signatories provide evidence that they continue to work on activities relevant to each principle, unless they can clearly explain why that principle does not apply to their particular business. Compliance is therefore determined through an assessment of activities undertaken, and procedures followed, during the reporting year.

progress of the overall membership

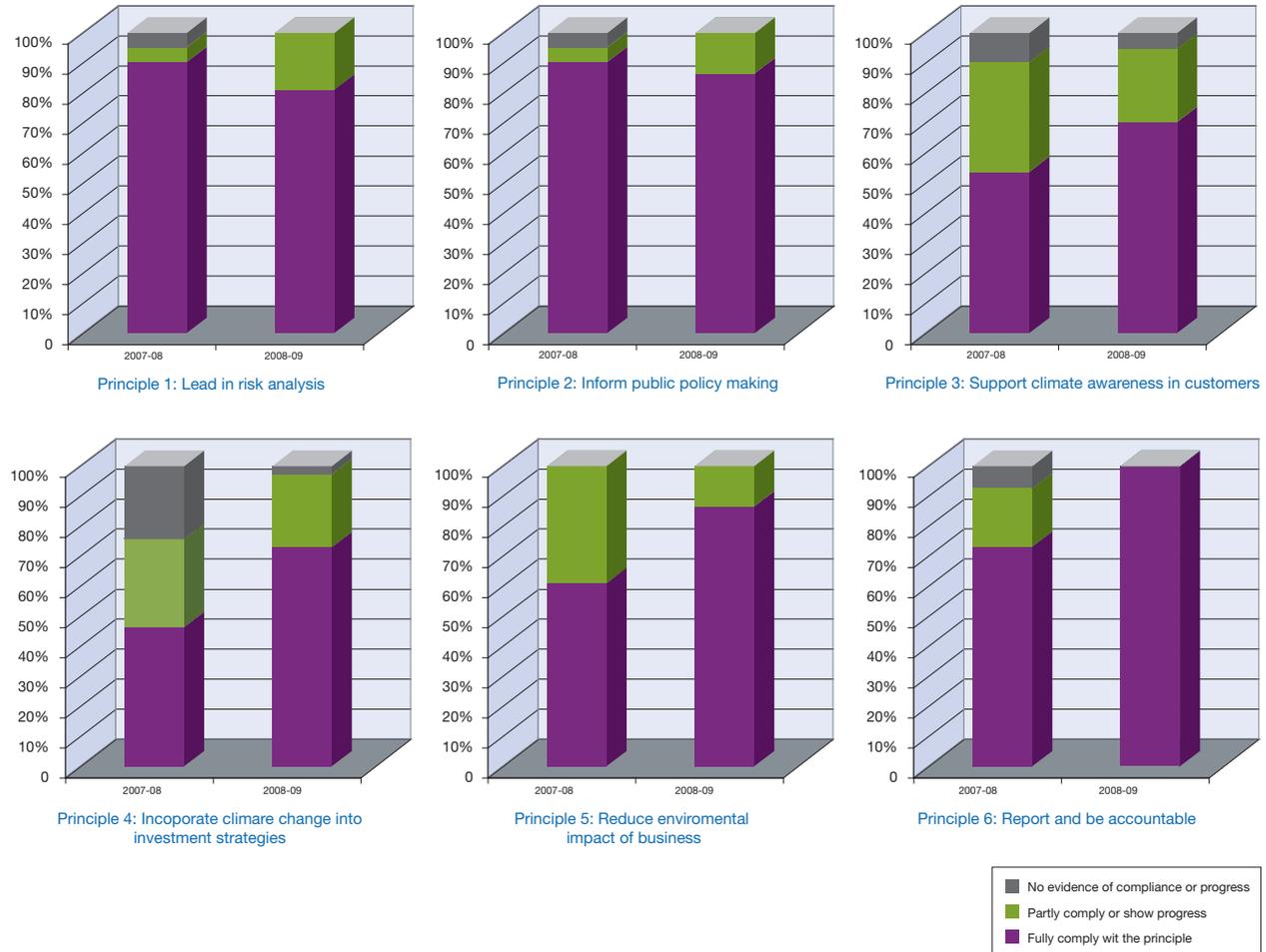
- Looking across the membership at overall compliance with the Principles, we see that the number of members fully or substantially complying with a whole principle has tended to increase, whilst the number of members demonstrating no evidence of compliance or progress with a whole principle has fallen in every case. This reflects the fact that members continue to progress activities across the broad range of climate change themes addressed by the Principles.

- Full compliance with an individual principle is difficult to achieve. It requires members to demonstrate continuing activities across all aspects of the sub-principles. There was a drop in members demonstrating full compliance with whole principles.

This highlights that there has been a small reduction in the breadth of activities members are able to pursue.

From conversations with individual members this appears to be a result of the continuing difficult financial environment. As headcount in member organisations has been impacted, there has been an increased focus on activities that can be taken forward strongly, with a resulting small drop in the range of areas addressed.

NB: Overall compliance with a principle is calculated by considering the extent to which a member complied with all of the relevant sub-principles.



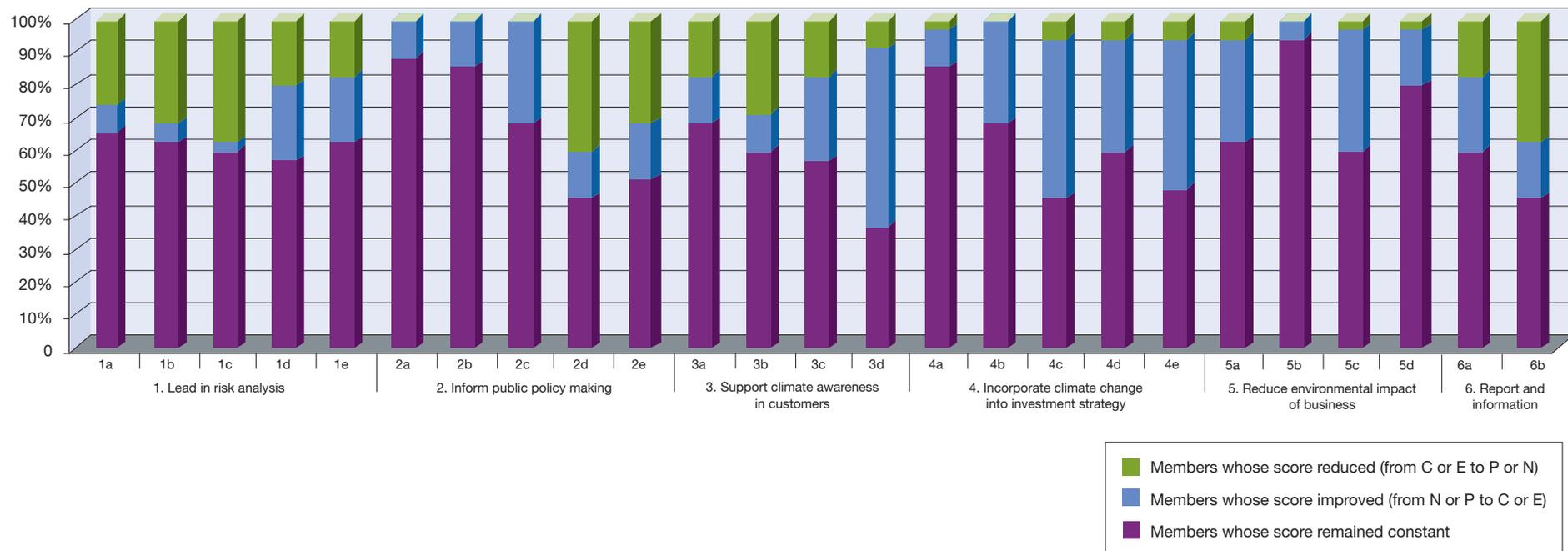
progress of individual members

- In general, individual members have continued to progress a range of activities, attaining the same or an improved compliance score for most individual sub-principles. In 17 of the 25 sub-principles, over 80% of members attained the same or an improved compliance score compared with the previous year.

- Detailed guidance for reporting was provided to members this year, identifying the type of information that is expected from them in order to demonstrate compliance with each sub-principle. This enabled closer scrutiny of members' actual performance, compared with the first year review when credit was given to members for taking a broader set of actions.

This had the impact of reducing the number of members who achieved full compliance with a specific sub-principle. Whilst members continued to demonstrate good progress, they did not always address all elements of the Principles. The number of members whose compliance with individual sub-principles reduced when compared to the 2007-08 reporting period was significant in only six of the sub-principles. This does not indicate that members have reduced the activities in these areas, but reflects this closer scrutiny of results.

Change in member's compliance from 2008 to 2009



detailed review of compliance, principle by principle

principle 1 – lead in risk analysis	16
principle 2 – inform public policy making	21
principle 3 – support climate awareness amongst customers	27
principle 4 – incorporate climate change into investment strategies	31
principle 5 – reduce the environmental impact of the member’s own business	37
principle 6 – report and be accountable	41

principle

1

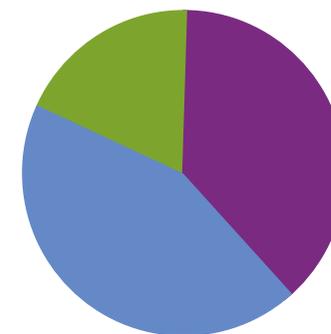
lead in risk analysis

There are five elements of this principle. Members of ClimateWise should:

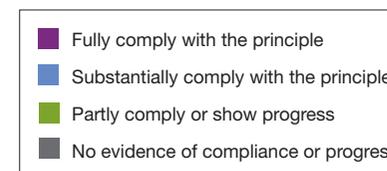
- **Support and undertake research**
- **Support more accurate forecasting**
- **Use research to inform pricing, capital and reserves**
- **Evaluate risks of new technologies**
- **Share research with others**

All members demonstrated at least partial compliance or progress with this principle, with 81% complying fully or substantially. Although the figure for full or substantial compliance in the 2007-08 reporting period was actually higher than this (at 90%), the requirement that members should show continued progress (through discrete new actions or a strengthening of existing activities) may make compliance more difficult to achieve in their second year, against the level established in their year one report.

Only one member failed to show that they had supported or undertaken climate-related research during the year (principle 1.1).



Compliance with principle 1:
Lead in risk analysis



summary of findings

- Nearly all members are involved in research activities that relate to climate change, with most research being developed through collaborative groups, for example:
 - **Chartered Insurance Institute** launched a major research report “Coping with Climate Change” covering how the insurance industry can adapt and mitigate climate change risks.
 - **Lloyds of London** joined an international partnership to develop the “Climate Change and the Insurance Industry” project bringing together statisticians, climate scientists and insurance experts to consider a number of climate related themes.
 - **ABI Financial Risks of Climate Change Research** Project appointed AIR and the Met Office to analyse financial impacts of climate risks in the UK and China.
- Members are most active in research areas relating to predicting increased occurrence and severity of extreme weather events, in the context of their potential to inflict damage to property. This is an area where climate change effects are arguably already being observed.
- Climate may appear less directly relevant to the day-to-day business of some members than others, notably life insurers, and members managing run-off syndicates. The best submissions to ClimateWise provide an honest assessment of the risks and opportunities within their own business and give a view of the nature and timing of research and modelling work to establish how climate risks will play out within their particular area of operations.
- Property insurers provide some detail on how pricing models are being modified to incorporate recent observed changes to historical weather data. However, annual underwriting cycles mean that this focuses on short-term forecasts rather than considering the long-term non-cyclical changes implied by the latest predictions of the UN's expert Intergovernmental Panel on Climate Change (IPCC).
- Few members provide detailed information on how they are using climate change research to inform capital allocation. Where information is provided, it tends to focus on implications for the upcoming season rather than long-term systemic changes. The ABI is advancing research in this area through its work to combine state-of-the-art climate models and the most recent climate data with the industry catastrophe models to understand their climate sensitivity over a longer timescale.

- In developing insurance products that support new technologies for tackling climate change, members have focused almost universally on the provision of cover for renewables, most notably wind. This is clearly an emerging market with insurance products offered at all scales, from Lloyds Banking Group offering cover for domestic renewables as standard, to Navigators providing specialist underwriting of offshore wind farms.



