



SUSTAINABILITY

# ClimateWise Report

2021-2022



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**Principle 1:**  
Be accountable



# Principle 1: Be accountable

## 1.1 Ensure that the organisation’s board is working to incorporate the Principles into business strategy and has oversight of climate risks and opportunities

**1.1.1** The MS Amlin Underwriting Limited (MS AUL) Board (the Board) has overall responsibility for setting and overseeing the implementation of the strategy, business performance, risk management and ensuring high standards of corporate governance are maintained. The Board has a number of committees, to which it delegates oversight and decision making powers in accordance with documented Terms of References. It is through careful management in each of these critical aspects that MS AUL can achieve its objectives and manage the risks and opportunities arising from climate change. Our Board provides ultimate oversight of material sustainability related risks and opportunities, including climate, and approves our Sustainability Strategy. The governance structure for sustainability and climate change is shown in Figure 1 below.

**1.1.2** The Board recognises that the impact of climate change on natural hazard events, amplified by significant and uncontrolled property stock and population growth in vulnerable regions, is a major threat to the global economy and to the MS AUL business model. The Board also recognises that existing societal issues will be exacerbated and the vulnerable will be affected the most as the cascading impact of climate change leads to health and food crises, forced migration, unemployment and poverty, social unrest, global conflict and security concerns, state failure, business

interruption and market destabilisation. Given the pervasive nature of climate change in society and in our business, which affects not only catastrophe and physical damage classes but also Casualty, War and Terrorism, Political Risks and Product Recall classes, the Board has identified climate change (and sustainability, more broadly) as a key priority area.

**1.1.3** This is evidenced by:

- Undertaking a Board (training) workshop on climate change and Sustainability (February 2022), which updated Board members on sustainability and climate change trends, emerging issues, stakeholders’ evolving expectations, and the Board’s responsibilities on climate change.
- Approving the 2021 BoE Climate Biennial Exploratory Scenario paper prior to submission to the PRA via Lloyd’s.
- Setting a net zero 2050 target and agreeing key sustainability and climate change priorities for MS AUL.
- Clarifying MS AUL’s Purpose in relation to Sustainability acknowledging that MS AUL’s commercial ambitions and societal obligations are not divorced from one another.
- Adopting the UN Sustainable Development Goals (UNSDGs) framework and providing training workshops for all staff to develop climate change and broader sustainability knowledge and select priority UNSDGs for MS AUL.
- Sponsoring a governance review that considered the Board’s oversight of climate related risks and opportunities, in the context of regulatory requirements e.g. PRA Supervisory Statement SS3/19, Lloyd’s ESG Guidance October 2021, Lloyd’s Principles of Doing Business 2022 and other committed obligations (e.g. UK Law, Climate Wise Principles, Obligations to Head Office and Colleagues).

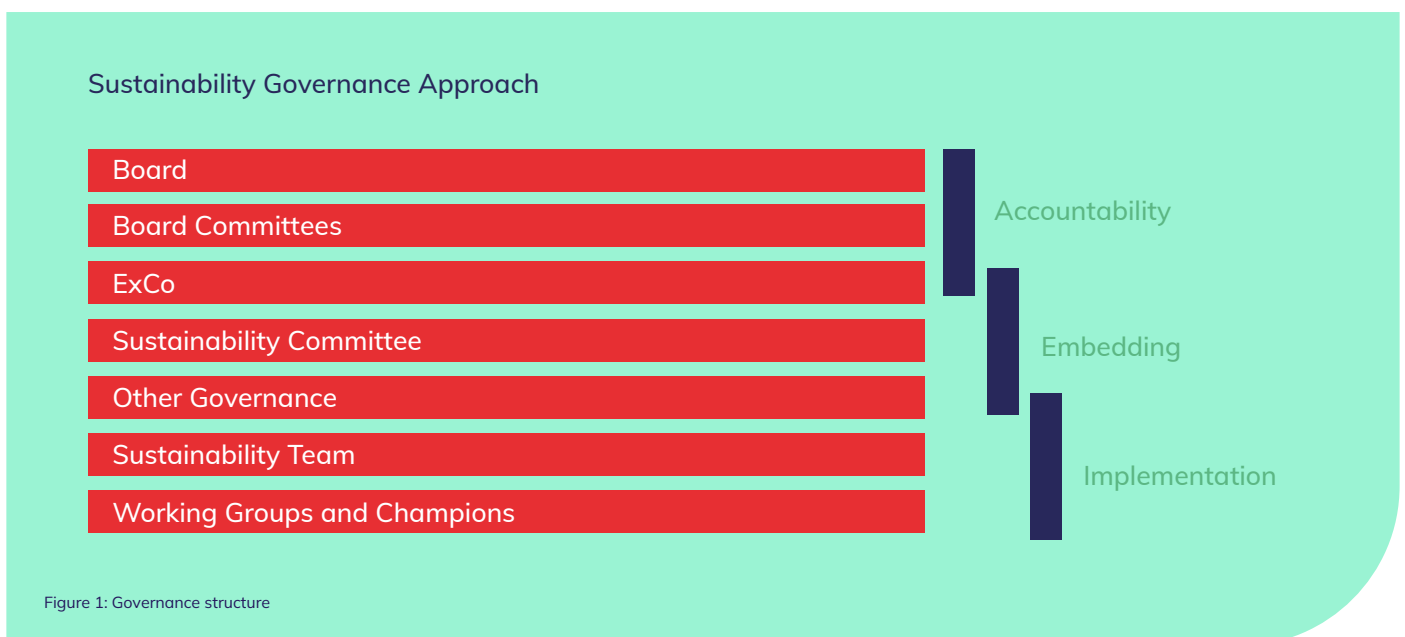


Figure 1: Governance structure

- Setting a CEO-level company objective to analyse the risk-reward balance of natural catastrophe exposure within the context of the MS AUL portfolio.
- Undertaking a Board training session on natural catastrophe model theory and operation (April 2022), in accordance with the Lloyd's Principles for Doing Business (Project Rio), Principle 2, Sub-Principle 5 'Robust Governance and Oversight of Risk Aggregations' to satisfy the requirement: "Senior management and board demonstrably understand the [natural catastrophe] model and its limitations, providing challenge when making key decisions."
- Approving a paper discussed at the NED-chaired Underwriting Oversight Committee (June 2022), which presented the favourable results of a review of the natural catastrophe models used by MS AUL, in the context of climate change, model completeness, and model reliability.

**1.1.4** The Board believes that insurance is an enabler for equitable, affordable and rational transition to net zero and that it is entirely possible – through innovation, collaboration and by drawing on MS AUL's deep underwriting expertise – to build a valuable, profitable and prestigious business whilst tackling climate change, preserving nature and addressing society's changing needs. The Board believes that it is responsible to offer thoughtful capacity (i.e. insurance that supports fair transition) and that it is good business sense to incorporate climate change into MS AUL's overall business strategy. This is evidenced by:

- Nominating Martyn Rodden (MS AUL Strategy & Transformation Director), as the Executive Management Committee member responsible for climate change. Martyn represents MS AUL on the ClimateWise Insurance Advisory Council and is Chairman of the MS AUL Sustainability Committee (see *Principle 1.2.2*). He is the named executive with regulatory responsibility for climate change.
- Appointing Amir Sethu to the newly created role of Head of Sustainability and ESG in Q4 2021, which further signals MS AUL's commitment to the climate change and broader Sustainability agenda. Amir reports to Martyn Rodden. He is Chair of the LMA Sustainability Committee and a member of the LMA Climate Risk Working Group and Climate Wise Managing Committee.
- Setting a Sustainable Underwriting Philosophy for MS AUL, which communicates MS AUL's beliefs and strategy on climate-related issues to our clients, supports MS AUL's sustainability narrative and helps in responding to information requests regarding MS AUL's position on climate change.
- Undertaking a stakeholder mapping exercise that concentrated on understanding and encompassing our stakeholders' wide range of expectations about the role of MS AUL in society. These expectations are not mutually exclusive and there is an underlying theme amongst all stakeholder groups that doing the right thing will create enterprise value.
- Designing and implementing updated governance arrangements for climate change and sustainability, building on work undertaken in 2020-21 – that was designed to support MS AUL in its delivery against the

ClimateWise principles and regulatory requirements, and align climate risk strategy to the existing risk appetite and Exposure Management Framework.

**1.1.5** The governance review referenced above identified the roles and responsibilities of the Board and Board Committees as regards sustainability and climate change. The Board Committees include the Risk and Solvency Committee, Underwriting Oversight Committee, Audit Committee and Investment Governance Committee.

## 1.2 Describe management's (below board-level responsibility) role in assessing and managing climate risks and opportunities

### 1.2.1 MS AUL's Executive Management Committee (the Exco)

The Exco reviews and challenge the design and implementation of our Sustainability Strategy, receiving updates throughout the year and incorporating sustainability considerations within strategic decision making. The Exco is chaired by MS AUL's CEO, whose remuneration is linked to sustainability and climate targets, which are part of his annual objectives that are agreed with the Board and cascaded to other Exco members and all MS AUL employees.

### 1.2.2 MS AUL's Sustainability Committee (the Sustainability Committee)

In 2022, a decision was taken by the Board to replace the ESG forum with a multi-disciplinary Sustainability Committee. The Sustainability Committee convenes quarterly and includes three Exco members (Strategy & Transformation Director, Director of Underwriting Performance and Chief People Officer), alongside senior level representatives (i.e. Head of Department or equivalent) from across the business who have authority, influence and motivation to prioritise climate change on MS AUL's strategic agenda. The Strategy & Transformation Director chairs the Sustainability Committee and there is an open invitation to Risk Management, Compliance, Internal Audit functions as well as shareholder representatives. Minutes are available to all Exco members.

The roles and responsibilities of the Sustainability Committee, as set out in its terms of reference that were agreed by the Committee members, have been mapped to the Board and other Board Committees, including the Exco, Risk and Solvency Committee, Underwriting Oversight Committee, Investment Governance Committee and Audit Committee. The agendas of the meetings are aligned with the TCFD principles (governance, strategy, risk management, and metrics and targets) and external third parties are invited to the meetings to share relevant perspectives (e.g. representatives from Lloyd's and EY attended the meeting in June 2022). Each quarter the Board (and other Board Committees, where appropriate) receive a report from the Head of Sustainability and ESG for discussion and to review and approve recommendations.

The Sustainability Committee helps MS AUL to be a responsible, resilient and sustainable business. In doing so, it will:

- Support the embedding of sustainability within our commercial philosophy by harmonising internal employee & external client propositions.

- Ensure we are well placed to fulfil our regulatory and other committed, sustainability related obligations.
- Encourage a more coordinated approach to decision making, which incorporates sustainability considerations, by aligning the various components of climate change and Sustainability related work across MS AUL.

While the Sustainability Committee has multiple priorities across Sustainability related topics, climate change is one of the key priorities, given what we have set out in *Principle 1.1* above. The roles and responsibilities of the Sustainability Committee are set out in its terms of reference and cover:

- MS AUL's performance in implementing its sustainability strategy
- Global developments in sustainability including evolving best practices and emerging issues
- Compliance with material regulation and legislation on sustainability issues
- Sustainability targets and KPIs
- Sustainability related risk management
- Data requirements and sustainability reporting
- Communications and marketing

The Sustainability Committee members work actively in their business-as-usual roles to embed sustainability and climate change within business processes and delivering components of the company's strategic plan and Risk Framework relating to climate change. They are supported by working groups, discussed in *section 1.2.4* below.

### 1.2.3 Other Management Committees

Risk classes which are impacted by climate change are regularly reviewed by a dedicated Catastrophe Risk Management Committee (CRMC), four times per annum. The purpose of the CRMC is to provide an effective control framework over the management and reporting of current annualised catastrophe risk exposures. The CRMC also reviews the suitability of the current catastrophe model suite, in the context of recent actual catastrophe events and relevant new science, and directs any research into areas where the catastrophe models diverge from current scientific understanding or our own loss experience. The CRMC recommends to the Model Governance Committee (which oversees the capital Internal Model) the adoption of adjustments to our View of Risk, and notes observations or areas of concern that relate to risks impacted by climate change. The difference between the CRMC's focus on climate risk and that of the Sustainability Committee is that the CRMC applies a technical, scientific lens based on detailed modelling of the in-force catastrophe portfolio, whilst the Sustainability Committee applies a qualitative lens in terms of what this means for the business.