Aon Benfield UCL Hazard Research Centre

For the past 12 years, Aon Benfield has supported the Aon Benfield UCL Hazard Research Centre (ABUHRC). The ABUHRC is dedicated to improving and diffusing knowledge about natural hazards and disaster reduction among stakeholders in these fields. Through a series of jargon-free reviews, the Centre allows insurance practitioners to follow developments at the leading edge of climate and hazard research, which is often controversial and couched in impenetrable terminology. In September 2009, the Centre was a sponsor of a colloquium on Climate Forcing of Geological and Geomorphological Hazards, which addressed relationships between climate change and the triggering of geological and other landform hazards (volcanoes, earthquakes, disastrous ice-melt etc).

Much of the Centre's work is applied, supporting insurance markets, international agencies, governments and NGO's through a range of products and resources. The Tropical Storm Tracker (TSR), developed by ABUHRC with cooperation from the re/insurance sector, provides real-time tracking of tropical storms worldwide, and predicts the path and intensity of a storm as it develops. This tool (www.tropicalstormrisk.com) helps governments and aid agencies prepare for and respond to a windstorm event.

This was demonstrated during the tracking of Cyclone Sidr, which made landfall on Bangladesh in November 2007. The live storm forecast helped save the lives of many thousands of people, as it provided sufficient accurate forewarning to enable evacuation to cyclone shelters.

Centre staff are also working on methods to provide urgent impact assessments that enhance the effectiveness of relief responses as a disaster unfolds. The need for this was seen with the massive loss of life arising from Cyclone Nargis in Burma (2008). Despite online storm monitors, such as TSR, allowing storm paths and wind fields to be predicted days ahead, the failure to get the message across to vulnerable communities resulted in catastrophe.

TSR is also used commercially to provide seasonal probabilistic forecasts of tropical cyclone activity in the different ocean basins. These projections are updated monthly and provide valuable outlooks for assessing the likelihood of upcoming damage and disruption.

Zurich: supporting emerging technologies

Zurich recognises that risk management and insurance solutions are a key component to meeting the challenge of climate change. It has identified that carbon-reducing technologies have specific risks, which need tailored insurance and risk management products. Therefore, Zurich has been developing innovative new propositions to meet those needs.

Zurich sees Carbon Capture and Sequestration (CCS) as an important new opportunity in this area. It has developed two propositions, the CCS Liability Insurance product and the GSFA (Geological Sequestration Financial Assurance) product. Zurich is the first company to offer coverage that specifically addresses the liability risks associated with carbon capture and sequestration. In addition the company continues to work with policy makers around the world to help them understand the risk management framework options around CCS both in the operational phase and long-term storage.

Another important area is that of renewable energy, where Zurich has understood the particular risk concerns of its customers. Zurich has recently begun offering insurance coverage for both the construction & operation exposures of offshore wind farm projects. This is in response to the demand by companies involved in the construction & operation of offshore wind farms for protection to meet diverse risk management needs during the construction & operation phases of wind farm projects.

Aviva taking the risk out of flooding

Aviva identified flood risk as a major concern some years ago, and has developed a suite of major activities around the issue.

The first step was to understand the risk better. The company was motivated to do this because of the increasing losses UK insurers were encountering from river flooding, and the realisation that this was a risk that was being subsidised by less exposed policyholders. Potentially competitors might start to select those better risks, leaving the insurer with substandard portfolios of risk. On the other hand, the available flood maps were known to be rather inaccurate, leaving the possibility that many homes and businesses had been misidentified as high hazard.

Aviva's response was to set a new standard in flood insurance by carrying out its own pinpoint flood mapping exercise. The result is the first privately financed map of its type. The height data that underpins the flood model was collected using advanced scanning techniques operated from a privately chartered aircraft. The ground elevation data is accurate to one metre for the UK, with higher resolution down to 0.15 metres in conurbations.

Aviva backed up this work with a project on a house in Lowestoft that was frequently damaged by overflow from a watercourse. The project spent around £40,000 on measures to make the property more flood resilient, by preventing water getting in and by reducing the damage that occurs if water does get in. Perishable floor coverings, doors, kitchen units and wall surfaces were replaced with water-resistant materials like ceramic tiles. A pump was installed to drain flood water, costly items such as boilers, wall sockets or service meters were positioned higher, flood boards were provided to install around doors to prevent flash floods, and one-way valves on drainage pipes prevent sewage "backing up" during a flood.

When the house was tested by a real flash flood, neighbours had to vacate their homes, but the flood resilient measures allowed the project resident to simply mop the floor and carry on as normal. The project showed that even a few of the measures would add enormous resilience. A full resilience retrofit can cost between £40,000 and £55,000. Without resilient measures in place it could cost up to £80,000 to repair the damage caused by a flood. And many of the measures, such as erecting flood boards, can be done by homeowners themselves when needed (see www.floodresilienthome.com).

Further initiatives have included a website to assist local communities to plan for flood events, (www.floodplanuk.org) based on a community flood simulation in Boroughbridge, Yorkshire. The website hosts a downloadable "Community Flood Planning" toolkit, which provides a simple step-by-step guide to engaging communities and running a flood scenario exercise.

The website features a forum for people to share experiences and advice about flooding; a case study from Boroughbridge; useful and topical flooding information and further links. The initiative was endorsed by the National Flood Forum and the Environment Agency.

recommendations for improvement

Forum for the Future identifies the following ways in which ClimateWise members can strengthen their activity to comply more fully with Principle 1:

(1) incorporating climate change risk into forecasting

Members' reports demonstrate significant progress on incorporating climate change risks into pricing and current risk models. However this data currently tends to look at recent weather changes and at projections for the next 12-36 months, rather than longer-term trends and projections further into the future. This approach may understate the expected increase in frequency and severity of extreme weather events.

(2) developing products that support technologies for tackling climate change beyond property and renewables

Members' reports focus on support for renewables and CCS as responses to emerging technologies that tackle climate change. These are obviously important areas, but there is little coverage of other areas that can make a significant contribution. To give three examples:

- Through professional and director's liability insurance the sector may have a significant opportunity to encourage insured industries to fully

assess and respond to their climate exposure. Whilst there may be practical difficulties in developing this, we believe that it is worth the sector exploring this opportunity. There may also potentially be future class actions against large emitters of greenhouse gases or companies whose products lead to large emissions. As noted last year, we are already beginning to see references to 'reasonably foreseeable' climate events in a legal context.

- Shipping contributes an estimated 4.5% of global emissions so it is important to encourage technologies which drive down marine emissions. Aviation is similarly important.
- Deforestation is now recognised as a significant contributor to climate emissions, and new insurance instruments will be needed to support interventions by the public and private sectors to protect forests, particularly the tropical forests.

(3) incorporating research into pricing non property classes

Members mainly report the use of climate research to inform pricing, capital allocation and reserves with relation to property underwriting. As property underwriting operates on an annual cycle, it has the smallest long-term exposure to climate change. In contrast current long-term contracts offered by life and health provision could be more severely affected

by climate-related impacts on morbidity and mortality risk over the long term. Whilst some research is being conducted into the health effects of climate change, more analysis of how this will impact the insurance sector is required, with appropriate research to address current gaps in understanding. One area where little research was reported is the potential risk to business as a whole, for example simultaneous impact on losses, investments, cost of capital and new business.

(4) explaining how research influences business strategy

One goal of the ClimateWise initiative is to develop the ability of the insurance sector to understand the relevance of climate risk across the industry's activities, and respond appropriately. ClimateWise members need to state more clearly how the research they are supporting is being used to inform business strategy. This will stimulate a more open debate on where the insurance sector is vulnerable to climate shocks, and on appropriate responses. A particular issue is the strategic vulnerability of property insurance to climate change. Some markets could become non-viable if the risk becomes too great, which may explain the significant attention to flood risk in the UK.

principle

2

inform public policy making

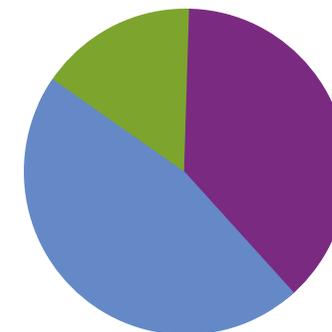
There are five elements of this Principle. Members of ClimateWise should:

- **Work with policy makers nationally and internationally**
- **Promote and actively engage in public debate**
- **Support work on emissions reduction targets**
- **Support Government action towards resilience**
- **Work with emergency services**

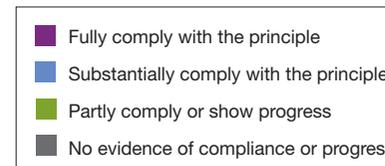
All members demonstrated at least partial compliance or progress with this principle. This is an improvement on the 2007-08 reporting period when two members demonstrated no evidence of compliance.

Lloyd's of London carries out public policy activities on behalf of its members. Since the Lloyd's of London Corporation achieved full compliance in Principles 2.1 and 2.2, the individual syndicates were accordingly also rated as achieving full compliance.

All ClimateWise members achieved full compliance with Principle 2.3 as signatories to the ClimateWise public statement on the UNFCCC negotiations at COP14 in Poznan in December 2008.



Compliance with principle 2:
Inform public policy making



summary of findings

- All members reported engagement in the public debate on climate change and the need for action. Most of the Lloyd's members referred to their support for Lloyd's' activities in this area: this is an effective way in which smaller companies can engage with and influence the public policy agenda.
- The types of public policy intervention varied according to the type of business. For example:
 - **Aviva Investors** sent a delegation to the climate conference in Poznan where it hosted a dinner for a number of diplomats, negotiators and investors.
 - **Lloyd's of London** has developed thought leadership, and contributed to the climate change debate, through its 360 Risk Insight project and via detailed blogs. During 2009 Lloyd's teamed up with catastrophe modelling firm RMS to produce a 360 Risk Insight report on climate change. Blogs on relevant issues focused on the scientific work linking cholera and climate change, the 2008-09 Atlantic Hurricane Season, adaptation to natural catastrophes, and storm prediction images from Tropical Storm Risk, which Lloyd's has converted to Google Earth format for managing agents.
 - **Swiss Re's** Economics of Climate Adaptation (ECA) Working Group is evaluating appropriate adaptation measures based on the types of hazards a country is most at risk from, and the magnitude of expected losses.
- **ABI** informed and participated in both the adaptation and mitigation debates on behalf of the insurance industry: launching the ABI's adaptation strategy and joining Defra's Adaptation Stakeholder Board; attending the UK Government's Low Carbon Energy Summit, and working with the European insurance and reinsurance federation, the CEA, to ensure that climate change is included in the CEA's pan-European policy position.
- **UNEP FI Climate Change Working Group** (CCWG) — Allianz, Aviva, AXA, HSBC, and Swiss Re are members of the CCWG, whilst UNEP FI has also been active on climate change across the sub-groups.
- ClimateWise successfully co-ordinated the public voice of the industry by publishing a collective statement on the UNFCCC Copenhagen negotiations. This called on the international community to address the following areas in addition to binding medium and long-term emissions-reduction targets in line with the latest IPCC recommendations:
 - Commitment by all countries to develop and implement national adaptation plans to effectively manage climate risks
 - A clear, long-term international arrangement for collecting and sharing climate data
 - A review of synergies between adaptation and mitigation.
- Engagement in the broader debate on setting international and national emission targets was more challenging for members individually. Whilst it can be more effective to work collaboratively, members could explore opportunities to engage in their own national debates (e.g. responding to consultations).
- The majority of members are involved in work to build resilience to climate change. This has tended to focus on initiatives related to flooding, and on property resilience, rather than broader interpretations of adaptation as the physical, mental, financial and biological interventions that can be made to ameliorate the negative potential impacts of climate change.
- At the industry level, the Munich Climate Insurance Initiative (MCII) has been particularly active in this area. The MCII work programme has focused on the types of insurance-related solutions that can be developed to address adaptation, and on the support of pilots for the application of insurance-related solutions. The majority of international ClimateWise members participated in a mini-consultation, through ClimateWise, to provide their views on the feasibility and practicality of emerging MCII proposals from the industry perspective.

Allianz: working with NGOs to further the debate

In 2007, Allianz and WWF entered an extensive partnership, building upon earlier successful collaborations. This partnership is based on three distinct pillars: Research, Business, and Advocacy.

The first area, Research, seeks to offer insights on climate issues and their relevance for insurers. The report “Major Tipping Points in the Earth’s Climate and Consequences for the Insurance Sector” by the Tyndall Centre will be published shortly. This report analyses four tipping points to assess their socio-economic impacts and the consequences for the insurance industry: sea level rise, Amazon dieback, Indian summer monsoon, and aridity in the South West of North America.

Under Business, they consider activities that are directly relevant to the core business of Allianz: the potential for development of green insurance products, the impact of climate change and carbon risk on Allianz’s investment strategy.

The third pillar, Advocacy, provides thought leadership on climate policy issues through two key projects:

1) annual publication of the G8 Climate Scorecards, which assess performance of the climate policies of G8 nations. Based on a transparent methodology, the Scorecards rank the G8 nations based on a series of indicators evaluating past, present and expected climate performance.

2) the Report on Energy and Climate Policy in Europe (RECIPE). Based on three recognised macroeconomic models from internationally renowned Research Centres, the Report calculates the prospects for economic growth over the century with and without climate change action and analyses the cost of global decarbonisation. The main findings indicate that an ambitious global climate policy will not be cost free, but that these costs are moderate when compared to taking no action. It concludes that decisive political and economic action is essential within the next ten years. The Report lays out the regional burden of mitigation costs, calculating the costs associated with delayed action and with different technology choices. The Report will be published during November 2009.

Alongside the WWF partnership, Allianz has focused policy related activities on its membership with the UNEP Finance Initiative, being active in several working groups and co-chairing the climate change working group from 2005 – 2009. As a member of UNEP FI, Allianz helped to successfully position the initiative in the international climate negotiations as an important voice for the finance sector.

ClimateWise: representing members at Poznan

ClimateWise, despite being founded only in 2007, was recognised in 2008 by the United Nations Framework Convention on Climate Change (UNFCCC) as having a valuable contribution to make to the policy debate, because it is independent of political influence, represents a spread of global insurance operators, and is dedicated to the issue. Andrew Torrance, the ClimateWise Chairman, was invited to take the platform at a UNFCCC press briefing at the 2008 negotiations in Poznan, Poland and deliver a *Statement on the Negotiations*.

The statement called for governments to strengthen adaptation frameworks so that risks remain insurable to the benefit of people and businesses around the world. A particular concern was the need for a clear, long-term international arrangement for collecting and sharing climatic data.

In 2009 ClimateWise has facilitated several industry consultations on the specific proposals on insurance, risk management and adaptation that have been laid before UNFCCC by MCII (the Munich Climate Insurance Initiative) and AOSIS (the Alliance of Small Island States). This has (i) raised awareness within the industry and (ii) provided MCII and AOSIS with valuable industry feedback on the practicalities. A second workstream in collaboration with UNEP has investigated the most effective formats for Public Finance Mechanisms to leverage significant private capital investment (bearing in mind 86% of the investment in climate solutions will have to come from the private sector). The report will be published ahead of the COP15 Copenhagen negotiations.

Finally, in its second *Statement on the Negotiations* in time for Copenhagen, ClimateWise calls for stiff emissions targets as a precautionary measure, and details various ways in which the insurance industry can assist mitigation policies. In addition to confirming the points made in 2008 on adaptation, the paper makes a plea for strong regulations on resilient infrastructure and risk reduction.

The 2009 Statement was launched at the UNEP FI Global Roundtable in Cape Town in October, and subsequently circulated to key policy makers and finance ministers within the G20.



Ecclesiastical: building resilience for historical buildings

Ecclesiastical is involved as insurer with a third of the World Heritage Sites in the UK and played a major part in the repair and restoration of churches following such events as the flooding of Lewes in 2000, Boscastle in 2004 and Carlisle in 2005. It is therefore aware of the historic legacy at risk to climatic events, and the need to work closely with public authorities in this area.

In the UK, Ecclesiastical is the only insurer to financially support a regional climate change partnership (South West Climate Change Impacts Partnership or SWCCIP). SWCCIP aims to build awareness in local stakeholders of the importance of preparing for, and reducing the root causes of, climate change through creating a regional strategy. A stronger collective attitude will make central government take the issue more seriously. Key sectors have been identified like housing and agriculture, and priority actions such as flood management are being addressed.

At EU level, Ecclesiastical was the only business organisation to co-fund and participate in “Noah’s Ark”, a project to study the effect climate change will have on historic buildings and how to prevent damage and protect their place in communities for the future. Some of the issues had been framed in an earlier project, “Engineering Historic Futures”, co-funded by Ecclesiastical with other private and public bodies: the importance of good housekeeping and contingency plans, and the disadvantages of ‘forced drying’ after flooding for example.

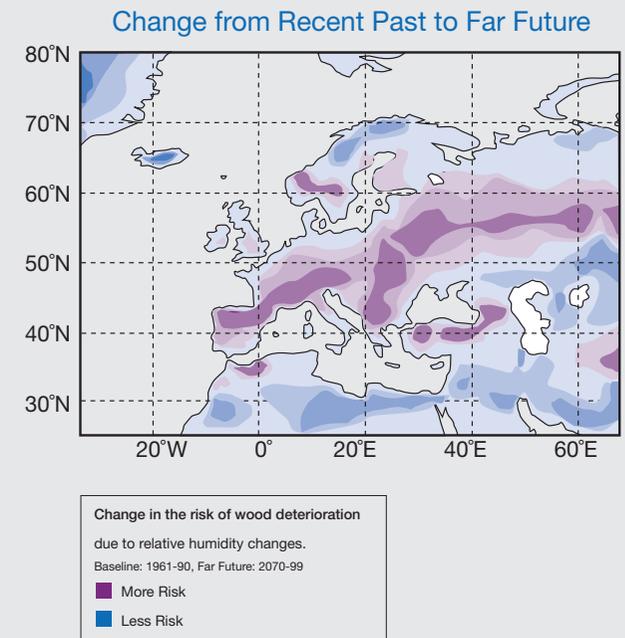
“Noah’s Ark” confirmed that urgent action is needed to protect Europe’s cultural heritage from the effects of climate change. For example, rapid changes of temperature are extremely damaging, as is the range of temperatures. Corrosive rain is also likely to become more common.

The findings are summarised in a *Vulnerability Atlas* and a manual: *Strategic Adaptation of Cultural Heritage to Climate Change: Guidelines*. The Figure below from the atlas shows the risk from future humidity levels, generally higher in Central and Southern Europe, but lower in high and low latitudes.

Many of the problems can be addressed by implementing the Noah’s Ark guidelines. Among other points, these recommend: more frequent inspections, including remote and non-destructive techniques; carrying out minor repairs more regularly, instead of infrequent overhauls; and comprehensive disaster planning.

The *Guidelines* note that not all of our cultural heritage can be saved unaltered. Typical problems that require changes include inadequate roof drainage; missing expansion joints; faulty cornices; unsuitable materials and insufficient protection against rising damp. Severely deteriorated or unique heritage objects can be protected by replacing the original with a replica.

The challenges now are to disseminate this knowledge widely so that those managing and maintaining our cultural heritage are aware of the issues – a practical barrier is language – and to extend the concepts to landscape and archaeological sites.



recommendations for improvement

Forum for the Future identifies the following ways in which ClimateWise members can strengthen their activity to comply more fully with Principle 2:

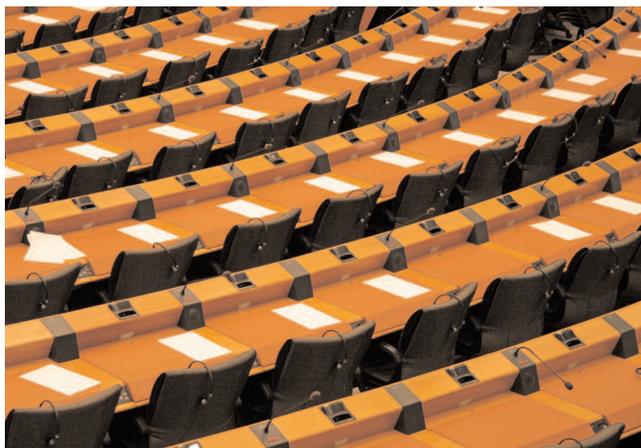
(1) engaging in dialogue on adaptation products

In the run-up to COP15 in Copenhagen in December 2009, there has been a lot of discussion on how the insurance sector can play a role in adaptation, and the transfer of risk from the most exposed developing countries, in particular through the work of the MCII, as described above. In telephone conversations, a number of members expressed concern that the insurance industry will not be able to fulfil this role. There is a need for real and engaged dialogue by the industry to establish what products and services are feasible, and how the sector can work with governments to develop them, particularly where immediate commercialisation will not be feasible. The CII's report "Coping with climate change: risks and opportunities for insurers" highlights the urgency for this dialogue. It notes that the lack of attention paid to adaptation, in contrast to mitigation, has "held back the development of new markets for climate risk, because the public sector needs to create the framework for insurance to operate, and it has increased the possibility that existing markets may become uninsurable, because climatic risks have been increasing and economic development has been concentrated in hazardous areas."

(2) internalising policies to set national and international reduction targets

Only 13 members had set their own internal targets for emission reductions. With one notable exception (Allianz) there is little evidence that these targets are being developed to deliver reductions in line with IPCC recommendations, or with national government commitments, instead focusing on what the organisation believes is achievable.

The insurance sector's direct emissions may be small compared to those of the facilities and activities it underwrites, but consistency of behaviour in this regard is required to give authenticity to the message that members are serious about the need for strong and binding emission targets.



(3) advancing the debate on the role of insurance in delivering a low-carbon economy

Building on recent public policy interventions, there is a role for ClimateWise to represent members' opinions on the role of insurance in delivering a low-carbon economy. While it is important that the sector continues to address and drive down its own footprint, the carbon footprint of the sectors it insures is a more significant area for action.

There is a need for dialogue on the role the sector will play in influencing the behaviour of insured parties, through the type of risks underwritten, and through sustainable reconstruction after an event. Some ClimateWise members have started to take responsibility for making their clients aware of climate change risks and to provide products and services that promote reduction in carbon emissions.

If all ClimateWise members took this approach, it would bring about a swifter transition to a low-carbon economy.

principle

3

support climate awareness amongst customers

There are four elements of this Principle. Members of ClimateWise should:

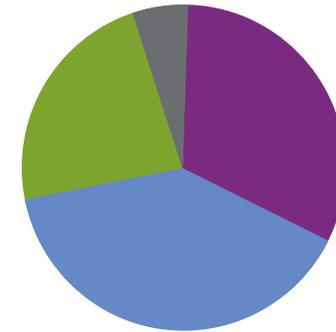
- **Inform customers of climate risk and provide tools**
- **Encourage customers to adapt to climate change and reduce emissions through insurance products and services**
- **Increase sustainable repairs and manage waste material**
- **Consider how to use expertise to help developing worlds**

Overall, members' compliance improved across each of these elements, when compared to the 2007-08 reporting period.

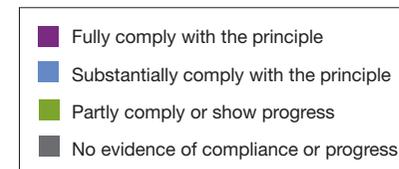
Where members reported on insurance products and services that are designed to encourage adaptation to climate change or reduction in emissions, a clear demonstration of progress was required for full compliance – for example increased take-up of products.

Members who had no international operations and were unable to influence the developing world agenda through collaboration were considered to have provided sufficient explanation, and given an E (explanation) rating accordingly for that sub-principle.

Recognising that life insurers currently find it difficult to make a clear link to climate change risks at the product level, those members that only offer life products and explained this were given an E (explanation) rating. This should be evaluated each year to take account of emerging research and opportunities, and the extent to which extreme weather events impact human health.