Impacts from climate change are also considered by the MS AUL Investment Governance Committee (IGC) whose main role is to oversee the material outsourcing of Investment Management, in line with agreed investment guidelines and to monitor the investment performance, risk appetite, asset allocation, governance, operations, and compliance of MS AUL's investments. The IGC receives MI on the above, which also includes ESG metrics that provide insight at a portfolio and asset level.



### 1.2.4 Working Groups

Climate Risk, Sustainability Reporting, and People and Communications Working Groups have been convened to support and further align the heavy lifting that is happening in the business already and mobilise resources to execute the actions. Further working groups may be set up, depending on business needs. One of the outcomes expected from the working groups is an assessment of what additional resources are required to deliver against our agreed priorities.

The Climate Risk Working Group (CRWG) is focused on considering what strategic foresight was gained from the Climate Biennial Exploratory Scenario (CBES) exercise, how we embed the aspects of CBES that are most relevant to MS AUL within existing Risk Modelling, and how this translates into meaningful and applicable risk appetite and tolerance metrics. The Climate Risk Working Group will help the business to determine how resilient MS AUL is to disruption (i.e. the extent to which we can adapt) and provides input to the Sustainability Committee and CRMC. Further details of the CRWG's focus activities over the next 12-18 months have been set out in *Principle 3.1.4*.

The Sustainability Reporting Working Group has produced a paper on sustainability reporting. This sets out MS AUL's current and future reporting obligations and recommends that the effort that would otherwise have been afforded to further voluntary reporting, should be deployed in the business to drive sustainability outcomes that are aligned with our sustainability priorities.

We have also established a Claims Sustainability Working Group to consider how we can better support our policyholders following a loss event.

### 1.2.4 Head of Sustainability and ESG

Amir Sethu (Head of Sustainability and ESG) is responsible for developing and implementing a coordinated sustainability strategy that:

1. Supports MS AUL's overall strategy and growth plans.
2. Focuses on long term value creation and resilience; and
3. Aligns with MS&AD Group's global sustainability strategy.

Given sustainability and climate change affect every part of MS AUL's business, the Head of Sustainability and ESG works with different business areas, individuals and market participants outside of the business, building alliances and networks, connecting the dots on Sustainability related matters and helping MS AUL to prioritise focus areas and implement change. The focus this year has been on upskilling colleagues on sustainability and climate related matters and explaining how sustainability and climate change is relevant to MS AUL's business.

The Head of Sustainability and ESG has also undertaken a stakeholder analysis to understand and encompass our stakeholders' wide range of expectations about the role of MS AUL in society. These expectations are not mutually exclusive and there is an underlying theme amongst all stakeholder groups that doing the right thing will create enterprise value. We believe that good communication will help us to develop trust with all stakeholders and clearly articulate needs, expectations and challenges, whilst creating opportunities.

**Principle 2:**  
Incorporate  
climate-related  
issues into our  
strategies and  
investments





# Principle 2: Incorporate climate-related issues into our strategies and investments

## 2.1. Evaluate the implications of climate change for business performance (including investments) and key stakeholders.

### 2.1.1 Our Climate Change Strategy

The Board recognises that the impact of climate change on natural hazard events is a major threat to the global economy and to the MS AUL business model. This is covered in more detail in Principle 1.1 and Principle 3.1.2. Given the pervasive nature of climate change in society and in our business, the Board has identified climate change (and Sustainability, more broadly) as a key priority area. In light of the above, and the significant improvement opportunities highlighted in our prior year Climate Wise report, this has been a key focus area over the last twelve months.

As a (re)insurance business, focused on underwriting complex risks, our business is well positioned to support sustainable economic development; for example, by insuring clean energy installations, public infrastructure, charities and non-governmental organisations, supporting the safe decommissioning of brown assets, and promoting the use of decarbonisation technology, where possible. We are also

well placed to support and influence clients through net zero transition, strengthening collaborative efforts towards building an inclusive, sustainable and resilient future. We believe that it is entirely possible, through innovation and collaboration, to build a valuable, profitable and prestigious business whilst addressing society’s changing needs, tackling climate change and preserving nature. In other words, we not only have a moral obligation to respond to climate change but also believe that this is good for business and an integral part of our strategy.

We have been developing our Sustainability Strategy during Q2 2022 and have scheduled workshops with the Exco and the Sustainability Committee to review and approve the Sustainability Strategy, in advance of it being tabled at the September Board meeting ahead of submission to Lloyd’s of London. Whilst developing the Sustainability Strategy, colleagues across different business areas were asked to select priority UNSDGs. They chose ‘UNSDG 13 – Climate Action’ as a Sustainability priority, alongside UNSDG5 – Gender Equality and UNSDG 9 – Industry, Innovation and Infrastructure. Our sustainability priorities were also determined through a strategic risk and opportunity lens, which is aligned with strategic business planning and ensuring the resilience of our business model, against our risk appetite/tolerance. We have prioritised the following business areas:

- Underwriting
- Investments
- People and Operations

We have adopted and applied risk management techniques and strategic planning processes, including climate scenario analysis, to consider how the future might conceivably develop, how a diverse set of climate and related risks may impact our business and how resilient our strategy is to

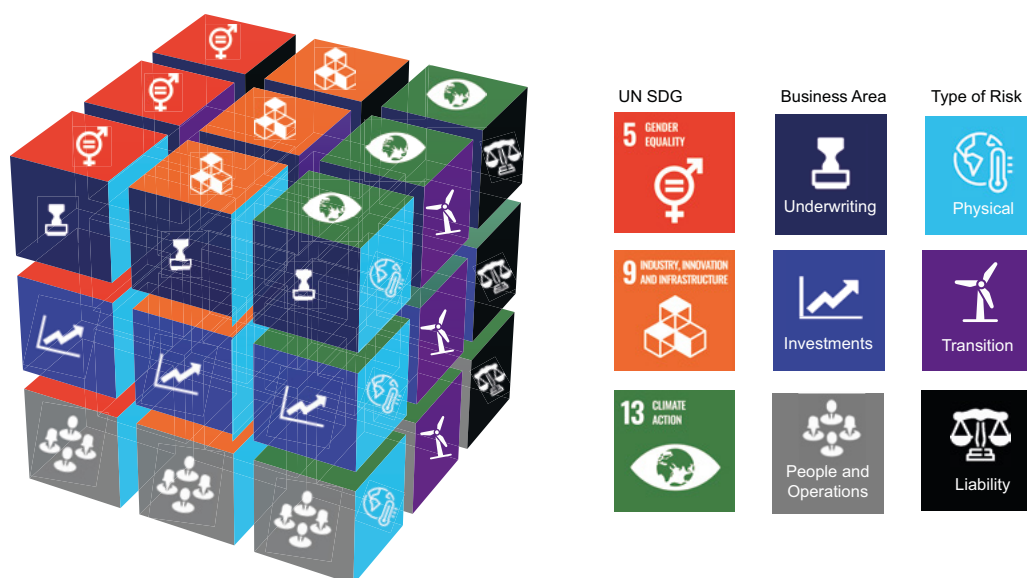


Figure 2.1: Our Sustainability Strategy blocks

potential disruptions i.e. the extent to which we can adapt. We recognise that financial risks from climate change arise through: 1) Physical risk (risks that relate to weather events); 2) Transition risk (risks arising from the process of adjustment towards a low carbon economy); and 3) Liability risk (risks arising from climate related litigation).

These manifest as increasing underwriting, reserving, market, credit or operational risk in our business. MS AUL broadly considers physical risk from a more immediate standpoint compared to transition or liability risks. However, all risks are increasingly being considered across a range of time horizons from the immediate to the long-term. The impact of climate-related risks on our business, strategy, financial planning and risk register is covered in more detail in *Principle 2.3* and *Principle 3.1* Climate-related opportunities, which have been discussed by the Sustainability Committee and prioritised as follows:

### 2.1.2 Underwriting

MS AUL maintains a materiality ranking of region-perils for its worldwide natural catastrophe-exposed business. This is one output of the Exposure Management Framework (EMF), which groups low materiality country-perils into regional buckets for practicality in reporting and monitoring, while isolating high and medium materiality country-perils for focus. The ranking metric is the modelled 1 in 100 Tail Value at Risk (TVaR), and the ranking table is updated quarterly in-line with exposure change through the year. The highest ranked region-peril at January 2022 is US/Caribbean Hurricane, which forms more than 80% of the 1 in 100 TVaR total for the MS AUL worldwide catastrophe portfolio. By comparison, North America Severe Convective Storm, North America Winter Storm and California Wildfire have low materiality rankings of 1% or less. This high material exposure to US and Caribbean hurricane is a deliberate business strategy based on its profitable position on a risk-reward efficient frontier specific to MS AUL. However, this adds to the imperative for the business to understand the impact of climate change on the frequency and severity of North Atlantic and Gulf of Mexico tropical cyclones. Research into the impact of climate change and a recent assessment of the appropriateness of the natural catastrophe model used in managing this risk is discussed below in *Principle 3.2.1*.

MS AUL, operates through six underwriting departments, with each constituted by a number of sub-classes. The business areas that we are exposed to, from a climate risk perspective are shown in figure 2.2 below:

Department	Potential impacts from Climate Risk	Climate risk type
Reinsurance	HIGH	Physical and Transition
Natural Resources (Including Energy)	HIGH	Physical and Transition
Property	HIGH	Physical and Transition
Marine	MEDIUM	Physical, Transition and Liability
Casualty	MEDIUM	Liability
Crisis Management (including Political Risks and Product Recall)	MEDIUM	Physical & Transition

Figure 2.2: Climate risk impact for MS AUL departments

Findings from the CBES exercise would suggest that our business will likely to be able to:

- Withstand the capital implications of transition
- Households / homeowners are most vulnerable to physical risk (higher insurance premiums / unavailability of insurance, which may lead to re-mortgage issues) and
- Directors and officers (D&O) is most likely to pay out for liability risk (greenwashing, financing of Green House Gas (GHG) emissions, fiduciary breach).

We are exploring further to understand the limitations of the approaches adopted and models used. This is covered in more detail in *Principle 2.3* and *Principle 3.1*.

We have well established processes in place that that are used to evaluate the implications of climate change on underwriting business performance. This includes an embedded Exposure Management Framework and oversight from committees such as the Risk and Solvency Committee, Audit Committee, Exco, CRMC, Underwriting Oversight Committee and Investment Governance Committee (see *Principle 1.2.3* for details)

We believe that specialist insurance products for new technologies linked to greening the economy will evolve over time. We also believe that insurance for new technologies could use existing or adapted wordings and product ranges. Understanding new exposures and emerging risks is key. As an example, the Felicity Ace ship fire in 2022 emphasised the need to consider stability and thermal conductivity of electric car batteries. There has been further development of approaches to respond to the risks and opportunities arising from climate change on both the business and our clients, and we have set out below some specific examples which are aligned to the strategic direction of the company, whilst further example of R&D have been included in *Principle 5.3.1*.

#### 2.1.2.1 Reinsurance

We are developing our own MS AUL view of risk in the changing environment, to help underwriters discuss the changing trends they see driven by climate risk; a specific example being Flood and an increased incidence of severe losses.

Our Catastrophe Underwriters indirectly assume financial responsibility for major events impacting people worldwide, and our ability to assume this risk competitively should feed back to the cedent a reduced cost of insurance. Additionally, we support Governments when forming Insurance Pools for risks the private market finds difficult to support (EQ - Earthquake, Flood, Terror Pools are part of our book).

Our main route has been via the Insurance Industry and its ability to deliver cover to people across the World. Yet it is here that the greatest challenge exists in bridging the protection gap. We are beginning to work with NGOs and Charities to see how we can deliver further cover.

### 2.1.2.2 Casualty Insurance

In the context of climate-related litigation against policyholders, our Casualty Underwriting team has identified the following risks:

Increased claims from green initiatives:

- Technology and services connected with recent green initiatives have resulted in increased claims.
- The increase in claims due to unproven technology (waste-to-energy), poor design/workmanship (wind turbine bases) or fraud/mis-selling (carbon credits).
- Market-wide data sets including causes of claims would help underwriters understand conditions leading to claims.
- This knowledge would allow underwriters to work with clients to mitigate the known risks and therefore ensure cover remains available.

Claims due to greenwashing:

- Underwriters need to ask relevant questions about how clients manage their approach to being “green”. This would reduce the risk of insuring clients who are likely to be accused of greenwashing.
- We have yet to see Greenwashing exclusions. However, if litigation increases significantly, this could be a risk.
- Robust disclosure requirements would mitigate the risks of greenwashing litigation as clients would be required to provide more evidence of their green credentials.

Rules and standards:

- The recent *Millieudefensie vs Royal Dutch Shell* landmark ruling in the Dutch courts held Shell to the principles of the Paris Agreement and human rights standards, on a forward looking basis.

This would suggest the growing need to consider those principles and standards more explicitly within risk assessment and underwriting decisions, recognising that different governments have yet to codify all of the rules and standards into law.

This will require collaboration between governments, data providers, industry, financial services and market associations.

D&O professional coverage:

- In theory, the professional only has to be compliant with the standards in force at the time they delivered their service.
- However, we have seen professionals making representations as to the future suitability and/or compliance of any proposed solution.
- This practice can lead to claims from people challenging the practice. To mitigate claims and ensure cover remains available, professional associations could work with their members to reduce this practice.

Professional insurance:

- In the UK, many of the associations that represent the ‘regulated’ professions require their members to have mandated (minimum terms) coverage.
- This usually limits the extent to which Insurers can restrict/exclude coverage.
- This ultimately means (as is the case for us with architects) that Insurers may choose to avoid the profession altogether.
- Central bodies could work with professions to align mandated coverage with coverage insurers are able to provide.

### 2.1.2.3 Energy Insurance

- As well as increasingly writing and actively supporting wind, solar, hydro and biofuels assets, our Natural Resources Underwriting team is working with the Oil and Gas Authority to explore how best we can support and develop the Carbon Capture and Storage (CCS) market in the UK and around the world, given there are an abundance of worldwide depleted oil and gas wells that can potentially be used and that CCS will be a vital component of transition as we use the existing fossil fuel infrastructure to accelerate the efficiency of our energy supply through transition to net zero.
- Our Natural Resources Underwriting team has also been working closely with the University of Lancaster to better understand Battery technology and how the process to make hydrogen can be insured. In May 2022, we partnered with Altelium (an insurtech) firm to offer a high-capacity commercial battery storage and management product. Given the need to manage the peaks and troughs of energy demand with intermittent renewable energy sources, this presents a huge opportunity for MS AUL to support fair transition to net zero.

### 2.1.2.4 Political Risks Insurance – Project Finance insurance for renewables:

- These projects often have a tenure of up to 30 years and clients are looking for project insurance rather than pure credit risk.
- The need for project insurance with long tenures requires a shift in underwriting approach where shorter policy periods are currently the norm.

### 2.1.2.5 Product Recall Insurance

Insurance opportunities include:

- Automotive recall coverage e.g. lithium-ion batteries or software.
- Product contamination coverage in the production of plant-based products.
- Renewable Energy Installation Components e.g. Solar panels and components for wind turbines.

We are conscious of the impact of Right to Repair legislation, and its implications on insurance products:

- As more legislation is introduced aimed at reducing waste, the market will have to evaluate how policies may or may not respond.
- Policy wordings will need to be amended to ensure coverage is aligned with new legislation.

### 2.1.3 Investments

MS AUL's investments portfolio is a diversified multi-asset multi-manager mandate, appointing external managers to implement security selection and covering asset types including:

- Equities: Global active long-only strategies; 13.2% assets under management (AUM)
- Cash and Cash Equivalents: Wide and highly liquid opportunity set; 13.7%
- Traditional Fixed Income: Government and Corporate Bond strategies; 63.6% AUM
- Real assets: Property, Infrastructure and Farmland; 9.5% AUM

The total assets under management of the MS AUL portfolio is approximately £2.19bn. The external managers within the investment portfolio all typically have global mandates but with a focus in the developed world (in particular the G10). We have defined:

- Short term as 0-5yrs, where our immediate focus is on listed securities (equity and credit), where total returns will be reflective of immediate risks or opportunities from climate related factors (emissions, coal, low-carbon technology)
- Medium term – defined as 5-20yrs. Here, MS AUL focuses on allocation to real assets which include Property, Farmland and Infrastructure investments (renewable energy)
- Long term – defined as 20yrs+. MS AUL focus efforts on identifying long term shifts and trends, more likely characterised through broader government securities and associated yield movements (carbon neutral targets, green bonds)

#### 2.1.3.1 Strategy and governance

MS AUL has adopted the following Responsible Investment Philosophy:

- We believe that a binary approach of divesting is short sighted as it would do little to directly reduce real-world emissions in the long run.
- We are committed to working with our Investment Managers to consider what sustainability factors to include in MS AUL's investment strategy
- We consider the processes in place to support decision making in relation to sustainability integration into investments are sufficient and appropriate
- All our investment managers are current or prospective UN Principles for Responsible Investment signatories. The

majority attest on a regular basis that they incorporate ESG factors and sustainability into their investment processes.

We are focused on ensuring ESG considerations are integrated within asset selection, via third party mandates, as we believe that this is closely correlated with driving increased alpha.

Management information that is produced for the Investment Governance and Sustainability Committees shows breakdowns of the largest ESG contributors of the portfolio by asset type, industry sector, country and currency of investment. The top three sectors that we are exposed to by weighted average ESG contribution (taking into account assets under management as a percentage of the total fund) are:

- Aerospace / Defence;
- Auto Manufacturers; and
- Transportation

#### 2.1.3.2 Stewardship and voting

The majority of our external managers are signatories to the UN PRI and attest on a regular basis that they incorporate ESG factors and sustainability into their investment processes. Consequently, we would broadly expect to have a lower than average allocation to any likely ESG risk impacted sectors of the economy.

As long term investors focusing on asset allocation, MS AUL is aware of the importance of stewardship and sustainability alongside integrating ESG into our governance structure, which involves the inclusion of ESG factors into investment analysis.

Whilst MS AUL has a holistic approach to investing, it actively engages with external managers encouraging disclosures detailing their ESG activities and assessments of climate risks when choosing their investment strategy, which is monitored on a regular basis via annual and investment stewardship reports. There has been increasingly more information provided by MS AUL's external managers, compared to previous years, on the extent to which ESG factors (and specifically climate risk) are integrated into their investment strategies. This is an area we continue to promote.

MS AUL's external managers believe that sustainable investing is synonymous with good fund management practice and that strategies incorporate changes in consumer views, investors' expectations and economic trends which all tend towards a more climate-aware and sustainable world (i.e. renewable energy, zero-carbon economy). MS AUL's ultimate parent company, MS&AD Insurance Group, is also a UNPRI signatory.

#### 2.1.3.3 ESG integration

MS AUL believes that the identification of these trends is crucial when considering its stance as a long term investor. There is a focus on data acquisition alongside investment impacts with regards to short/medium-term effects from distinct meteorological events (such as hurricanes). These events are also thought of in the context of medium/longer term increased frequency and intensity as much as their immediate impacts.

There is an initiative to acquire more detailed data and research in this area, with the view to integrating ESG into the front office portfolio monitoring architecture (leveraging our in-house expertise), promoting further use of climate risk and ESG factors into the investment process. The aim is to incorporate the analysis into the investment decision making process. This work builds on other regulatory submissions MS AUL has made (i.e., PRA General Insurance Stress Test (GIST)– see *Principle 2.2.2*).

MS AUL have partnered with Sustainalytics, a leading independent ESG data and research provider, to further strengthen our ESG data ecosystem. This has facilitated the inclusion of composite ESG risk scores in our fund and entity board reporting. We have also leveraged Bloomberg emissions data, as well as public emissions and GDP data from the World Bank, in the development of carbon intensity metrics which have also been included in all board reports.

MS AUL continues to engage positively when meeting the increasing supervisory expectations and regulatory submissions in the area of Climate Risk. We were active participants in the Bank of England CBES which greatly expanded upon our previous work with the inaugural Climate scenario in the PRA 2019 GIST.

Based on an initial assessment, and given the make-up of the portfolio, we intend to focus on the corporate bond portfolio (32% by value, 1314 securities) and use the Sustainalytics ESG tool to identify hotspots and guide conversations with third party asset managers.

#### 2.1.4 People and Operations

We have adopted the triple bottom line sustainability framework to help examine our social, environment, and economic impact. In doing so, we aim to minimise our negative impacts and maximise our positive impacts on People, Planet and Profit.

We believe that by expressing our positive contribution to society and the planet, we can attract, motivate and empower employees to be their best and drive innovation. We also believe that employee engagement will be critical and help employees to play their role in meeting MS AUL's sustainability commitments, which is aligned with our culture of inclusion. Indeed, employee wellbeing and ED&I is a key focus areas of our Sustainability Strategy.

Our leadership position and strong collaboration efforts for encouraging better climate disclosure and further research is further set out in *Principle 1.1, Principle 3.2.1, Principle 5.2 and Principle 6.2.1*.



## 2.2. Measure and disclose the implications of climate-related issues for business performance (including investments) and key stakeholders

### 2.2.1 Underwriting

We continue to review our products to make sure they are aligned with our Sustainability priorities. Catastrophe prone classes i.e. those, which are at risk from losses from damage caused by natural catastrophes (including hurricanes, floods, earthquakes and wildfire) are an obvious area of focus, and our Underwriting and Risk Modelling teams continue to quantify the potential impact of climate change through climate scenario analysis and the Realistic Disaster Scenarios (RDS) and business planning processes.

MS AUL has a well-established Exposure Management Framework, used to measure and manage natural catastrophe loss probability. This framework includes a rigorous process of exposure data capture and governance related to insurance and reinsurance policies issued by MS AUL, including controls mitigating risk due to lack of data and/or data quality issues. The portfolio of exposed policies is then modelled by country and peril, to estimate loss probabilities from events such as cyclones, windstorms, severe convective storms, earthquakes, floods, bushfire, and other hazards. The contribution of individual policies in key exposure classes is modelled prior to underwriter acceptance of risk.

Modelling is undertaken on a quarterly basis using: 1) externally supplied software (RMS, AIR, JBA, and RQE), licensed from firms staffed by scientific experts, and incorporating analysis of trends from hundreds of years of data on climate-related hazards; and 2) in-house expertise. The climate-related risks monitored in this way are windstorm, severe convective storm, wildfire, flood, storm surge, and tropical cyclone. The modelling assesses historic events, and models probabilistically extremes of events across relevant geographic regions. Climate variability can be incorporated into a model depending on the chosen event set, and the Risk Analytics Research Manager has continuous dialogue with the model vendors and other external scientific and research groups to consider the appropriate methodologies for understanding the potential change in parametrisation as climate science develops.

The models are tested for sensitivity, and stress tested against MS AUL's historic claims experience. With increasing focus from Regulators on climate change, scenario testing against models is becoming more critical in understanding the robustness of the assumptions used for the modelled perils.

MS AUL's Risk Analytics function produce a range of metrics to assess cat exposures ranging from the 1 in 30 to the 1 in 200 annual exceedance probability TVaR. These are tracked quarterly and monitored against tolerances used to manage the level of risk authorised by the Board. Understanding potential losses at the tail is imperative for a heavily catastrophe-exposed Syndicate such as MS AUL, hence work is underway to further improve our understanding of the impact of climate change at the tail.

In respect of disclosure, the Exposure Management Framework is used to produce regular updates for committees, boards, and regulators, to monitor changes in the catastrophe risk profile of the business.

In the spirit of bringing together the scientific approaches and blending them with the process of Underwriting, we are continually focussed on the practical applicability of catastrophe and climate driven models, exploring and understanding the limitations of the approaches adopted and models used and evolving existing, established processes so we can better understand, measure and assess the impact of climate risk on our business. To help guide this work, we have adopted the following Sustainable Underwriting Philosophy for MS AUL, against which Underwriters can measure and manage priority climate-related risks and opportunities, alongside the data driven modelled approaches:

Sustainability is a priority area for MS AUL. We are well placed to support, influence and enable our clients through transition by drawing on our deep underwriting expertise.

- We feel net zero 2050 is more likely to be achieved in an affordable, equitable and rational way through decarbonisation of the existing global fossil fuel infrastructure whilst transitioning to more sustainable low carbon alternatives.
- We believe that it is responsible to continue to offer thoughtful capacity to materially affect a tangible reduction in greenhouse gas emissions.
- We are committed to the sectors that we specialise in and recognise that the world still needs oil and gas today; we are also aware that there are stark differences in the directions in which clients are currently headed.
- We believe in using our unique relationships with our clients and detailed knowledge of their businesses to promote and accelerate their net zero journeys so we can achieve our goal of net zero 2050.
- We will review clients transition plans and use our own and market available transition metrics to inform risk selection and pricing decisions and optimise our gross portfolio mix.