Compliance with principle 3:
Support climate awareness in customers



summary of findings

- 76% of members reported actively communicating with end-consumers on climate risk. For property insurers this tended to focus on the increased risk of flooding. Web-based tools are offered by both Aviva (floodplanuk.org and floodsim.com) and Zurich (fightingfloods.co.uk) to reach a broad customer base.
- For commercial property underwriting, some members are providing information on possible improvement measures that would increase resilience, at the point of insurance, indicating how this could also reduce premiums. Zurich has introduced a specific resilience assessment tool focused on customers with high flood/low resilience profiles, allowing them to suggest improvement methods.
- Insurers who are disconnected from the insured due to the broker system or their role as a non-lead insurer in the Lloyds market have shown considerable progress in engaging brokers on these issues. Notable examples include:
 - **RSA**, whose ‘Less CO₂, More IQ’ campaign raised awareness within the broker community of the carbon management legislation being implemented in the UK.
 - **XL**, which featured Prof. David Crichton of the Benfield UCL Hazard research centre at a number of broker and client seminars focusing on strategic insurance issues related to climate change.
 - **Catlin** invited the CEOs of their major brokers to visit the Catlin Arctic Survey, a pioneering scientific expedition to help determine the lifespan of the Arctic Ocean's sea ice cover.
- Members reported low take-up of ‘climate-friendly’ goods and services as the impact of the economic climate led consumers to focus almost exclusively on price. The reports indicated that few new products and services came to market during 2008-2009, although members mostly continued to offer existing products. Products offered focused on car insurance that rewards fuel-efficient driving, and property insurance, with no members reporting inclusion of climate change considerations into professional liability insurance.
- Ensuring repairs are carried out in a sustainable way has risen on the agenda. Whilst nearly half of the members were engaged in industry discussions on sustainable repairs, only 30% of members reported a systematic approach to encouraging recycling. The most promising reports noted successful pilots in specific areas being rolled out across the members’ organisations.
- The market context for encouraging more resilient rebuild is moving faster, with six members either actively proposing adaptive rebuild, or offering specific sustainable rebuild policies. It should be noted that information on take-up was not available, making it difficult to assess the extent to which this has penetrated the market.
- **XL’s** Sustainable Property Endorsement provides additional cover for sustainable reconstruction of damaged property based on BREEAM; this includes assessment by a BREEAM qualified surveyor, following an insured loss.
- **Zurich** has developed an inspection portal through which developers can upload pictures to provide evidence that sustainable building techniques were incorporated into the original build.
- Engagement and action on developing world issues has proven a difficult principle for most members to move forward on. Only 15 members (44%) had initiatives to report. Members, who have no business in the developing world, or only through the underwriting of local risks for multi-national organisations, can find it difficult to identify avenues to engage with this topic. In discussion, a number of members noted that lack of reliable local data is still an issue in offering insurance across these regions. Initiatives include:
 - **RMS**, which has undertaken quantitative analysis to demonstrate that a micro-insurance system could be both technically and commercially viable to provide coverage against catastrophic risk in rural China;
 - **RSA**, which has joined with UNEP FI, Munich Re, and Carbon RE to support the launch of the Global Renewable Energy Insurance Facility, which aims to provide innovative insurance and risk management products to assist the growth of renewables and clean energy in developing economies.

Equity Group: developing a sustainable approach to repairs

Equity has launched a series of initiatives aimed at improving the sustainability of its product range, which are designed to raise customer awareness of the consequences of its day-to-day decisions on climate change. The company's motivation for adopting these initiatives is two-fold; they make good business sense and they are socially responsible.

For example; a new initiative implemented within Motor Insurance products works alongside its main salvage disposal agent, helping to ensure repairs are sustainable. Repairers are encouraged to fit recycled parts where appropriate, replace courtesy cars with low CO₂ emission models and use plastic repairs whenever suitable.

Pollution reduction is encouraged by minimising the number of vehicle movements between locations and, as the UK's largest Motorcycle insurer, Equity is piloting a specialist Motorcycle repairer (4th Dimension) which uses recycled parts and offers an increased repair rate/reduced number of total losses.



The Co-operative Insurance: working with repairers to encourage sustainable repairs

The Co-operative Insurance currently operates a 'Repair over Replace' policy to reduce the proportion of new parts used in repairs to vehicles that are the subject of a motor claim. This policy provides financial reward for approved repairers for achieving agreed targets in the reduction of parts used during the repair process. This initiative has led to a 15% increase in the number of body panels repaired; they have recently rolled out a new plastic repair initiative, which will result in an increased repair to replacement ratio of plastic components. To enhance this new initiative they pay the repairer 50% of the cost of the part which would have been replaced and all suppliers are encouraged to develop and implement their own environmental action plans; with The Co-operative providing support as required.

The Co-operative has been involved with other insurers to try and establish a robust supply line for recycled parts.

The Co-operative Insurance also actively encourages environmentally friendly processes within its motor supply chain, by paying a contribution of £110,000 to approved repairer network during 2008 to ensure EPA compliant disposal of waste, external suppliers are vetted during the procurement process to establish environmental legislation conformity and suppliers are audited on their environmental policies through supplier management process and provided with guidance on recycling initiatives.

RSA: enabling emerging technologies across the World

RSA has identified renewable energy as an important business opportunity and also sees supporting development in the sector as part of its social responsibility to reduce the impacts of climate change.

RSA launched the Global Renewable Energy business in 2007, enhancing their proposition to the sector and building on over 30 years' experience of insuring renewable energy projects. The business is focused around technology specific Centres of Excellence that provide underwriting, claims and risk management support to teams around the world. Premiums in this business grew by 50% in 2008, including significant growth in UK, Italy and Spain.

Interesting developments during the year included the launch of new products for Bioenergy, Small Hydro and Solar in 15 countries. In addition to insuring projects in India, China and Latin America RSA also insure the largest operational solar power station and wind farms under construction in Europe as well as the largest biomass plant in the UK. Recently RSA has also partnered with Munich Re and Carbon Re as part of the United Nations Environmental Programme, launching 'insurance4renewables', a proposition focussed on insuring renewable energy assets in developing countries. Through insuring projects around the world RSA is supporting the development of the renewable energy industry, helping to protect investments in a more sustainable future.

recommendations for improvement

Forum for the Future identifies the following ways in which ClimateWise members can strengthen their activity to comply more fully with Principle 3:

(1) leaders need to move beyond niche 'green products'

It is unlikely that isolated 'green' lines will on their own move the market at the speed required to influence customer behaviour outside the 'committed' green consumer. Companies should look to understand the connection of all their products and services with climate change, for example marine insurance and shipping-related emissions. Admittedly this is difficult to achieve given the current business models for many products, which focus on annual time horizons, and the fact that major impacts in the medium term will not tend to be in the major markets for the insurance companies, although the probabilities of extreme weather events are already changing significantly.

(2) insurers need to 'bring the consumer with them'

The impacts of the economic climate have only intensified consumer focus on cost as the key driver in selection of insurance cover. In the face of suggestions that customers are increasingly even viewing the level of cover as 'discretionary spend', it is important that the sector engage in consumer

education activities to articulate the value for the consumer in climate-friendly insurance products, or we will see more members withdraw 'green' products from the market due to lack of demand. Lessons can be learnt here from the investment sector which has struggled with similar issues in incorporating ESG issues into company valuation and portfolio selection.

Consumer engagement activities should not be limited to emission reduction, but also address adaptation measures and the extent to which the consumer is protected against extreme weather events.

(3) participating in research into the health effects of climate change

A number of studies³ over the last few years have examined the link between human health and climate change, noting for example the spread of vector-borne diseases as climate changes, heat-related mortality, and the loss of life in flood incidents. However the cause of death from these events is unlikely to be attributed to climate change and there is a lack of data on how climate-linked mortality and morbidity can be translated into an assessable risk for an individual insured life. We recognise from members' reports that it can therefore be difficult for life insurers to make the link to climate change risks at the individual product level, or to find ways to engage their consumers on this issue. In light of this we expect to see more information from members next year on how they are

addressing emerging science, and approaches to adjusting products and services offered.

As this requires a sector-level response, there could be a role for future ClimateWise collaboration on this issue.

(4) changing the market norm on sustainable repairs

Sustainable repairs continue to be an area where members find it difficult to translate industry discussion into action. In discussions some members noted that more sustainable repairs were likely to cost more, and thus higher premiums would be required to deliver sustainable repairs, which would make their products less competitive. A first step to overcome this at the sectoral level, would be to identify those areas where use of sustainable materials is at least cost-neutral, and in parallel to encourage research to address concerns over the lifetime cost of sustainable materials used for repairs, and the relevant carbon intensity of all materials. Engagement of loss adjustors will be critical to mainstreaming the use of sustainable materials.

This may be an area where legislation can create a level playing field, and the sector should continue to encourage higher regulatory standards to enable this, through appropriate public policy interventions as reported under Principle 2.

³As detailed in the "IPCC Fourth Assessment Report (AR4): Climate Change 2007: Impacts, Adaptation and Vulnerability", Chapter 8: Human Health; the CII report "Coping with Climate Change: risks and opportunities for insurers", Chapter 15: Life & health insurance, pensions and mortgages.

principle

4

incorporate climate change into investment strategies

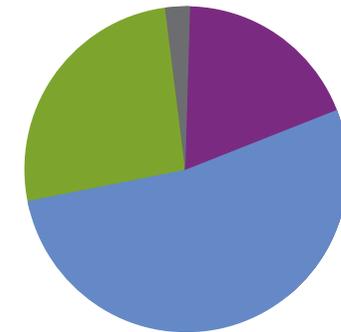
There are five elements of this Principle. Members of ClimateWise should:

- **Consider the implications of climate change for company performance and shareholder value and incorporate this information into investment decision-making**
- **Encourage disclosure on climate change by companies**
- **Encourage improvements in energy efficiency and climate resilience of property investments**
- **Communicate investment strategy on climate change to investors and shareholders**
- **Share assessment of impacts of climate change with pension fund trustees**

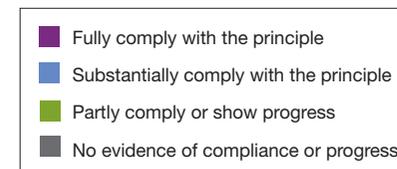
Members have made progress on this principle with only one member (3%) demonstrating no evidence of compliance in contrast to 10 members (24%) in the 2007-08 reporting period.

Where a member's investment strategy considers extra-financial (ESG) factors, and these include climate change explicitly, this was considered to be fully compliant with Principle 4.1. Partial compliance ratings were given to members who had made some progress in understanding the climate change exposure of their investments but not yet progressed to incorporating this into investment decisions.

Members with small investments in equities were still expected to address climate change in their investment decisions.



Compliance with principle 4:
Incorporate climate change into investment strategy



summary of findings

- Only 23 out of the 37 ClimateWise members reported having investment strategies that consider the implications of climate change for company performance and shareholder value, representing the same percentage of members as 2007-08. These members however tend to be taking a holistic view of climate change across their portfolios:
 - 15 have their own internal fund managers who consider climate change in investment decisions;
 - seven require their outsourced fund managers to consider the implications of climate change in their analysis of company value;
 - four have undertaken a review of their portfolios to consider where climate risk would have implications for the value of their investments;
 - two are starting to consider how climate change impacts on their non-equity investments, i.e. government bonds;
 - one (ABI) provides guidance on incorporating climate change into investment decisions.
- In the face of the recent economic climate, many members noted that they had de-risked their portfolio, reducing investment in equities and focusing on low-risk instruments such as government bonds. They therefore felt they had little opportunity to engage on climate change within the investment portfolio, and were therefore unlikely to have a view on the extent of their portfolio's exposure to climate change.
- 40% of members had taken action on improving energy efficiency and climate resilience in their investment properties. This activity mainly originated from members who managed their own specialist property portfolios. Of the remaining members who did have property investment portfolios (27%), many were unable to quantify the percentage of their investments in property funds.
- 15 members are Signatory investors of the Carbon Disclosure Project, of which four are members at the parent group level. However, not all of these companies mentioned this in their ClimateWise submission. There is a strong correlation with those members who report activity on encouraging investee companies to disclose information on carbon emissions and these signatories. Of the 22 members who actively encourage disclosure by their investees, 82% are either signatory investors of the CDP directly or their fund managers are.
- Of the 23 members who incorporated climate change into their investment approach, 19 actively communicated this investment approach to shareholders or customers. This was in the form of inclusion in the annual report or corporate responsibility report. In telephone discussions, members who were exploring the climate risks to their investment portfolio, noted that they were unwilling to communicate externally until they had reached a firm conclusion and taken action internally.
- Similarly only 16 members reported dialogue with pension fund trustees regarding the impacts of climate change on investment decisions. This covers only 70% of members who actively consider the implications of climate change for company performance and shareholder value, which suggests engagement is only likely to occur where internal lines of communication exist already.