#### 2.2.1.1 Hotspot mapping in underwriting portfolio

We are mapping carbon intensity hotspots, broader ESG hotspots and examples of good practice (e.g. insuring: renewable energy assets; mining of rare earth, precious and other metals critical to electrification; COVID vaccine cargo; NGOs, charities and educational institutions; medical cover for refugees through the Affordable Care Act in the US) across the underwriting portfolio, on an insurance class-by-class basis. The outcomes of this work will capture the impacts of our assureds' activities on the real economy, with reference to the UNSDGs. This is aligned with the Climate transition measurement framework, noted below, and will help Underwriters to understand the Sustainability risks within their individual books of business. Over time, this will inform risk selection and pricing decisions, ultimately helping to shape and optimise our gross portfolio mix.

#### 2.2.1.2 Climate transition measurement framework

We consider that a binary approach of coming off risks is short sighted as it would do little to directly reduce real-world emissions in the long run. Instead, we will focus on supporting clients through transition. We are exploring the feasibility of adopting an entity level approach to estimating and reporting the GHG emission intensity of our underwriting portfolio,

based on a client's total Scope 1 and Scope 2 emissions. We will then use a Weighted Average Carbon Intensity measure – a commonly adopted approach that is referenced by the TCFD – to consider the overall portfolio. The benefit of an entity level approach (as opposed to asset level) is availability of data, simplicity of application and ability to measure relative progress year-on-year. The outcomes of this work will strengthen our underwriting approach, by facilitating the measurement of our clients' net zero transition plans. This is closely aligned with the Lloyd's Feasibility Assessment initiative, which we are part of and is referenced in *Principle 5.2.4*, and will determine how our approach evolves over time, to be consistent with market best practice. We will use the joint outcomes of the above approaches to further assess the portfolio and set nearer term net zero (e.g. 2030) targets.

## 2.2.2 Investments

MS AUL Investments have built upon the climate scenarios developed by the Network for Greening the Financial System (NGFS) to form the basis for the development of a climate risk module that is being integrated into existing investment architecture and reporting. The module utilises the climate change impacts supplied for the climate risk section of the 2019 PRA GIST and is being enhanced using the analysis gleaned from our participation in the CBES.

The infrastructure includes a database as well as several proprietary in-house tools and dashboards that provide an overview at a legal entity level, asset class risk allocations alongside additional analysis. It is an area under continual development and more metrics will be available in the coming year. More recently we have expanded the analysis to illustrate climate risk on a country and sector allocation basis, which can now isolate individual holdings. The analysis also encompasses monthly historical trend analysis for the past three years.

The "No Action" scenario value is highlighted as a key climate risk metric to be monitored within our proprietary dashboards. This prudent, conservative "BAU" scenario reflects a failure to drive any worldwide improvements in climate policy, with the modelled result being a temperature increase in excess of 4°C (relative to pre-industrial levels) by 2100. The results of applying the other Paris/TGFS climate risk scenarios to our portfolios are also included in the dashboards along with further supporting climate metrics based on publicly available climate risk data and research from various sources. These additional metrics are typically given as exposure weighted absolute values.

The additional metrics include:

- **Country by country** climate risk vulnerability analysis based on the "Fragile Planet" climate research performed by HSBC. As well as a broad climate vulnerability score each country is assessed according to their likelihood to experience physical risk from climate change and their readiness to cope with it.
- **Water stress** metric calculated using data obtained from the World Resources Institute who publish yearly water usage figures as a percentage of the amount introduced into an individual countries water cycle. This is useful as a proxy measure of the ability of a country to deal with sudden drought conditions.

- **Coastal flood risk metric** calculated using data obtained from Climate Central (a non-profit organisation bridging the scientific community and the public). They provide an average displacement figure for each country per year in thousands of people. This provides a useful measure for the effects of rising sea levels.
- **River flood risk** analysed using data from the Deltares Aqueduct river flood model. This is also provided as a population affected figure for each country.
- **Wildfire risk** monitored using damage per country (in \$m) data obtained from the Centre for Research on Epidemiology of Disasters (CRED) "EM-DAT" database.
- **Carbon Emissions.** Calculated per country as a percentage of total global emissions.

In-house research continues not only into further supporting the development and enhancement of climate risk metrics suitable for inclusion into existing architecture, but also into how the existing data can be blended with additional economic and policy measures. This will allow our investment tools to reflect the climate risks facing companies and countries in our portfolios and their strategy in tackling them.

The Climate Risk data module (as part of the wider ESG data infrastructure) has provided a foundation for the development of the Investments team ESG policy. The policy sets out not just the processes used for our risk focused oversight of ESG (and our external managers implementation of ESG factors within their investment methodology) but our overall Sustainability philosophy. In that regard, the MS AUL Investments team believe the ESG and Climate metrics to be important for assessing whether the external managers are adhering to the agreed investment mandates, and regard ESG as a key pillar in the external manager review process alongside such factors as performance, compliance and risk. Their importance is reflected in their inclusion in all monthly and quarterly board/stakeholder ESG reporting.

As a rule of thumb, we do not envisage using ESG or Climate Risk scores as part of a tolerance-based exclusionary process – rather as a basis for communication, disclosure and engagement with our external managers that reflects their active engagement on ESG matters, and position as the first line of defence from an ESG risk perspective.

With disclosure in mind, the Investments team ESG policy contains clearly stated expectations of the level and frequency of submissions by our external managers on climate and ESG data, as well as wider ESG engagement. Firstly, we expect an annual disclosure addressing wider ESG policy. This should consist of (but is not limited to) the following:

- A statement of the broad company ESG Investment policy (including Stewardship policy).
- Confirmation of signature to UNPRI and date. In addition, the UNPRI Assessment results should be provided if available.
- Confirmation of signatures (and date) to any other significant worldwide sustainability organisations.
- Broad overview of ESG resourcing within the organisation including key personnel.

- Highlights of any internal company ESG initiatives.
- Summaries of any active engagements (including voting) with security issuers (this can include any not currently part of the portfolio).
- Summary of ESG related research, collaborations and partnerships.

Secondly, a quarterly submission focusing primarily on key ESG metrics and analysis. This should consist of (but is not limited to) the following:

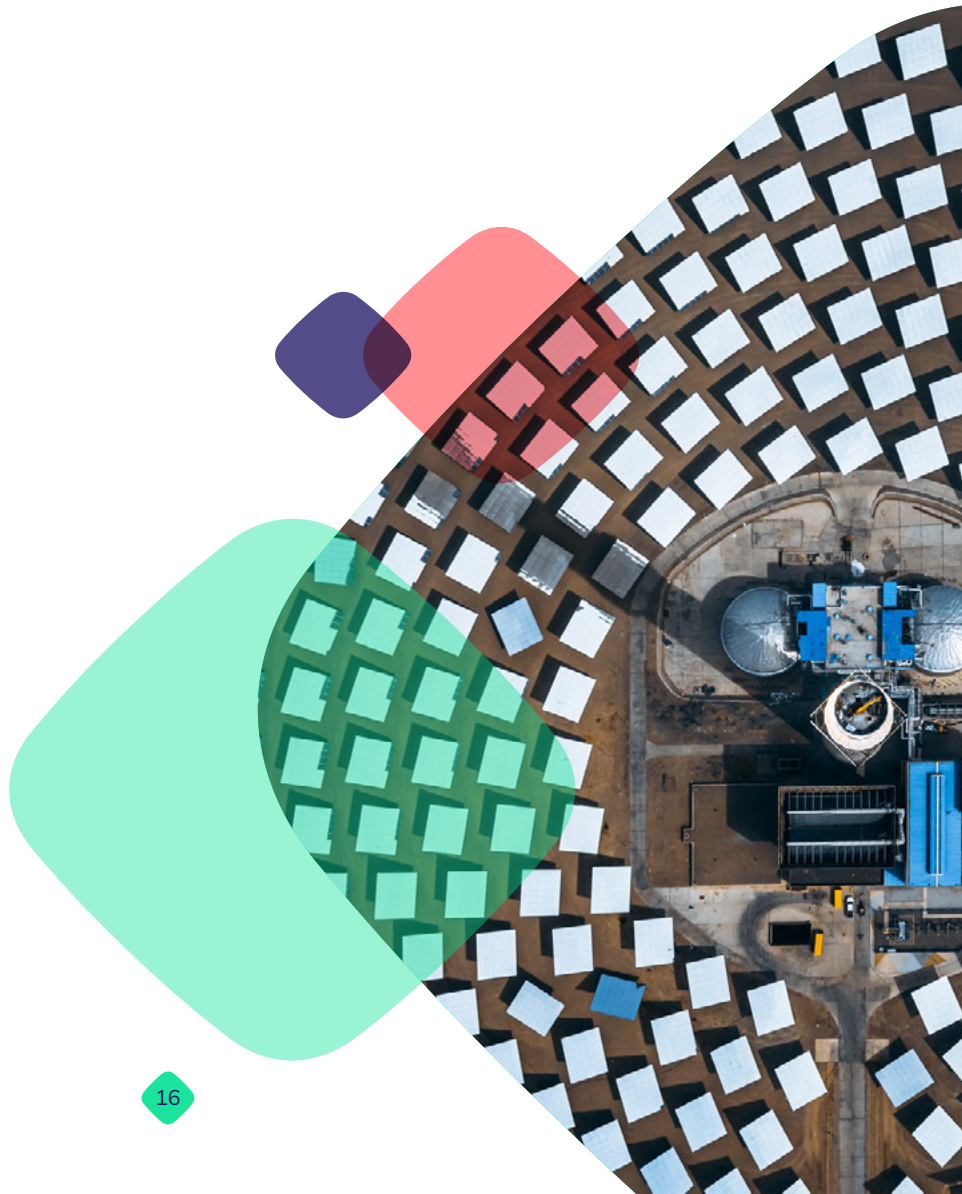
- A statement of ESG modelling methodology including data vendor (if any) and percentage data coverage of securities.
- Fund level overall ESG scores (Both composite and separate E, S and G scores). Any relevant benchmark scores should also be included.
- Top/Bottom ESG scores. The “worst” ESG scores should include both long positions in poor scoring ESG securities and short positions in good scoring ESG securities.
- Top/Bottom ESG contributors. As per the top/bottom ESG scores above.
- Fund level Climate Risk scores – Including at least carbon emissions metric e.g. Carbon Intensity.
- Top/Bottom Climate risk (Carbon) scores and contributors (As per top/bottom ESG scores).

The submissions are assessed, in combination with all other engagement with our external managers, and form part of the ESG pillar within our quarterly external manager review process. This process is a key foundation for portfolio allocation/deallocation decisions.

At present, climate-related metrics are not explicitly incorporated into the remuneration policies or investment mandates of the external managers that we invest in. With the data analysis and policy formation still in its infancy, MS AUL are not yet ready to prescribe associated performance and targets. Whilst it may be acceptable to set very high targets, they must not only be achievable, but also realistic. Once the data has been gathered and fully analysed, MS AUL will be much better placed to respond.

### 2.2.3 People and Operations

MS AUL’s CEO’s remuneration is linked to sustainability and climate targets, which form part of his annual objectives. Those are agreed with the Board and cascaded to Exco members.





## 2.3. Incorporate the material outcomes of climate risk scenarios into business (and investment) decision making

### 2.3.1 Climate change scenarios

MS AUL has developed a series of climate change scenarios in-line with the 2019 PRA GIST and 2021 CBES, and reviewed methodologies for applying these scenarios to our existing natural catastrophe modelling frameworks. For the latter, a working group comprising Risk Analytics, Risk Management, Investments, Underwriting, and Strategy (which include Sustainability and Communications) was set up to develop MS AUL's responses to the Bank of England. The CBES scenarios build on scenarios developed by the Network for Greening the Financial System (NGFS) – a network of 114 central banks and financial supervisors that aims to accelerate the scaling up of green finance and develop recommendations for central banks' role for climate change. The three scenarios (listed below) were used to quantify the potential impacts of climate change on Underwriting and Investment portfolios from a physical risk, transition risks and litigation risk perspective, and reflect varying responses to the Paris agreement targets:

- **Scenario A:** Sudden disorderly transition (Late Action). Temperature increase below 2° Celsius.
- **Scenario B:** Long-term orderly transition (Early Action). Temperature increase below 2° Celsius.
- **Scenario C:** Failed future improvements in climate policy (No Additional Action). Temperature increase in excess of 4°C.

In accordance with the PRA's Supervisory Statement SS3/19, the CBES scenarios will be appended to existing strategic class review and governance processes, to set underwriting guidelines and risk appetite, and be used as the basis for the development of the existing climate risk framework and infrastructure. We expect these scenarios to be further developed according to the findings from the CBES submission.