Aviva: using voting rights to encourage disclosure of carbon emissions

Aviva uses non-disclosure to the Carbon Disclosure Project (CDP) as a trigger to engage companies of concern in the area of climate change. CDP, which Aviva was a founder member of, requests disclosure of management's views on: the risks and opportunities that climate change presents to the business; greenhouse gas emissions accounting; management's strategy to reduce emissions/risks and capitalise on opportunity; and corporate governance on climate change.

Specifically, in 2007, the SRI team engaged with 29 persistently non-responding companies to request CDP disclosure. In 2008, the team added a further four high-emitting companies to the list, and followed this with another eight in 2009. Two years on, over three quarters of the original companies (79%) have provided a response to CDP.

Aviva intends to badger the remaining persistent non-responders, and Aviva Investors has already in some instances withheld support from the Report and Accounts at its AGMs. Also, two thirds of the companies who have responded have chosen not to make their response publicly available, so Aviva is continuing to engage with those companies to encourage greater transparency.

Companies that responded positively to Aviva's requests for disclosure included high-impact companies such as Vedanta Resources (mining, UK), SOCO International (oil and gas, UK) and Porsche (automobiles, Germany), which had been a consistent non-responder for over three years.

Legal & General: active engagement across the £8.5bn property portfolio

Legal & General Property (LGP) aims to be an industry leader through its sustainability policies and its education programme in partnership with the College of Estates Management. Its motivation is that it believes that sustainable buildings will improve future returns of the portfolio.

The partnership with the College of Estates Management builds upon existing initiatives such as recycling and building design, it is updated continuously with changing regulations and industry practices and brings together shared knowledge, experience and learning across the industry. LGP is a member of the UK Green Building Council's Code for Sustainable Buildings Task Group and is working with Upstream Sustainability Services to benchmark and continually improve standards in the sustainable performance of new and existing building stock and instil sustainable working practices into all investment decisions.

Current priorities are to integrate sustainability into asset valuations, continuous benchmarking of portfolios through their Investment Property Databank (IPD) and ensuring best practice through adherence to Energy Performance Certificates (EPC) and ISO14001. LGP has recently implemented a carbon reduction programme for 24 key properties with potential savings of £93,000. It has worked with its management agents to adopt green lease best practice tool kits; benchmarked selective funds and agreed sustainable improvement plans and continued to monitor the environmental credentials of third party suppliers engaging with their respective supply chains using the Legal & General supplier carbon questionnaire/carbon footprint tool.

Prudential: mainstreaming sustainable property management

Prudential is committed to best practice in managing its investment property portfolio through its real estate investment manager, PRUPIM. PRUPIM is prioritising the reduction of carbon emissions in its major properties, concentrating on the 11 shopping centres and 30 large, multi-let offices which account for over 70% of the emissions of its managed portfolio. It has set a target to reduce carbon emission intensity by 10% on 2008 levels by the end of 2010. To date, it has successfully certified 35 major office buildings to ISO 14001 and is rolling out the world's first integrated management standard, PAS99, to its shopping centre portfolio. In 2008, PRUPIM saved 56,000 tonnes of CO₂ emissions – the equivalent of taking 18,000 cars off the road for a year.

Prudential is commissioning Energy Performance Certificates (EPCs), initially in the UK, for both its investment property portfolio and its occupied property portfolio, and PRUPIM has set a target for 2009 to ensure that low and no-cost recommendations from EPC reports are incorporated into asset plans for properties within its portfolio. To build the business case, PRUPIM is taking steps to identify the effects on property values resulting from sustainable property management and has developed internal valuation mechanisms to capture this new dimension to investment management.

In 2008, PRUPIM undertook a stakeholder engagement process, seeking feedback from tenants, academics, suppliers and contractors, amongst others, on which sustainability issues they consider to be of greatest importance to the organisation. This feedback helped to focus PRUPIM's sustainability strategy on the issues most material to its business.

The company recently published: 'Sustainable Development - a framework for decision making', to actively encourage and promote sustainable practices within the property industry as a whole. A further document on Sustainable Refurbishments will be published in 2009.

PRUPIM is involved in the development of a number of innovative tools to reduce emissions from buildings. The Landlord's Energy Statement and Tenant's Energy Review (LES-TER) is a set of tools developed by the British Property Federation designed to enable landlords and tenants to collaborate to measure and reduce emissions from commercial buildings, and PRUPIM is on course to achieve its target of undertaking five TERs by the end of 2009. PRUPIM's internal Improver Portfolio, set up in 2007, examines ways of reducing a 'typical' property portfolio's carbon footprint while enhancing investment returns. The Improver Portfolio has been designed to represent a 'typical' property portfolio and consists of 25 managed properties covering all sectors.

recommendations for improvement

Forum for the Future identifies the following ways in which ClimateWise members can strengthen their activity to comply more fully with Principle 4:

(1) consistency of approach

Having recognised climate change as a serious and uncertain risk it is surprising that members do not consistently reflect climate change as a financial driver in evaluating their investment portfolio. Even those insurers with only a small percentage of funds invested in equities are exposed to climate change risk and we would expect them to consider this exposure in evaluating portfolio performance alongside traditional drivers of value. As regulatory and civil society pressures increase, it is appropriate to consider that investment in high-carbon activities will become increasingly risky, and all members should seek to understand the exposure of their investment portfolio, even where they decide it is not yet appropriate to take action.

(2) engaging investment managers

In telephone conversations, a number of members highlighted Principle 4 as the most difficult principle to make progress on. Traditionally internal barriers tend to exist between the underwriting and investment departments within organisations, making it difficult to establish a dialogue on climate change impacts. Over 2008-09 the collapse of the financial markets has made this process even more difficult as fund managers focus on addressing losses, with little capacity for engagement on other issues. Where members have progressed on investments, a senior or Board level sponsor has often provided permission for the organisation to explore this area, and so enabled these conversations.

In discussions a number of members highlighted the ClimateWise investment workshop held in April 2009 as being very effective in addressing this issue. This meeting provided guidance on how to engage with fund managers (both internal and external), and crucially the type of questions to ask them, and how to explain climate change in terms of potential financial impacts.

(3) encouraging external fund managers to incorporate climate change in investment decisions

A number of members do not manage their own funds and delegate this role to fund managers. Some ClimateWise reports stated that they felt they had 'little leverage' over their external fund managers, and so were unable to influence the extent to which climate change was considered as a driver of financial value. As part of the ongoing dialogue about the member's appetite for risk and the overall investment strategy, members should engage fund managers on existing policy with respect to climate change risk and opportunity. Initial steps could then include an analysis of the climate-related exposure of the investment portfolio, with a focus on those sectors where exposure is highest for initial consideration. Ultimately the selection of a fund manager is based on an alignment with their views on risk, and an assessment of their ability to deliver strong financial returns. Having identified climate change as a significant driver of financial value, we expect to see future reports revealing how this is incorporated into fund management.

Some of the most successful reports in this area were by members who delegate investment decisions to fund managers but have actively engaged their fund managers on climate change, or selected them because of their approach to non-financial factors.

(4) clarifying that climate change is not an SRI issue

Where members partially complied with Principle 4.1 – incorporate climate change into investment decision-making processes – there was a tendency to describe their approach in terms of socially responsible investment, and specific investments in niche 'green' funds.

While there is value in understanding climate change within the broader context of environmental and social issues, ClimateWise members should recognise that climate change is a driver of financial value in its own terms; offering new investment opportunities and changing the risk profile of existing investments across several spheres - regulatory risk; market/product risk; legal risk; physical risk; supply chain risk etc.

We recognise that there is generally less understanding of how climate risk affects assets outside of equities, but it is important that the insurance sector addresses this, given that equities are typically a small proportion of portfolios in this sector. Movement in this area is possible, as demonstrated by the extension of F&C's Reo® engagement to cover corporate bond portfolios, and PRUPIM's development of the Improver Portfolio to examine ways of reducing a 'typical' property portfolio's carbon footprint while maintaining or even enhancing investment returns.

(5) focusing on how insurance funds are invested

During this review members reported on a number of ways in which climate change was being considered in investment decisions. This included specialist funds that looked to invest in low-carbon technologies, or applied specific engagement overlays. In order to understand the materiality of this information, there is a need for more clarity on the percentage of insurance funds invested in these vehicles.



principle

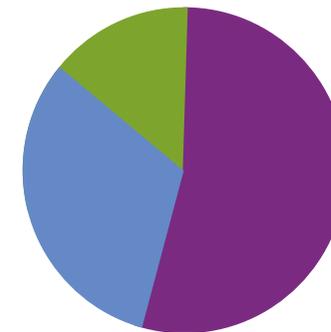
5

reduce the environmental impact of the member's own business

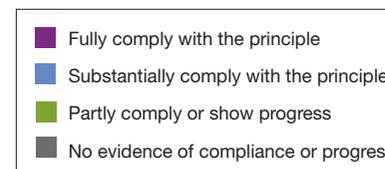
There are four elements of this Principle. Members of ClimateWise should:

- Encourage suppliers to improve sustainability
- Measure and seek to reduce impact of internal operations and physical assets under control
- Disclose direct emissions of greenhouse gases using globally recognised standard
- Engage employees on commitment to address climate change

Overall compliance with this principle improved significantly; 87% of members fully or substantially complied with this principle compared with 61% in the 2007-08 reporting period.



Compliance with principle 5:
Reduce environmental impact of business



summary of findings

- Measurement and disclosure of greenhouse gas emissions from offices that a member leases or owns is a minimum requirement for ClimateWise signatories. In their first year of membership, new members are expected to demonstrate significant progress in measurement processes, even if they are unable to provide a complete carbon footprint for the reporting period. In light of this it is noteworthy that this was the principle where members demonstrated the largest improvement in compliance; 86% disclosed direct emissions using a globally recognised standard to some extent, compared with only 56% in 2008.
- Thirteen members have used their carbon footprint to set realistic quantitative targets to guide the reduction of greenhouse gas emissions. In discussions, 10 members indicated plans to develop internal targets in the future.
- In discussion, members noted that it can be difficult to move forward on reducing the environmental impacts of their operations from a property perspective where they operate from leased premises, and the landlord is not progressive on this agenda.
- The majority of members focused on reducing emissions from their operations, rather than consideration of broader environmental impacts. 38% of reports highlighted systematic assessment and measurement of other environmental impacts (for example water and waste) supported by reduction plans.
- A majority of members reported the inclusion of sustainability criteria in procurement processes, although this was mainly informal. Movement on embedding this in a systematic manner has proved more difficult with just over 50% (19) of members having an active engagement process or formal sustainability criteria in place for procurement of the most significant goods and services purchased. All members provided examples of selection of environmentally preferable suppliers for specific purchases, most commonly paper, energy efficient office equipment and catering.
- All members reported employee engagement activity, with the most progressive members engaging employees not only on the importance of tackling climate change but how they can address this through core business as well as operational activities.



Legal & General: showcasing Rational Madness to its 8,000 staff

Legal & General have pioneered innovative ways of engaging their staff on climate change and have launched an online environmental awareness package across the Group, 'Who cares about the environment?'. The foundation of this course is to challenge the decisions made by staff at work without being patronising, in order to bring ideas and a consensus together to try and reduce impacts and costs in preparation for the environmental challenges the Group is likely to face in years to come.

A tool called "Eco-Monitor" now appears on all employees' screens as a desktop icon to show information such as "Time at Desk" for employees worried about work/life balance, "Cost of Emissions", for the cost conscious and "CO₂ emissions" for environmentally mindful employees.

Legal & General engaged the Rational Madness Theatre Company to provide a new and innovative way of encouraging employees to think about their contribution to the organisation's environmental performance. Rational Madness developed a play called Recycled Dreams, which premiered at the Edinburgh Fringe Festival and toured Legal & General offices around the country as well as a public venue in Brighton. This has been shortlisted for a National Arts & Business Award in 2009.

The play challenges employees' conventional approaches to sustainability, exploring personal sustainability issues and how these interact with corporate messages and problems. The company performs the play with real photocopiers in real offices, using paper discarded by office staff. The play holds up a mirror for the audience to allow them to see how sustainability applies to them personally. Recycled Dreams was a core stimulus in changing how L&G communicate on environmental issues; including developing changes in language used with employees and understanding employee motivations.

AIG UK: engaging employees from within

AIG UK decided to engage its staff actively in the process of managing the company's environmental responsibilities. The first step was a survey of all the staff in its 16 UK locations to establish their views on the corporate performance in this sphere, what they felt were the barriers to progress, and their own personal preferences. This survey will also serve as a baseline for future surveys on environmental issues.

Very encouragingly, 90 percent of staff responded to the intranet survey, and 165 volunteered to become 'Green Ambassadors', with the aim of spreading best practice consistently through the organisation. This voluntary community will report through to the Environmental Committee, chaired by the Executive Director, Regional Operations and Systems, whose personal targets include the achievement of key environmental goals.

A preliminary workshop was held involving 30 Green Ambassadors and a framework for action has been established for the coming year and beyond with short, medium and longer-term initiatives. A further workshop will come up with specific deliverables and milestones for each of these actions.

Already a wide range of practical measures have been introduced, including double-sided copying as the standard option, more bicycle racks for staff, washable mugs rather than disposable cups, filtered rather than bottled water, and separate bins for different types of waste are being considered. Staff are being coached to switch off equipment at night, and this will be monitored on an office-total basis. A staff Awareness Day is planned soon to make everyone think about their carbon footprint at work and at home.

recommendations for improvement

Forum for the Future identifies the following ways in which ClimateWise members can strengthen their activity to comply more fully with Principle 5:

(1) moving from measurement to reduction

Members have demonstrated good progress on evaluating their carbon footprints in a rigorous manner. However, in order for this to be a meaningful exercise it should drive year on year reductions. Members must look to build on this analysis and set rigorous internal reduction targets, even if they feel unable to disclose these publicly. In discussion some members noted that they were unable to set targets until they had assessed what would be 'achievable' from an analysis of their footprint. Whilst it is important that reduction targets are credible they should be stretching for the organisation and must take national and international reduction targets into consideration if they are to deliver reductions at the speed required.

(2) taking account of climate change regulations directly impacting the insurance sector

From April 2010 the UK Carbon Reduction Commitment will require organisations with annual electricity bills of about £500,000 or more to buy permits for the CO₂ they produce. The Carbon Reduction Commitment covers many public and private sector organisations, including the insurance sector, which have previously been untouched by climate change regulation. It is anticipated that this is just the beginning of ever more stringent regulation in this area, with parallel regulation emerging in other countries. This should provide additional incentive to seriously address driving down emissions, delivering both environmental benefit and financial savings.



9 020	1 701
12 222	
12 108	
12 344	
10 286	
10 165	
13 000	2 500
15 735	
9 493	
13 648	
11 176	
7 867	

principle

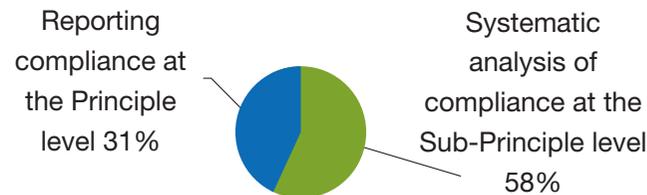
6

report and be accountable

There are four elements of this Principle. Members of ClimateWise should:

- **Recognise climate impacts at Board level and incorporate in strategy**
- **Publish a statement detailing action on these principles**

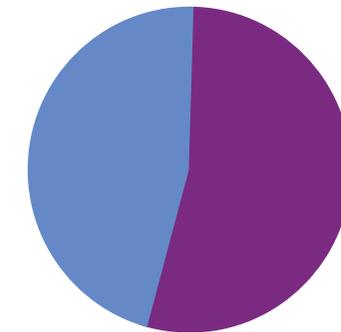
Overall compliance with this principle was high, with all members fully or substantially complying, compared to 73% in the 2007-08 reporting period.



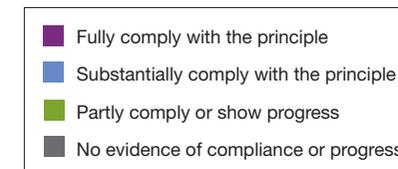
To demonstrate full compliance under Principle 6.2, members were expected to provide a systematic analysis of how their activities demonstrate compliance with each of the sub-principles. Partial compliance ratings were given to reports that provided this analysis more generally at the principle level, or stated a series of activities but did not link this to the principles.

Unfortunately some members provided only a superficial view of company activities with a focus on steps to reduce their own emissions.

Within reports, some members provided links to existing reports, which can be an effective way of reducing the administrative burden of reporting. However, in a few cases members provided links without accompanying commentary on how this demonstrated compliance with the ClimateWise Principle being considered, making it difficult to assess progress.



Compliance with principle 6: Report and be accountable



summary of findings

- Most members (73%) have a named Board level sponsor for their climate change strategy. From discussion it is clear that this is very important in proactively driving forward activities across the principle, giving departments 'permission' to focus on climate change in the face of competing priorities.
- 89% of members produced a stand-alone report detailing compliance with the ClimateWise principles. The most detailed reports evaluated the member's compliance with each of the sub-principles, supported by examples of relevant activities.
- Nearly all members (79%) make their ClimateWise reports available publicly on their own website.

Case Study

Lloyd's of London: board commitment to movement on ClimateWise Principles

For Lloyd's of London climate change is a matter of strategic importance to the market and hence features significantly in its reporting. Board-level support is key to complying with the ClimateWise Principles. ClimateWise activities are championed by the Director of Finance, Risk Management and Operations at board level, who has stated that "Going forward, we will provide disclosure as part of our annual reporting on Lloyd's progress which we intend will be in line with best practice". The board is provided with an annual progress report on ClimateWise, reporting on the previous year's performance and feedback from the ClimateWise review. The board then approves an annual plan as it pertains to ClimateWise, which is deliberately flexible and gives board-level sign-off for any action points. For example, in 2008 the executive approved signing the 'Resilient Coasts Blueprint' report and continuing discussion on sustainable claims.

To promote ongoing awareness within the market, climate change is named as a risk considered by the risk committee with a two monthly reporting period and Lloyd's Corporation runs a quarterly meeting for Lloyd's Market members of ClimateWise.

Case Study

Amlin: Climate Change Panel

Amlin's Group Risk Committee has identified climate change as a key emerging risk, on the basis that "*Climate change affects some 35-40% of global insured risks and is thus a significant external risk to our business*". The Climate Change Panel, chaired by the Chief Risk Officer, was set up to consider the risks and opportunities presented by the environment and to progress Amlin's response to the ClimateWise challenge. Amlin makes a detailed disclosure of its exposure to extreme events in the Annual Report.

Amlin has been a member of the FTSE4Good Index since 2003, a clear indicator that the company is cognisant of its wider corporate responsibilities. While superior risk management clearly benefits the bottom line, the reputational benefits of Amlin's approach include the ability to recruit and retain high quality staff and it gives an edge in competitive situations.

Internally Amlin has given its membership of ClimateWise and related activities strong prominence on the "Matrix" intranet site. The Climate Change Panel area provides details of the ClimateWise Principles, reporting, Climate Panel members and meeting minutes. Each issue of the company e-zine Amlin Update contains an article on environmental issues. Over the last year, subjects have included: the effects of climate change on marine life, aviation risks and catastrophe modelling; the Recycling & Reuse scheme (an Amlin exclusive product for broker Miles Smith) and practical advice on energy efficiency in both office and home.

recommendations for improvement

Forum for the Future identifies the following ways in which ClimateWise members can strengthen their activity to comply more fully with Principle 6:

(1) engaging with instances where approaches differ across individual members and their overall Group

A number of member organisations are structured as divisions within an overall Group. Where the ClimateWise membership sits with the UK division there can be a lack of alignment between activities occurring at the Group and UK level. This can act to hinder the member in moving forward on specific areas that are managed at Group level; for example, some members noted a lack of control over investment strategy at the UK level. In this scenario it is important that the ClimateWise member engage the Group in the importance of action on climate change activities, and so maximise the impact of the initiative.

(2) driving the climate change agenda forward via top-level sponsorship

Board level sponsorship is key to engaging all areas of the business on climate change and the ClimateWise principles. There is some correlation between the consistency with which a member has moved forward across the principles, and the level at which the responsibility for climate change sits within the organisation.

Where climate change is managed as part of the corporate responsibility strategy, with a Board member chairing the CSR committee, it can be difficult to achieve traction with the underwriting, and investment communities. This is exacerbated where climate change is managed as a communications issue, outside the organisation's internal risk management processes.

In general members who have a 'Head of Climate Change' on the Board, or include climate change within the risk management function, have demonstrated the most significant progress, considering climate change as a core business issue rather than an additional separate concern.



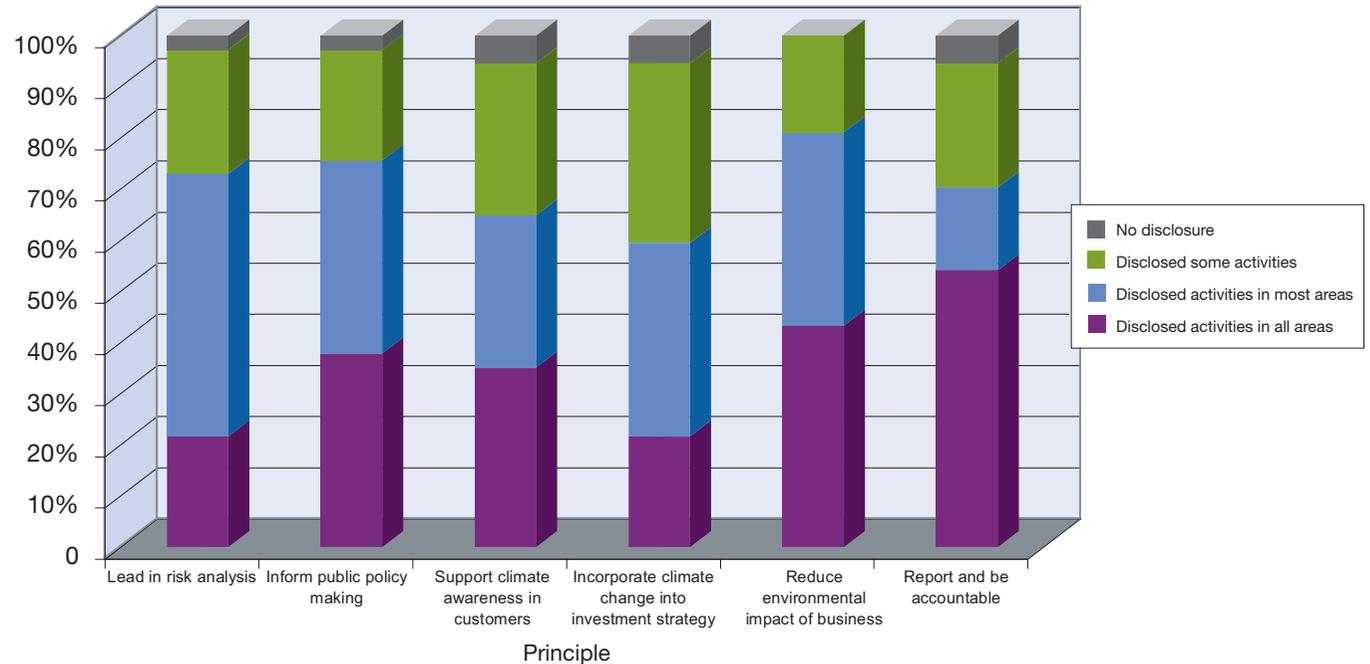
comments on disclosure in general

Detailed guidance for reporting was provided to members this year, identifying the type of information that was expected to demonstrate compliance with each individual sub-principle. This guidance highlighted that the principle of ‘comply or explain’ is key to ClimateWise remaining relevant to all of the industry, and that a fully justified explanation of why a particular sub-principle is not applicable for the member would be regarded as equivalent to being fully compliant.