The physical risk figures were presented to Board. These included Scenario C (the potentially highest risk outcome) to illustrate the most extreme (upper percentile) outcomes. This enabled the risks of different courses of action on climate change to be communicated and understood most clearly.

The CRWG has been asked to consider what strategic foresight was gained from the CBES exercise, how we embed the aspects of CBES that are most relevant to MS AUL within existing Risk Modelling and investment analysis, and how this translates into meaningful and applicable risk appetite and tolerance metrics. The Climate Risk Working Group will also explore and understand the limitations to the scenarios and challenges to the model assumptions i.e. static balance sheet and not reflecting real world economic disruption (exposure change, population growth, trade war, oil prices, carbon prices, inflation, political considerations and governmental response, tipping point dynamics and mitigating actions such as flood defences). The aim is to take what's good from CBES and what is done already and then build on that, in order to work around existing model limitations and deliver on our committed actions to help to inform strategic planning and explore the resilience and vulnerabilities of MS AUL's business

model, against MS AUL's risk appetite/tolerance. Over the next 12-18 months CRWG will:

- Undertake a review of the 2021 CBES exercise including the lessons learnt, the strengths/weaknesses of the scenarios, usefulness to MS AUL.
- Define and implement a set of MS AUL short- and long-term climate change scenarios for physical, transition and liability risks. This will include a framework that includes time horizons, emission pathways, and business use case (e.g. pricing, vs strategy vs capital).
- Identify all existing climate related activities and responsibilities across the business. This will assist in the coordination of climate-related activities. It will also allow CRWG to undertake a gaps analysis and make recommendations to the sustainability committee.
- Work on existing business projects that require technical or scientific climate change expertise (e.g. climate change tolerances, risk appetite statement). For each of Transition, Physical and Litigation risk, setting out the following:
  - Risk Definition
  - Risk Appetite (statement)
  - Measurement techniques and limitations
  - Metrics / KRIs we have chosen to adopt and how they will be interpreted
  - Ownership and accountability of those risks in the business

### 2.3.2 Underwriting

The outcomes of the CBES scenario work are consistent with market outcomes, shared by the Bank of England during market wide feedback in May 2022; namely:

- Participants will likely to be able to bear the capital implications of transition that fall on them
- Petroleum manufacturing risks present the most transition risk impact for General Insurers
- D&O is most likely to pay out for liability risk (greenwashing, financing of GHG emissions, fiduciary breach)
- In the No Additional Action scenario, households / homeowners are most vulnerable to physical risk (higher insurance premiums / unavailability of insurance, which may lead to re-mortgage issues)

In the NAA ('NAA' refers to No Additional Action) scenario, we considered how our management actions would change to manage the physical risk if the 'negative liabilities impact' were to double. We concluded that we would pull the levers available to us more strongly and earlier. For a specific number of actions which are listed in figure 2.3 below, we have added commentary to set out what would change.

If the impact of negative liabilities were to double, we would have concerns over the availability and affordability of reinsurance capacity. In this scenario we would look carefully at what cost effective reinsurance cover was available and at the same time aggressively manage our gross exposures to

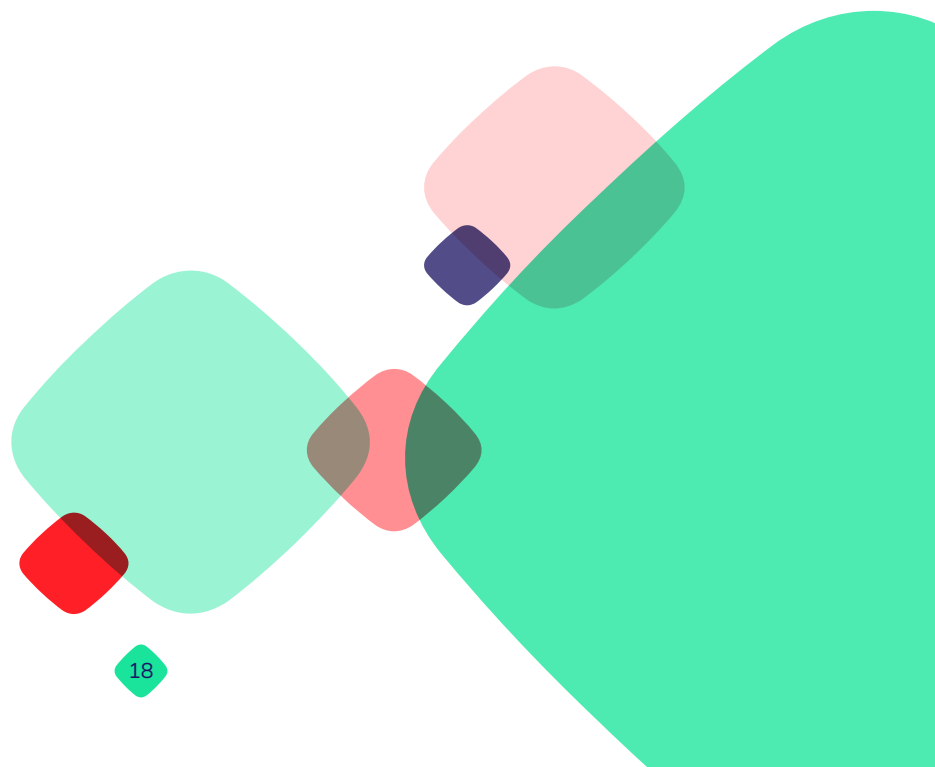
ensure that our net exposures remained within the MS AUL risk appetite as agreed with our parent company.

At the end of 2021, MS AUL adopted a new Model Completeness Framework (MCF), which is a systematic assessment per insured class of the representation of catastrophe risk in the capital model. This was operated in Q1 2022, and produced a number of recommendations for adjustments to catastrophe models. These adjustments were approved in June 2022 by the Model Governance Committee. The adjustments based on the outcome of the CBES scenario work are being deployed to all catastrophe-impacted classes

reflecting climate-related issues for the North Atlantic Hurricane peril, with uplifts for climate change and for tropical cyclone clustering, and for the US Inland Flood peril, with a reworked flood exceedance probability distribution. Further climate-related adjustments will be made in the next MCF cycle. Discussion continues in the Technical Pricing Steering Committee about the methodology and parameters required to embed scenarios into the existing Technical Pricing Framework, beyond the model adjustments adopted through the MCF.

<p><b>1. Reduce exposures to vulnerable sectors</b></p>	<p><b>Manage Gross Exposures</b> – in order to manage the additional volatility posed we would take more aggressive action to limit our monetary catastrophe risk appetite by territory, return period, class and specific clients. We would expect other carriers to take similar action and as a result pricing to increase as supply contracts.</p>
<p><b>2. Reinsure exposures</b></p>	<p><b>Manage Net Exposures</b> – we would take further action to manage the gross to net relationship by reviewing the structure of reinsurance protections to reflect both the higher frequency and volatility posed in this scenario. We would use our Internal Capital Model to assess the cost effectiveness of proposed reinsurance protections and assess using our specialist outwards reinsurance team. Ultimately this could involve purchasing additional reinsurance capacity either commercially or through the wider parent Group companies or indeed retaining more risk depending on pricing and capital requirements.</p>
<p><b>3. Other</b></p>	<p><b>Pricing</b> – we would further re-calibrate our technical pricing models to reflect the increased volatility in catastrophe areas in order to ensure our pricing builds in a sufficient allowance for the impacts of climate change.</p>

Figure 2.3: Management Actions



### 2.3.3 Investments

Transition risk analysis was performed on the fixed investments portfolio as of December 31 2020 with the contract details of all securities (issuer, coupon, duration etc.) assumed to remain constant.

A top-down approach has been taken to model the effects of the three CBES climate risk scenarios on the investment portfolio. Where possible, we have applied directly the variable paths provided to all participants by the BOE for use in the CBES activity. Where direct application is not available, we have extrapolated country level climate risk impacts on the investment portfolio from additional sources. We have then sought to adapt the country level climate impacts with sector level GVA output variations (where applicable) to account for the range of climate transition risks on different sectors of the economy. Finally, where deemed to both material and necessary, we have undertaken specific climate risk analysis of individual holdings.

Figure 2.4 below shows specific results from the application of the three climate scenarios and the counterfactual. The counterfactual represents the control against which the three climate change scenarios are assessed on a relative basis (i.e. if there was climate no change). The table shows the cumulative returns through time from applying the counterfactual and three climate scenarios to the portfolio.

	Counterfactual	Early Action	Late Action	No Action
Year 5	3.61%	2.93%	3.61%	1.86%
Year 10	6.46%	5.40%	6.46%	2.95%
Year 15	10.58%	7.05%	4.29%	3.94%
Year 20	15.01%	11.25%	8.27%	4.96%
Year 25	19.95%	15.69%	12.34%	6.23%
Year 30	24.94%	20.53%	17.09%	7.56%

Figure 2.4: Results from the application of the three climate scenarios and the counterfactual

We note a smooth and consistent return over the model period with an average annual portfolio return of between 0.56% and 0.97%. This is consistent with the current expected return of the portfolio which is 0.93%.

The Early Action (EA) climate scenario results show a slight but consistent underperformance compared to the counterfactual scenario throughout the model time period. The average annual portfolio return varies between 0.33% and 0.95%. Given that the Early Action scenario is the most positive growth-wise of the scenarios (given the smooth climate transition projected) this is entirely expected.

It can be seen clearly that the cumulative return of the portfolio in the Late Action (LA) scenario is greater than in the Early Action scenario up to Year 10. However, the impact of the sudden climate transition shift can also be seen in the portfolio drawdown up to year 15 (with an average annual return of -0.44%) from which, despite a relative recovery, the cumulative return remains below that of the Early Action scenario through to the end of the model period.

In the No Additional Action scenario, the cumulative portfolio return remains significantly below that of the Early and Late Action scenarios throughout the model period. The average annual portfolio return varies between 0.20% and 0.37%.

Figure 2.5 below shows the climate risk module in one of our investment management tools, which illustrates the climate stress figures from the Paris scenarios (and other supporting climate risk metrics) applied to our equity fund as of 1 June 2022.



Figure 2.5: Management tool screenshot

Figure 2.6 below shows the management tool presenting a time series showing the changing impact of the “No Action” scenario:

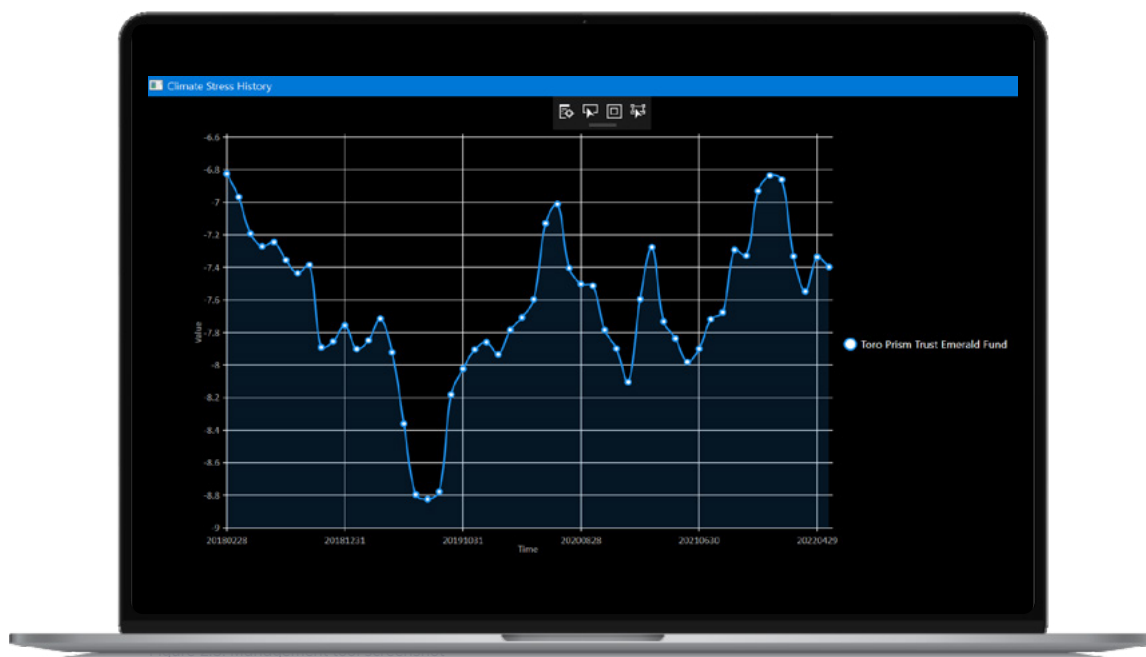


Figure 2.6: Management tool screenshot presenting a time series of the changing impacts

**Principle 3:**  
Lead in the  
identification,  
understanding  
and management  
of climate risk



# Principle 3: Lead in the identification, understanding and management of climate risk

## 3.1 Ensure processes for identifying, assessing and managing climate-related risks and opportunities are integrated within the organisation (including investments).