- Disclosure was marked in accordance with the reporting guidance. As in the first year, a member’s report was only given the ‘full disclosure’ mark when it addressed all aspects of a sub-principle.

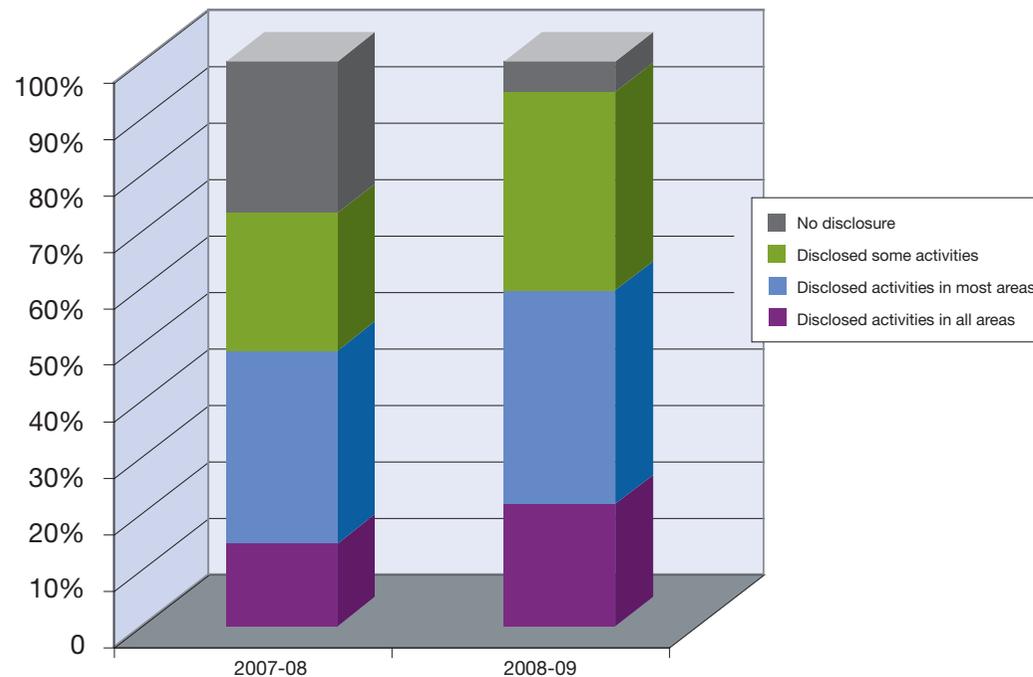
- The Reporting Guidance provided greater clarity on the reporting expectations for each sub-principle, with the aim of improving transparency in reporting. The comprehensive guidance also enabled more consistent marking of disclosure scores.
- The number of reports judged as providing full disclosure across the Principles was lower than last year in some areas. While members continued to provide detailed insight into some areas of their work, they did not always address all elements of the sub-principles in a systematic way.

Disclosure by ClimateWise signatories



- Most signatories (92%) disclosed substantial activities around risk analysis but fewer disclosed how they are using this risk analysis to inform levels of pricing, capital and reserves. Commercial confidentiality may preclude explicit reporting on how the member has used this analysis, but a member could still provide evidence that the research on climate change is used actively to influence these core business decisions.
- The weakest principle in terms of disclosure was principle 4 – Incorporate climate change into investment strategy. This was also the weakest area in terms of compliance; with members clearly finding it difficult to articulate why they were not currently complying with this Principle.
- Only 39% of members fully disclosed how they were communicating investment strategies on climate change to shareholders and customers.
- Members’ disclosure was significantly improved with respect to the environmental impact of the business with 81% of members disclosing activities in all or most areas of this principle, compared to 64% last year.
- Under Principle 5 (reduce the environmental impact of the member's own business) a number of members referenced responses to the CDP’s annual Information Requests. This suggests there could be a case for standardising some sections of ClimateWise reporting with the responses provided for CDP and the National Association of Insurance Commissioners’ (NAIC) Insurer Climate Risk Disclosure Survey.

Principle 4: Incorporate climate change into investment strategies



recommendations for improvement

(1) the principle of ‘comply or explain’ requires more explanation

Across the Principles, members found it difficult to report on areas where they had not made progress during the reporting period. A reluctance to ‘admit’ to lack of progress is understandable but it would help to progress the debate if members explored the barriers to compliance within these difficult areas. During discussions members were often able to provide a rationale for non-compliance and to explain how they are ensuring that this aspect of the principles remains on the agenda for future consideration.

(2) quality of disclosure

That nearly all members produced a standalone report on their compliance with the Principles is commendable, demonstrating the seriousness with which they are addressing climate change. In discussion a number of members noted that the process of compiling the annual compliance report has been valuable in structuring their activities, and helping to identify those areas where they need to focus in order to demonstrate progress in the 2009-2010 period. Members who have reported generically, or at the principle level, may therefore also benefit from a more detailed analysis against each of the sub-principles.

(3) clarity on materiality of information provided

Across the reports, members provide specific examples of activities to demonstrate compliance with the Principles. Where a member underwrites a number of different lines of business it can be difficult to evaluate the extent to which the activities relate to the core business of the group. Disclosure would be increased if members could provide an indication of the size of their different lines of business and then systematically evaluate the different areas with respect to Principle 1 – risk analysis, and Principle 3 – supporting climate awareness amongst customers.

A number of member organisations are structured as divisions within an overall Group. In reporting, members need to provide a clear statement on whether the ClimateWise membership sits at the local or Group level, in order to provide appropriately tailored compliance information for each of the principles.

(4) uneven depth of disclosure

In general members provided a significantly deeper analysis of activities to reduce their own environmental impact than of activities to address the other principles. For example this was the only area where a consideration of the percentages of the member’s operations was provided. It would be beneficial to provide a corresponding level of disclosure for the other Principles, where the constraints of commercial sensitivity allow, indicating for example the percentage of investments for which an ethical overlay is provided, or the percentage of cover, by value, that encourages low-carbon technology.

appendix 1: composition of ClimateWise signatories for 2008-9

Member	SIZE	INDUSTRY ROLE						SERVICES PROVIDED			Notes
	Employees ¹	Association / industry body	Insurer	Broker	Lloyd's syndicate ²	Reinsurer	Other	General insurance	Life and pensions	Health insurance	
ABI	51-200	•						•	•	•	Trade association
ACE	1,001-10,000				•			•		•	
AIG	50,000+		•					•	•	•	
Allianz (UK)	1,001-10,000		•					•			
Amlin	1,001-10,000				•			•			
Aon Benfield	1,001-10,000			•				•		•	
Argo International	51-200				•			•			
ARK	51-200				•			•		•	
Aviva	50,000+		•				•	•	•	•	Asset manager
AXA (UK)	1,001-10,000		•	•				•	•	•	
Beazley	201-1,000				•			•			
Catlin	1,001-10,000				•			•		•	
Chartered Insurance Institute	51-200	•						•	•	•	Professional body
Chaucer	201-1,000				•			•			
Co-operative Financial Services	1,001-10,000		•					•	•	•	
Ecclesiastical	201-1,000		•					•	•		
Equity Group	1,001-10,000				•			•			
F&C Asset Management	201-1,000						•				Asset manager
Friends Provident	1,001-10,000		•						•		
Hardy's Underwriting	51-200				•			•			
Hiscox	201-1,000				•			•			
Legal & General	10,001-50,000		•					•	•		
Lloyds Banking Group	50,000+		•					•	•	•	
Lloyd's of London	201-1,000	•						•	•	•	
Navigators	51-200				•			•			
NFU Mutual	1,001-10,000		•					•	•	•	
Prudential	1,001-10,000		•					•	•	•	
QBE European Operations	1,001-10,000				•			•			
RBS Insurance	50,000+		•					•	•		
Risk Management Solutions	1,001-10,000						•				Modelling firm
RJ Kiln	201-1,000				•			•	•	•	
RSA	10,001-50,000		•					•			
Spectrum	51-200				•			•			
Standard Life	1,000-10,000		•					•	•	•	
Swiss Re (UK)	201-1,000						•	•	•	•	Asset manager
XL	51-200				•			•			
Zurich (UK)	1,001-10,000		•					•	•	•	
Santam†	1,001-10,000		•					•			
Tokio Marine & Nichido Fire Insurance†	10,001-50,000		•					•			
TrygVesta†	1,001-10,000		•					•			

¹Employee base is used purely as a high-level proxy for size to contextualise analysis. Categorisation used the ranges: 1-50; 51-200; 201-1,000; 1,001-10,000; 10,001-50,000; 50,000+

²Includes Lloyd's Managing Agents †Became a member of ClimateWise midway through the second reporting cycle so will participate in the next reporting cycle.

appendix 2: detailed methodology or review

A review of reports

The reports received from ClimateWise signatories varied widely in quality. Most signatories (89%) prepared a stand-alone report reviewing their performance against each of the Principles. Others simply submitted links to their existing reports such as their Annual Report or Corporate Responsibility Report. The instructions to ClimateWise signatories did state that it was not necessary to produce a separate report, and some companies are naturally unsure of the benefit of doing so. Several company representatives mentioned, however, that it was a useful process for them to go through the Principles, addressing each one in turn. Certainly, from the reviewer's perspective, it was substantially easier to capture the relevant data on disclosure and compliance from a master document, even if much of the material was contained in links elsewhere.

B construction of initial matrix

(a) disclosure

Each of the ClimateWise principles includes some examples of the way in which that Principle might be embedded in a company's activities. So, for example, ClimateWise Principle 1 relates to "Lead in risk analysis", and the suggested means of achieving this are: supporting and undertaking research; supporting more accurate forecasting; using research to inform pricing; evaluating the risks of new technologies in order to provide products; and sharing research with others. Not all of these elements will be relevant to every signatory,

but disclosure of their approach to each is a useful indication of the company's approach.

We constructed a matrix in which we noted the written response of each signatory to each element of each of the Principles, accessing all of the information provided to the ClimateWise secretariat. We noted where there was no disclosure on a particular Principle, and where a company had disclosed its activities in some, most or all aspects of the Principles. The purpose of this data set was to assess the quality and completeness of the reporting, rather than to assess signatories' compliance with the Principles themselves. Therefore, for instance, a simple statement that the company has no activities in relation to a particular area of the Principles was scored as full disclosure.

We flagged areas where we wanted to ask questions of signatories. We also noted down case studies of particular interest.

For this first data set, we used only the disclosure made in the reports submitted, and took no account of prior knowledge of any of the signatory companies' activities.

(b) compliance

Again using only the information submitted to the ClimateWise secretariat, we compiled a matrix of compliance with each element of the Principles. For each element within the Principles, we assessed whether the company complied with that Principle, partially complied or didn't comply at all. There was also a category for when a company's activities, for one reason or another, did not cover that particular area and they could therefore offer a meaningful explanation of why it was not applicable to them.

C identification and verification of case studies

In the process of this initial review, we identified case studies that we could use to illustrate activities being carried out by signatories. We then verified and researched these case studies further and confirmed that they took place in 2008-9.

D conversations with signatory representatives

We spoke to signatory representatives from 35 out of the 37 members covered by this review, to clarify some areas and to get a sense of activities that had not been properly reflected in the submission. Where a signatory stated that a Principle was not relevant to its activities, we looked to gain a better understanding in order to judge whether this response was appropriate. We then amended the matrix in the light of these conversations.

We also talked through some of the case studies with signatory representatives.

The conversations also highlighted some key themes to reflect in this report. The conversations were useful in providing some flavour to the submissions and understanding in more detail how signatories perceive the ability of companies to comply.

E revision of matrix

In the light of the conversations we had with signatories, we amended the scores on each of the elements of the Principles where appropriate. In future years, the overall quality of the reports may be better and there may be less need for this step in the process. This year, however, it was necessary, in order to reflect more accurately the work that signatories are doing

F compilation of summary matrices

For each signatory, we took the responses to each element of each Principle, and compiled a score for their disclosure relating to that Principle, according to how many of the elements they had disclosed activities about. From this we compiled their overall disclosure rating.

We also rated signatories' compliance in the same way.

G preparation of report

We then prepared the report using the analysis from the detailed and summary matrices.

H preparation of sub-report

Having identified Principle 3 as a key area requiring attention, we developed a detailed sub-report on how ClimateWise members could move forward in this area more vigorously.

appendix 3: details of initial written disclosure by members (anonymised)

NOTE - The members are NOT in the same order as in Appendix 1. These ratings are based on initial reports submitted and do not take account of follow-on communication with members

Format of Report	1 LEAD IN RISK ANALYSIS					2 INFORM PUBLIC POLICY MAKING					3 SUPPORT CLIMATE AWARENESS IN CUSTOMERS				4 INCORPORATE CLIMATE CHANGE INTO INVESTMENT STRATEGIES					5 REDUCE ENVIRONMENTAL IMPACT OF BUSINESS				6 REPORT AND BE ACCOUNTABLE		RANKING
	1a	1b	1c	1d	1e	2a	2b	2c	2d	2e	3a	3b	3c	3d	4a	4b	4c	4d	4e	5a	5b	5c	5d	6a	6b	
S	D	E	E	D	D	D	D	D	D	E	D	D	D	D	D	D	D	D	P	D	P	D	D	D	D	Joint 4
S	D	D	D	P	D	D	D	D	P	N	D	D	D	E	D	D	P	P	D	D	D	D	P	D	Joint 13	
S	P	D	P	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	P	D	P	D	D	D	9	
S	D	D	P	N	D	D	D	D	D	D	D	D	D	N	P	N	N	N	N	D	P	D	D	P	D	Joint 21
S	P	D	D	D	N	P	P	N	P	N	D	D	D	N	D	N	N	N	N	P	P	P	N	N	N	33
S	P	P	D	D	D	D	P	P	D	D	D	D	D	N	P	N	N	N	D	D	D	P	D	D	Joint 19	
S	D	D	D	D	D	D	D	D	D	D	P	P	D	N	D	D	D	P	D	D	D	D	D	D	10	
S	D	D	D	D	D	D	D	D	D	D	D	D	D	D	P	D	D	N	D	D	D	D	D	D	Joint 7	
G	D	N	D	D	D	D	P	D	D	P	D	D	N	P	P	D	N	N	N	P	P	P	D	D	P	Joint 23
S	D	D	D	N	D	D	D	P	D	D	D	D	E	D	N	N	N	N	N	D	D	D	D	D	P	Joint 19
S	P	D	P	D	D	D	D	D	D	N	D	D	N	D	D	D	N	N	D	P	D	D	D	D	D	16
PA	D	N	D	N	D	N	N	P	N	N	N	N	D	E	N	E	E	E	E	N	D	N	D	N	D	31
S	P	N	P	P	N	D	D	D	N	N	D	N	P	N	D	D	N	N	N	D	D	D	D	D	N	Joint 29
S	D	N	D	P	N	N	D	D	N	N	D	D	N	N	N	N	N	N	P	N	D	D	N	P	N	34
S	D	D	D	N	D	D	D	D	D	N	D	D	P	N	P	N	N	N	D	D	N	N	D	D	D	Joint 23
S	D	D	P	P	P	D	P	N	D	N	D	D	N	D	D	D	E	P	N	D	D	D	D	D	D	Joint 17
S	D	D	D	P	D	D	D	D	D	D	D	D	D	P	D	D	D	D	D	D	D	D	D	D	D	Joint 7
S	D	N	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	Joint 4
S	D	P	D	D	D	D	D	D	N	N	D	D	D	E	D	D	D	D	D	D	N	D	D	D	D	Joint 13
S	P	P	N	N	N	D	D	D	P	P	D	D	N	N	D	D	N	N	N	D	D	D	D	D	D	Joint 26
S	P	D	D	D	P	P	P	D	N	N	N	N	D	N	D	D	N	N	D	D	P	N	D	N	D	28
G	N	N	N	N	N	N	P	N	N	N	E	E	N	N	P	N	E	N	E	N	P	N	P	N	N	35
S	D	D	D	D	D	D	D	D	D	D	D	D	E	D	E	E	E	D	N	P	D	D	P	D	N	Joint 11
S	D	D	N	N	D	P	D	D	D	N	D	D	N	P	D	D	N	N	N	N	D	N	D	D	D	25
S	D	D	E	E	D	D	D	D	E	E	D	E	E	D	E	E	E	E	D	D	D	P	D	D	D	Joint 4
S	P	N	P	N	D	D	D	D	N	N	N	N	D	P	D	D	D	N	P	D	N	D	D	D	D	Joint 26
S	N	N	N	N	N	D	D	D	D	D	P	D	P	N	D	D	D	D	N	D	D	D	D	D	D	Joint 21
S	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	Joint 1
G	N	N	P	D	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	P	N	P	N	D	37
S	D	P	D	D	D	P	D	D	D	D	D	D	D	D	D	D	N	N	D	D	D	D	D	D	D	Joint 11
S	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	Joint 1
S	P	P	N	P	N	P	P	N	N	N	D	D	D	N	D	N	N	N	N	D	D	D	N	D	N	32
S	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	Joint 1
S	P	N	N	N	N	P	P	D	N	N	N	N	N	N	P	N	N	N	N	N	P	D	N	N	D	36
S	P	P	D	D	P	P	D	D	D	N	D	N	N	D	D	D	D	P	N	D	D	D	D	D	D	Joint 17
S	D	D	P	N	D	D	D	D	D	D	P	P	D	D	D	D	D	P	D	D	N	D	P	D	D	15
S	P	N	N	N	P	P	D	D	P	N	P	N	N	N	P	D	D	N	N	D	D	D	D	D	D	Joint 29

KEY S stand-alone report; G generic document; PA paragraph in Annual Report; D = full disclosure; P = partial disclosure; E = explanation; N = no disclosure

appendix 4: details of compliance by members (anonymised)

NOTE - The members are NOT in the same order as in Appendix 1. These ratings are based on all information received from members including initial reports, telephone conversations and additional information submitted by members during the review.

1 LEAD IN RISK ANALYSIS					2 INFORM PUBLIC POLICY MAKING					3 SUPPORT CLIMATE AWARENESS IN CUSTOMERS				4 INCORPORATE CLIMATE CHANGE INTO INVESTMENT STRATEGIES					5 REDUCE ENVIRONMENTAL IMPACT OF BUSINESS				6 REPORT AND BE ACCOUNTABLE		RANKING	
1a	1b	1c	1d	1e	2a	2b	2c	2d	2e	3a	3b	3c	3d	4a	4b	4c	4d	4e	5a	5b	5c	5d	6a	6b		
C	E	E	C	C	C	C	C	C	E	C	C	C	C	C	C	C	C	C	C	C	C	C	C	Joint 1		
C	C	C	C	C	C	C	C	E	E	C	C	E	E	E	E	E	C	E	C	C	C	C	C	Joint 1		
P	P	P	C	N	C	C	C	P	N	N	P	N	N	N	N	E	N	N	P	P	P	P	C	C	33	
C	C	P	N	C	C	C	C	C	C	C	P	C	E	P	C	N	N	N	C	C	C	C	P	C	23	
P	P	P	C	C	C	C	C	C	P	C	C	N	E	C	C	P	P	P	C	C	C	C	C	C	Joint 16	
C	C	C	C	C	C	P	C	C	C	C	C	C	E	P	N	N	P	N	C	C	C	C	C	C	Joint 16	
C	C	C	P	C	C	C	C	C	C	C	P	P	E	P	C	P	P	C	C	C	C	C	C	13		
C	C	C	C	C	C	C	C	C	C	C	C	C	C	E	C	C	E	P	C	C	C	C	C	Joint 4		
C	C	C	C	C	C	C	C	C	C	C	C	E	C	C	C	E	C	C	C	C	C	C	C	Joint 4		
C	C	C	N	C	C	C	C	C	C	C	C	E	C	N	N	N	N	N	C	C	P	C	C	C	24	
C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	P	C	P	C	C	C	C	C	Joint 9		
P	N	P	N	N	C	C	C	P	P	N	N	C	E	N	E	E	E	E	P	P	P	P	P	P	Joint 29	
P	N	P	P	P	C	C	C	P	N	C	P	P	N	N	N	N	N	E	P	P	C	P	P	P	32	
C	N	C	C	N	C	C	C	P	N	C	C	N	E	N	N	E	N	N	N	C	C	C	C	P	P	27
C	C	P	N	C	C	C	C	C	P	C	C	P	E	P	N	N	N	C	P	P	N	C	C	C	Joint 26	
P	C	C	P	N	C	C	C	C	C	N	N	P	N	P	P	E	P	N	C	C	C	C	C	C	Joint 26	
C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	Joint 4	
C	P	C	C	C	C	C	C	C	P	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	Joint 7	
C	C	C	C	C	C	C	C	P	C	P	C	P	E	P	C	P	P	P	C	P	P	C	C	C	Joint 16	
C	C	P	N	C	C	C	C	C	C	C	P	P	P	C	C	N	C	N	C	C	C	C	C	C	19	
P	C	N	N	P	C	C	C	P	N	N	N	N	E	N	N	N	N	N	P	P	P	C	P	P	Joint 34	
N	N	N	E	N	C	C	C	P	N	E	E	N	N	N	N	E	N	E	N	P	N	P	P	N	Joint 34	
C	C	C	C	C	C	C	C	C	C	C	C	E	C	E	E	E	C	E	P	C	C	C	C	C	Joint 7	
C	C	N	C	C	C	C	C	C	C	C	C	C	C	C	C	N	C	N	C	C	C	C	C	C	Joint 14	
C	C	E	E	C	C	C	C	P	E	C	E	E	P	E	E	E	E	N	C	P	C	C	C	C	12	
P	N	P	C	C	C	C	C	P	N	N	N	P	E	P	P	E	N	E	P	P	N	C	C	P	Joint 29	
C	C	C	C	C	C	C	C	C	C	P	N	E	P	C	C	C	P	N	C	C	C	C	C	C	Joint 14	
C	E	C	E	C	C	C	C	P	E	C	E	E	N	C	C	C	C	C	C	C	C	C	C	C	Joint 9	
P	N	P	C	N	C	C	C	P	N	N	N	N	N	N	N	N	N	N	N	P	P	N	P	P	37	
C	P	C	C	C	C	C	C	P	C	P	P	N	C	C	C	N	P	P	C	P	C	C	C	C	Joint 20	
C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	Joint 1	
P	P	P	P	N	C	C	C	P	N	P	P	N	N	E	E	E	N	P	P	P	N	P	P	P	31	
C	C	P	P	C	C	C	C	P	C	C	P	N	P	P	C	E	N	E	C	P	C	C	C	C	Joint 20	
P	N	N	N	N	C	C	C	P	N	N	N	N	N	N	N	E	N	N	P	P	C	P	P	P	36	
C	C	C	C	C	C	C	C	C	C	C	C	E	C	C	C	C	P	P	C	C	C	C	C	C	Joint 9	
C	C	P	P	P	C	C	C	P	C	N	P	C	E	C	C	C	P	P	C	P	P	C	C	C	Joint 20	
P	P	N	P	P	C	C	C	P	E	P	N	E	E	P	C	C	C	P	N	C	C	C	C	C	25	

KEY C= full compliance; P = partial compliance; E = explanation; N = no compliance