### 3.1.1 Risk Management

MS AUL has embedded a company-wide Risk Management Framework (RMF) to support the identification, assessment and management of internal and external risks to which the company is exposed. The RMF provides the infrastructure to facilitate the ownership of risk at the highest level within the organisation and supports the ability of MS AUL to achieve its strategic objectives whilst ensuring the sustainability of the company. The RMF has a number of key elements:

- Robust governance and oversight provided by the MS AUL Board, Risk and Solvency Committee, the MS AUL Executive and other fora to support the identification and management of specific areas of risk
- Risk policies and standards
- Risk appetites and tolerances
- Risk identification and assessment process
- Internal controls
- Risk reporting

The Risk function is responsible for overseeing the effectiveness of the RMF and updating as necessary to respond to changes in the MS AUL risk profile, to ensure that current, new and emerging risks are identified, monitored and mitigated (where possible). Regular discussions are held between first-line functions and Risk Management to support the identification and consideration of potential emerging threats, including those related to climate developments and MS AUL operates risk management controls through the “three lines of defence” model.

Decisions that materially change the risk profile of the business require a formal risk opinion or deep dive. These provide an independent and objective opinion to the MS AUL Board and or Risk and Solvency Committee as to whether the Risk Function supports approval of the change. Deep dives are proactive whereas a risk opinion is similar in outcome, but is a reactive process that considers the embedding of a process, system or significant change. Individual risks have a Board level owner and senior level risk manager accountable for oversight and business decisions. The Risk function continues to support Risk Owners in identifying suitable controls to mitigate changes to the risk profile and where control gaps exist, recommend remediation.

### 3.1.2 Climate Risk

With such a rapidly evolving topic as climate risk, the influence of regulators in ensuring the embedding of the necessary governance oversight and data architecture is very important, and welcomed by MS AUL. Since our last climate wise submission, we partnered with a specialist external firm to conduct a climate risk review, which:

- Reviewed compliance with PRA SS 3/19 and Climate Wise Principles and delivered an overarching climate risk management strategy statement (climate statement)
- Aligned the climate statement with existing risk appetite and exposure management frameworks
- Set out steps for embedding climate risk within the RMF. For each PRA risk category (Insurance, Market, Strategic, Operational, Credit and Liquidity), we considered identification, assessment, appetite setting, control, monitoring and disclosure, and Exco accountability
- Analysed how climate related risks would impact MS AUL's balance sheet and Risk Register. For the latter, we identified the steps required to manage Physical (P), Transitional (T) and Liability (L) risks across the existing Risk Register
- Assessed and classified each risk register risk as either high, medium or low, and identified risk owners to take ownership and accountability for the impacts across their respective Risk Categories.
- Created a detailed plan of activities required to achieve SS3/19 compliance and CBES submission, and series of detailed recommendations covering governance, risk management and scenario analysis

Through MS AUL's Own Risk and Solvency Assessment (ORSA) process and through discussion at the Sustainability Committee (see *Principle 1.2.2*) at which Risk Management is a standing agenda item, we have identified climate change as a significant risk for MS AUL. The Risk team continue to engage the business to consider climate risk through the ongoing and regular risk assessment and emerging risk processes. All risk types are considered and any drivers related to climate change analysed. Sustainability has been explicitly included in the risk register, which also considers the impact of climate change and incorporates climate risk where not covered within other risk types.

In parallel, the Risk Management function has considered Sustainability, and specifically climate change in relation to a deep dive and risk opinion for investment management and underwriting business planning respectively. Sustainability and climate change are considered and included in the scope of independent external risk reviews where relevant to ensure MS AUL is in line with the market and continues to ensure best practice. A member of the Risk Management function has been assigned responsibility for Sustainability related matters from a risk perspective and attends the Sustainability Committee, providing both second line oversight and supporting workstream delivery when needed.

### 3.1.3 Climate Scenario Analysis

We use Climate Scenario Analysis (CSA) to assess the financial risk impacts of climate change on our balance sheet, providing an indication of our position under severe, yet plausible scenarios and stressors. However, as much as we are and should be guided by science when it comes to climate change, we believe that fair transition requires a combination of art and science; which is why CSA is used to:

1. Deal with uncertainty and consider how the future might conceivably develop
2. Analyse how today's decisions may play out in the future
3. Build consensus by rationalising decision making
4. Facilitate in the mitigation of risks (especially if risks not well understood)
5. Understand alternate pathways and, in doing so, becomes a key strategic tool
6. Assess organisational resilience is to potential disruptions and the extent to which it can adapt
7. Calibrate and evaluate regulatory policies thereby helping to shape impending regulation

Given that CSA is a relatively new development with no defined market standard, the ongoing work focuses on:

- What scenarios to use; where climate-related risks and opportunities depend on factors such as geography and geographic location of our value chain, type of assets and nature of operations.
- What assumptions to make about the future, which aren't necessarily informed by the past; CSA considers up to 30 year timescales so the appropriate discount rates to use are a factor.
- Availability of consistent and granular data e.g. location, Scope 1, 2 and 3, asset, activity; although there is an abundance of proxy data
- What modelling approaches to adopt; whilst established modelling techniques are broadly applicable, existing models tend to assume consistent policy responses; and fail to reflect risk correlations, tipping points and secondary effects.

This work has informed and been informed by our CBES submission to the Bank of England, which is covered in *Principle 2.3.1*.

Scenario testing is undertaken on an annual basis, with scenarios reviewed to ensure they remain relevant and reflective of the wider external landscape. MS AUL has a scenario based on potential risk profile impacts from climate change, that considers an increased frequency of hurricanes and wildfires. At the time of writing, Risk Management are considering additional new scenarios to include within the scenario testing suite (*See Principle 2.3.1*).

### 3.1.4 Climate Risks Working Group

Given climate change is a key driver of risk across MS AUL, during 2022 we established a Climate Risk Working Group (CRWG) which will be a sub-group of the Sustainability

Committee. The objective of the CRWG is to coordinate climate risk activities across the business, ensuring there is a consistent and unified approach, for example, in developing scenarios and setting tolerances.

A coordinated and consistent approach will allow the business to develop a strategic plan for climate-related risks and explore the resilience and vulnerabilities of MS AUL's business model, against MS AUL's overall business strategy and risk appetite. It will also place the business in good stead to respond to future regulatory demands, and identify new opportunities that may arise as the climate changes. The CRWG will:

- Be responsible for the definition and implementation of short- and long-term climate change scenarios that will be used across the business (e.g. regulatory submissions, business strategy, reporting).
- Use the scenario analysis results to provide insights and recommendations to the business on climate-related resilience, vulnerabilities and opportunities.
- Provide technical climate change expertise to the business. This will include the review of 3rd party models, tools and data, as well as setting the scientific standards of MS AUL climate risk activities.
- Work with the business as required where technical or scientific expertise is required (e.g. setting climate-related tolerances and other risk metrics, pricing, capital).
- Undertake horizon scanning to systematically examine and alert to business to new and future regulatory, scientific, and business developments related to physical, transition and liability risk.

### 3.1.5 Risk Analytics

MS AUL licenses a number of sophisticated natural catastrophe risk models for a range of different region and perils, and the output from these models is used to assess the risk from the annualised climate-related perils to the insurance portfolio. As part of MS AUL's quarterly reporting, the most significant modelled perils and regions are ranked based on materiality. The materiality ranking is one of the ways MS AUL identifies the climate-related risks that are most relevant to the business.

MS AUL employs a 'fit for purpose' framework to decide whether a model needs to be reviewed and a number of areas are considered within this framework:

- A review of the current external validation of a model is undertaken following a model version change. The extent of the validation will be based on proportionality of the model upgrade and the materiality of the peril/ region to MS AUL.
- If the materiality of a region/ peril significantly increases for MS AUL as result of a changing portfolio (increasing exposures, riskier business etc.), a review of the catastrophe model external validation should be undertaken.
- Re-validation of a model should occur if a natural catastrophe event for that peril/ region featured significant 'loss-causing factors' which are beyond the current model's scope.

- A review of MS AUL's use and acceptance of a model will be triggered if expectation of the materiality of a peril/ region fundamentally changes following post-event analysis.
- Academic consensus is contrary to any of the vendor's model assumptions or there is significant challenge from the scientific/ academic community to the current catastrophe model, a review of the external validation will be triggered.

MS AUL's proprietary portfolio simulation model allows the flexibility of adjusting the frequency of events to align with current understanding of climate-risk and establish MS AUL's own view of risk. MS AUL's participation in the PRA's CBES exercise (*Principle 2.3.1*) helped to assess the method for embedding scenarios. Outcomes from the scenarios have been used to inform parameterisation changes to the model going forward, through the operation of the Model Completeness Framework as described earlier. The ability to make adjustments to its own view of risk allows MS AUL to react independently to external changes in current and future understanding of climate risk, rather than waiting for a third-party's model version change.

MS AUL's natural catastrophe modelling resource and processes are graded as "Established" under the Lloyd's Catastrophe Risk Operational Framework ranking, which is the second highest ranking, and reflects the maturity of the embedding of the resource and processes into all relevant aspects of the business and its management.

### 3.1.6 Investments

We found the PRA GIST (*Principle 2.2.2*) Climate Scenario useful in beginning to shape our research and technical infrastructure capabilities and we've used the CBES scenarios to enhance the scenarios that we're monitoring in our Investment dashboards.

Although our Investments team took accountability got the Assets section of the CBES submission, the CBES submission as a whole proved to be an opportunity for the various departments within MS AUL to collaborate and formulate an integrated response, including any broad climate modelling assumptions.

Climate risk data is an important part of our regular Sustainability Committee reporting, and a key element to our external manager ESG oversight. At present our external managers place their emphasis on metrics such as ESG scoring and Carbon Intensity rather than scenario analysis. This focus feeds through to our quarterly manager reviews which form the basis of our allocation/deallocation decisions. The limitations of the scenarios (many of which we raised as part of our CBES submission) mean that our ESG approach will continue to be metric rather than scenario led for now.



## 3.2 Support and undertake research and development to inform current business strategies (including investments) on adapting to and mitigating climate-related issues.

### 3.2.1 Risk Analytics

The MS AUL Risk Analytics team is engaged with the MS&AD group research company, InterRisk, in their project with Jupiter Intelligence to produce localised climate change impact data for use in risk planning, for strategic and underwriting purposes. Jupiter Intelligence (<https://jupiterintel.com>) is part-funded by MS&AD Venture Capital and is one of the leading climate risk analysis companies working across many sectors.

InterRisk has also carried out a collaborative project with Tokyo University, to produce a global flood map designed to analyse and display the changing frequency of flood events globally as impacted by climate change. This web-based map is open source.

MS AUL undertook research into climate change scenarios for use in the PRA 2021 CBES exercise. The Research Manager who lead this project is a glaciologist and has previously worked at post-doctoral level in climate change projects at Oxford University.

The MS AUL Research team is publishing in 2022 a chapter in a book, titled Hurricane Risk in a Changing Climate, which is also sponsored by MS AUL and the modelling firm RMS. The book relates to presentations made at the second symposium with the same title, held in Miami in June 2022, for which the organizing committee contains several of the world's leading meteorologists and climate scientists. The main objective of the symposium series is to support communication among scientists, engineers, and insurers in order to increase understanding of and better ways to deal with tropical cyclone risks, and this objective will be continued with the book publication.

The MS AUL chapter is titled "Downwards Counterfactual Analysis in Insurance Tropical Cyclone Models: a Miami case study", and this looks at new techniques to explore historic events in "worse-case" mode for better risk management and business planning. MS AUL also participated on the poster judging panel at the symposium, and sponsored the Early-Career presentation award given to Dr Yi-Jie Zhu for a poster titled "Recent Rebounding of the post-landfall hurricane wind decay period over the continental United States".

MS AUL is a member of the ClimateWise Net Zero Underwriting Task group, which has the objective to investigate the suitability of vendor tools to support the achievement of net zero underwriting. The Task group produced a report on its findings which was published around COP26.

In conjunction with the Lighthill Risk Network, MS AUL is sponsoring two research projects to provide data to support business strategies:

1. Tom Philp: A Decision Theoretic Framework for writing Intra-Annual Reinsurance Backup Covers: A NAHU Test Case.
2. Steve Jewson: Converting the Knutson et al. (2020) Tropical Cyclone Climate Change Projections to a Format the Insurance Industry Can Use.

These projects are due to complete in 2022, and are both intended to produce data which can be directly applied to modelling, risk frameworks, and business planning.

MS AUL has commissioned a set of deliverables from Reask, an extreme weather risk advisory, forecasting, and modelling company. These deliverables are datasets for tropical cyclones in the north Atlantic basin, based on ERA-5 reanalysis of the period 1980-2019. Each year in the period is sampled multiple times to produce 20,000 years of ERA-5-driven stochastic activity. The metrics produced in the first set of deliverables cover basin-wide genesis, regional genesis, US landfall rate, regional landfall rate, and will also be calculated for sub-set periods to explore decadal variability, AMO phase, ENSO phase, and hurricane drought. The second set of deliverables positions the observed historic risk in the wider distribution of modelled climates for the same period, using the [Community Earth System Model](#) (CESM) Large Ensembles (LENS) project output. CESM is a fully-coupled, community, global climate model that provides state-of-the-art computer simulations of the Earth's past, present, and future climate states. The 40 CESM LENS members are sampled hundreds of times to force the initial Unified Tropical Cyclone model. These metrics will enable a calibration of vendor catastrophe models for North Atlantic hurricane to allow climate signals within the models to be verified, and to make further refinement of the climate scenarios used to adjust the models via the Model Completeness Framework.

### 3.2.2 Employee Engagement

Research to help MS AUL understand the views and opinions of our people was conducted before the final selection and Board approval of our priority UNSDG's. A series of employee workshops, facilitated by the Head of Sustainability and ESG, took place to identify what issues our people care most strongly about and where they felt MS AUL's business can be most impactful. This approach has led to greater engagement from our people for the chosen priorities and influenced the outcome of business decisions determining our future strategy and approaches.

### 3.2.3 Investments

Within the Investments team at MS AUL there is an on-going initiative to obtain and assimilate alternative datasets to inform and enhance the investment process. Due to various resource constraints, this generally consists of utilising free, publicly available research and data. Climate risk data has been an important recent addition in this area as part of our wider ESG data initiative. We will continue to monitor and evaluate all 3rd party ESG/Climate data providers.

MS AUL has obtained datasets and research from various sources including the World Resources Institute, HSBC, Climate Central and CRED. The team is in the process of integrating them into the governance framework and investment decision making process. In addition, MS Amin is also working with our custodian to further develop our understanding of the full climate risk research landscape and data market place.

One of the main data challenges that MS AUL has faced, is whilst it is possible to obtain country-level data reasonably readily for a wide variety of metrics, it has proven to be considerably more challenging (and costly) to obtain company specific data. There is also a need to overlay the raw climate risk data with appropriate economic data and other measures that permit critical analysis of a company or countries ability to respond to the risks and opportunities of climate change. Extensive resources are needed to discern the broad forward-looking individual climate risk strategies of the full investment universe of worldwide entities.

Principle 4:  
**Reduce the  
environmental  
impact of  
our business**



# Principle 4: Reduce the environmental impact of our business

## 4.1 Encourage our suppliers to improve the environmental sustainability of their products and services, and understand the implications these have on our business.

**4.1.1** MS AUL aims to work with suppliers that have sound environmental principals and in 2021 enhanced its procurement policy, standards and processes to develop that aim. The MS AUL Procurement Policy and Standard contains requirements to include environmental considerations when selecting suppliers to provide goods and services. MS AUL continues to enhanced the due diligence process to consider environmental issues in tender activities and review material supplier's environmental statements and policies to ensure they align to expectations.

**4.1.2** Our Procurement team has a supplier code of conduct which is put in place with important suppliers as they are on-boarded into the organisation. The code of conduct includes a statement on Environmental Standards requiring suppliers to comply with applicable laws and regulations.

**4.1.3** Our supplier due diligence process includes questions about a supplier's compliance with environmental laws and regulations and a review of supplier's environmental policy. Should this due diligence highlight any concerns, We would address these with the supplier with a view to resolving or potentially selecting an alternative supplier.

## 4.2 Disclose our Scope 1 and Scope 2 GHG emissions and Scope 3 GHG emissions using a globally recognised standard.

### 4.2.1 Defining Our GHG Emissions

- **Scope 1 emissions** – Direct emissions from company-owned or operated facilities and vehicles
- **Scope 2 emissions** – Indirect emissions from the consumption of purchased energy
- **Scope 3 emissions** – All other indirect emissions within our value chain

For the purposes of this report, our Scope 3 emissions have been calculated on an operational emissions perspective; this means that they do not include emissions from our Underwriting or Investment activities. Emissions from Underwriting and Investment activities are in the process of being calculated, in line with developing market practice and evolving Standards i.e. Partnership for Carbon Accounting Financials (PCAF) methodology and Lloyd's Carbon Measurement tool. For the latter, and at the time this report was being written, we are participating in a feasibility assessment that is being undertaken by Lloyd's. This approach is consistent with our competitors, given an agreed standard for measuring Scope 3 Underwriting emissions has yet to be defined and adopted across the market. The majority of our operational emissions are from our property estate, which includes:

- MS Amlin-UK (London)
- MS Amlin-UK (Chelmsford)
- MS Amlin-UK (Glasgow)
- MS Amlin-UK (West Malling)
- MS Amlin-Malaysia (Kuala Lumpur)
- MS Amlin Singapore
- MS Amlin UAE (Dubai)

Responsibly managing the environmental impact of our global office portfolio is a key priority for the Operations team. MS Amlin's headquarters are in the Leadenhall Building in London. A variety of environmental factors were taken into account with the design, construction and running of the building. Offices are protected from direct sunlight by solar-responsive venetian blinds, low-flow water fittings are used throughout the building, and a total of 293 meters have been installed to monitor energy usage. All timber used for the construction was from FSC-certified sustainable sources and the developer claims that 97% construction waste was recycled. As a result of these efforts, the building has received a BREEAM excellent sustainability rating.

MS AUL is required by UK Law to report on its GHG emissions and energy consumption, under the Companies (Directors' Report) and Limited Liability Partnerships (Energy and Carbon Report) Regulations 2018 and the UK Streamlined Energy & Carbon Reporting (SECR) regulations 2019.

We have used the emission factors released by The UK Government's Department for Business, Energy & Industrial Strategy (BEIS) in June 2021 to report on the 2021 carbon footprint. For non-UK sourced electricity, the Group uses the 'International Energy Association Emission Factors 2021' to provide geography specific carbon intensities for international electricity and gas networks.

Where possible actual data (Tier 1) has been used, for the KPI's being reported on. However, there is a large reliance on landlords or head lessors to supply the data. In some cases, data either cannot be supplied, or is deemed unreliable as it cannot be verified to an original source. In such instances, estimation techniques have been applied:

- Tier 2: Where current month/period data is not available, we use the same data for the corresponding month of the previous reporting period. (i.e., March 2021 data for March 2022) OR, where this is not available from

the previous year due to similar data gaps the missing months will be extrapolated from Tier 1 data this is available for the reporting year.

- Tier 3: Use a proxy benchmark figure for the building's utility/activity data, drawn from a building of similar floor space, FTE employees or region in our portfolio OR utilise industry benchmarks for electricity, gas, water, waste, paper etc; for example, London TLB and Chelmsford are multiple entity offices. Hence, attribution to MS AUL is based on desk space allocation within these offices to MS AUL (Chelmsford – 47.85% and TLB – 68.03%).

Where data could only be supplied for the whole building, it has been apportioned according to the proportion of the floor area we occupy.

2021 disclosure is the third continuous year of reporting as per the UK SECR regulations, after 2019 and 2020. During the period 1st January to 31st December 2021, MS AUL's total Scope 1, 2 and 3 emissions were **825 MT CO2**. Of this:

- Scope 1 emissions (direct emissions from the combustion of fuels and through fugitive emission releases from the portfolio) equated to **243 MT CO2** (about 30% of overall emissions)
- Scope 2 emissions (electricity purchased for our own use) equated to **321 MT CO2** on a location-based approach and 71 MT CO2 on a market-based approach (location-based Scope 2 emissions about 39% of overall emissions)
- Scope 3 emissions from our business travel, hotel stays, employee commuting, waste and water amounted to **260 MT CO2** (about 31% of overall emissions)

The graph below indicates the emissions categories included in the Scope 1, 2 and 3 carbon emissions and our performance during the reporting year.

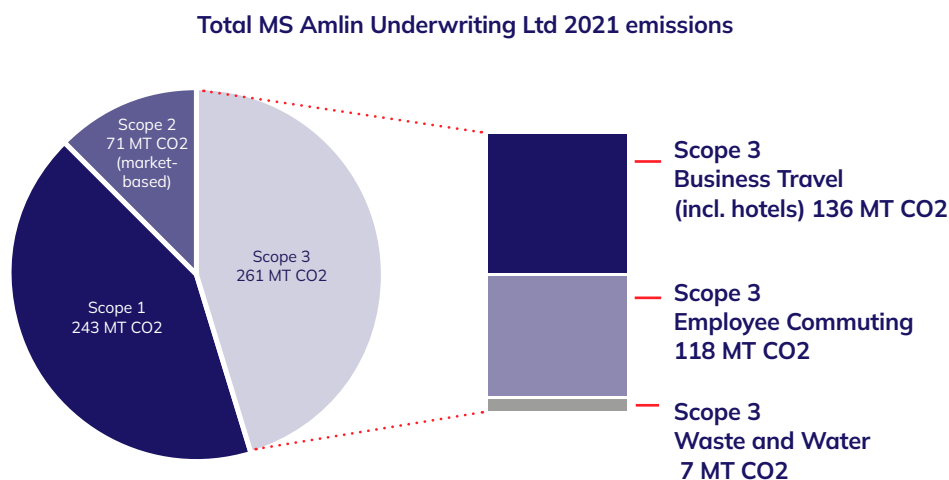


Figure 4.1 2021 emissions

MS AUL's comparison with previous years is shown in Figure 4.2 below. Year-on-year (YoY) change is reported. However, it is recognised that these CO2 emissions have been significantly impacted by the COVID-19 pandemic and enforced changes to working patterns. Nonetheless YoY change is reported for transparency whilst recognising that this is not currently an ideal metric.

Scope	Source	2021 - AUL	2020 - AUL	YoY	2019 - AUL
		(MT CO2e)	(MT CO2e)		(MT CO2e)
Scope 1	Gas	187.54	93.42	101%	93.09
Scope 1	Refrigerant Gas	55.77	17.62	216%	17.62
Scope 2	Electricity (market based)	70.86	29.13	143%	No data
Scope 2	Electricity (location based)	320.99	204.74	57%	301.31
Scope 3	Business Travel - Air	130.27	132.83	-2%	321.91
	Business Travel - Other	1.29	142.75	-99%	727.56
	Employee Commuting	117.94	153.84	-23%	173.76
	Hotel Stays	4.00	3.43	17%	487.08
	Waste	5.08	0.22	2228%	4.08
	Water	1.73	0.90	93%	1.54
Employee Headcount - FTE		654.00	484.00	35%	484.00
Floor Area – m2		11,383.32	6422.74	77%	6422.74
Scope 1 and 2 Location-Based		564.30	315.79	79%	412.02
Scope 1 and 2 intensity FTE/CO2e		0.86	0.65	32%	0.85
Scope 1 and 2 intensity m2/CO2e		0.05	0.05	1%	0.06
Scope 1, 2 and 3 Location-Based		824.61	749.76	10%	2127.95
Scope 1, 2 and 3 intensity FTE/CO2e		1.26	1.55	-19%	4.40
Scope 1, 2 and 3 intensity m2/CO2e		0.07	0.12	-38%	0.33
Energy use from combustion of gas and other fuels (kWh)		963,680.27	508,069.54	90%	504,725.40
Energy use from consumption of electricity purchased for own use (kWh)		1,436,268.37	873,907.75	64%	1,151,990.26
Energy use from business travel (kWh)		153,132.62	No data	-	No data

Figure 4.2: MS AUL historical carbon emission performance – absolute and intensity metrics



## 4.2.2 Trend Analysis

- MS AUL's data for 2021 is based on actual occupancy of office space and is the first full year of recording data for specific legal entities since a change in organisational structure.
- The data shown for 2019 and 2020 allocations is an indicative estimate of occupancy applied to the original MS AUL PLC submissions for both years, this makes it difficult to comment on any trends at an MS AUL level only.
- When all legal entities are combined MS AUL can display year on year reductions across scope 1, 2 and 3 (see Figure 4.3).
- Market based electrical emissions (scope 2) are based on the net position after renewable energy has been discounted. Whilst this have gone up so have the number of MS AUL locations purchasing renewable energy which now include TLB and Chelmsford UK, Dubai, Malaysia and Singapore offices.
- Refrigerant gas increased following the phasing out and new installation of a new IT room cooling system that was more energy efficient in our Chelmsford UK office.

Scope	Source	2021 ALL entities	2020 ALL entities	YoY	2019 ALL entities
		(MT CO2e)	(MT CO2e)		(MT CO2e)
Scope 1	Gas	420.12	455.38	-8%	539.50
Scope 1	Refrigerant Gas	159.00	51.60	208%	51.59
Scope 2	Electricity (market based)	201.76	182.61	10%	585.00
Scope 2	Electricity (location based)	891.34	1,022.31	-13%	1,418.00
Scope 3	Business Travel - Air	508.81	555.80	-8%	3,204.90
	Business Travel - Other	33.60	597.31	-94%	765.00
	Employee Commuting	450.47	643.68	-30%	2,145.60
	Hotel Stays	8.14	14.37	-43%	118.50
	Waste	12.18	59.48	-80%	98.50
	Water	4.46	4.77	-6%	7.38
Employee Headcount - FTE		2,093	2,025	3%	2,132
Floor Area – m2		31,336	31,786.17	-1%	37,211.00
Scope 1 and 2 Location-Based		1,470	1,529.28	-4%	2,009.09
Scope 1 and 2 intensity FTE/CO2e		0.70	0.76	-7%	0.94
Scope 1 and 2 intensity m2/CO2e		0.05	0.05	-2%	0.05
Scope 1, 2 and 3 Location-Based		2,488.13	3404.69	-27%	8,349.37
Scope 1, 2 and 3 intensity FTE/CO2e		1.19	1.68	-29%	3.92
Scope 1, 2 and 3 intensity m2/CO2e		0.08	0.11	-26%	0.22
Energy use from combustion of gas and other fuels (kWh)		2,311,865.68	2,476,617.99	7%	2,925,275.06
Energy use from consumption of electricity purchased for own use (kWh)		4,237,670.96	4,319,334.10	2%	5,549,479.47
Energy use from business travel (kWh)		631,346.61	No data	-	No data

Figure 4.3 : Historical carbon emission performance – absolute and intensity metrics all MSA legal entities

### Notes

Presented here are absolute year-on-year figures MS Amlin's global footprint. Carbon emissions are presented as metric tonnes of CO<sub>2</sub> equivalent (MTCO<sub>2</sub>e). Serviced offices are excluded from reporting. Entity-level figures in this workbook are reported on a like-for-like basis for comparison purposes.

## 4.3 Measure and seek to reduce the environmental impacts of the internal operations and physical assets under our control.

### 4.3.1 Operations

The Head of Operations is a member of the Sustainability Committee (See *Principle 1.2.2*) and provides a standing agenda update at the meetings, which generally cover:

- Plan to get to net zero operational emissions by 2030, at the latest
- Data considerations
- Developments in sustainable supplier management / procurement framework

Recognising the importance of emissions measurement, as regards our operations, we performed an in-depth review of our environment reporting programme. This review sought to solve the challenges faced with growing environmental reporting obligation, greater recognition of the important role that environmental stewardship has in reducing climate risk in the insurance industry, along with enhanced external scrutiny of environmental performance.

The review recommended the adoption of an effective management information platform, to collect and analyse trend data, monitor performance against targets, and benchmark against peers and the industry. After a robust selection process, we chose Lucid's BuildingOS EDGE platform. OS EDGE is an off the shelf platform that helps to engage and manage energy and sustainability reporting, making it easier and faster to turn building data into actionable insight. This leads to cost and carbon savings, through optimised performance.

We have been working with our buildings manager – Cushman And Wakefield – to implement the other review recommendations ultimately with a view to reducing our operational emissions. Our main offices (The Leadenhall Building – TLB – in London, and MS Amlin Chelmsford) are now powered by renewable energy, and we are investigating how to reduce residual Scope 1 and 2 emissions across the estate. We are developing a plan for operational emissions to be carbon neutral by 2030, at the latest, and have instructed a number of net zero building audits to be undertaken during 2022.

As regards our IT, MS AUL are moving to cloud-based solutions for efficiency and to reduce the emissions generated by running on-site applications. Data centre emissions is one of the criteria we consider when selecting cloud-based providers.



### 4.3.2 Environmental performance in 2021

Our environmental performance is shown below:

MS AUL office		Location based electricity		Market based electricity	
		kWh	MT CO2		MT CO2
MS Amlin-UK (West Malling)	United Kingdom	46,035	9	No	9
MS Amlin-UK (Glasgow)	United Kingdom	14,727	3	No	3
MS Amlin Singapore	Singapore	8,216	3	No	3
MS Amlin Singapore	Singapore	65,862	24	No	23
MS Amlin UAE (Dubai)	UAE	33,686	16	No	16
MS Amlin - Malaysia	Malaysia	28,492	18	No	17
MS Amlin-UK (Chelmsford)	United Kingdom	411,906	83	Yes	0
MS Amlin-UK (London)	United Kingdom	827,345	166	Yes	0
		<b>1,436,268</b>	<b>321</b>		<b>71</b>

Figure 4.4a: Environmental performance – electricity

MS AUL office		Gas emissions MT CO2	Refrigerant emissions MT CO2
MS Amlin-UK (West Malling)	United Kingdom	0	1
MS Amlin-UK (Glasgow)	United Kingdom	0	1
MS Amlin Singapore	Singapore	0	1
MS Amlin Singapore	Singapore	0	1
MS Amlin UAE (Dubai)	UAE	0	1
MS Amlin - Malaysia	Malaysia	0	2
MS Amlin-UK (Chelmsford)	United Kingdom	0	16
MS Amlin-UK (London)	United Kingdom	187	33
		<b>187.54</b>	<b>55.77</b>

Figure 4.4b: Environmental performance – gas

MS AUL office		Water emissions MT CO2	Waste emissions MT CO2	Employee commuting MT CO2
MS Amlin-UK (West Malling)	United Kingdom	0	0	0
MS Amlin-UK (Glasgow)	United Kingdom	0	2	0
MS Amlin Singapore	Singapore	0	0	0
MS Amlin Singapore	Singapore	0	0	10
MS Amlin UAE (Dubai)	UAE	0	1	1
MS Amlin - Malaysia	Malaysia	0	0	17
MS Amlin-UK (Chelmsford)	United Kingdom	0	0	24
MS Amlin-UK (London)	United Kingdom	1	0	65
		<b>1.73</b>	<b>5.08</b>	<b>117.94</b>

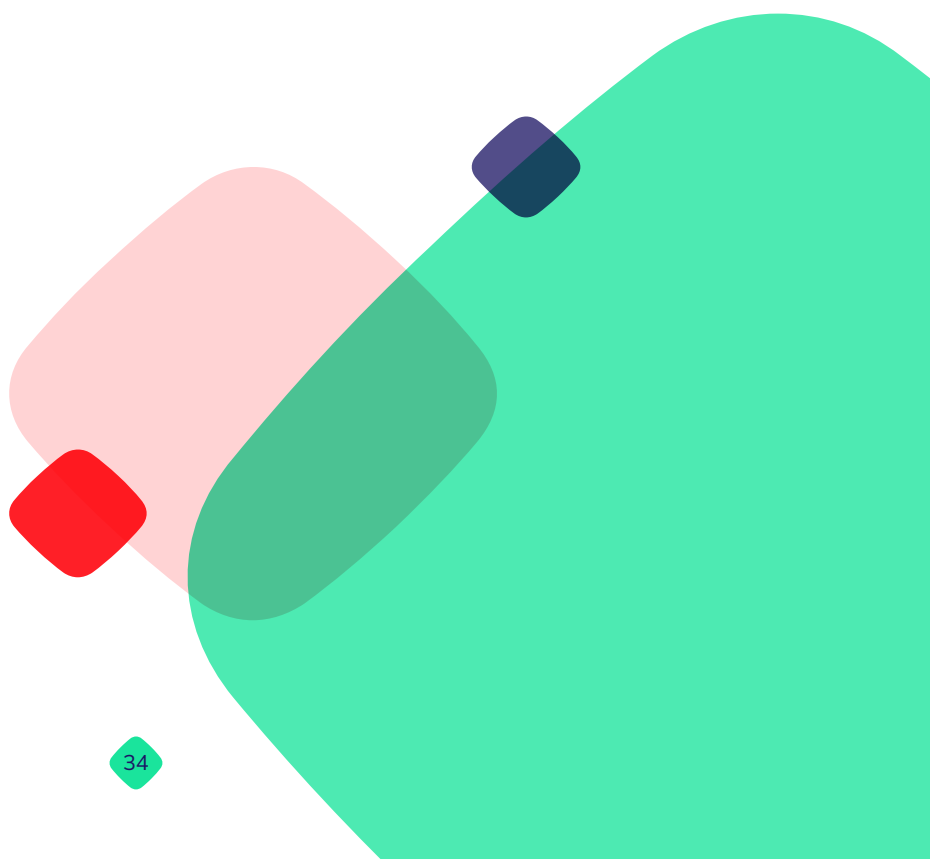
Figure 4.4c: Environmental performance – water, waste and employee commuting

Waste – MS AUL							
	2021		2020		2019		YoY
	Tonnes	(MT CO2e)	Tonnes	(MT CO2e)	Tonnes	(MT CO2e)	
General waste to landfill	9.73	4.55	0.11	0.22	4.58	3.93	2013%
Waste diverted from landfill- Incineration	13.50	0.29	0.11	0.00	2.68	0.06	11675%
Waste diverted from landfill- Recycled	11.56	0.25	0.47	0.00	6.69	0.10	10295%
<b>Total</b>	<b>34.79</b>	<b>5.08</b>	<b>0.69</b>	<b>0.22</b>	<b>13.96</b>	<b>4.08</b>	<b>2209%</b>

Figure 4.4d: Environmental performance - waste

Air travel – MS AUL							
Journey Type	2021		2020		2019		YoY
	km	(MT CO2e)	km	(MT CO2e)	km	(MT CO2e)	
Domestic, to/from UK Average passenger	44,308	11	19,555	5	6,349	2	128%
International, to/from non-UK Business class	0	0	6,807	3	67,472	27	-100%
International, to/from non-UK Economy class	2,862	0	42,287	7	173,539	24	-94%
International, to/from non-UK Premium economy class	832	0	1,398	0	791	0	-40%
International, to/from non-UK First class	0	0	160	0	0	0	-100%
Long-haul, to/from UK Business class	225,132	97	242,748	103	504,886	219	-6%
Long-haul, to/from UK Economy class	25,378	4	7,060	1	143,496	21	178%
Long-haul, to/from UK First class	5,312	3	5,810	3	5,871	4	-7%
Long-haul, to/from UK Premium economy class	31,475	7	14,549	3	70,972	17	119%
Short-haul, to/from UK Business class	1,926	0	0	0	482	0	
Short-haul, to/from UK Economy class	49,449	7	44,411	7	48,215	8	10%
<b>Total</b>	<b>386,674</b>	<b>130</b>	<b>384,786</b>	<b>133</b>	<b>1,022,072</b>	<b>322</b>	<b>-2%</b>

Figure 4.4e: Environmental performance – air travel



### 4.3.3 Emissions reductions and environmental targets

We have undertaken a strategic evaluation of the global property estate to identify opportunities in support of reducing our environmental impact, and strengthen alignment with our sustainability ambition. The outcome of the exercise was the development of a suite of carbon emission targets up to 2030. These aim to guide our efforts to reduce emissions through the efficient operation of our estate and adapting the workplace behaviour of our employees across MS AUL's global property estate. We reviewed our material environmental impacts and have made efforts to set key targets across a wide range of environmental metrics within our direct control. The targets are aligned with industry best-practice and summarised in figure 4.5. We have been measuring performance against these targets and rolling corresponding initiatives across our property estate.

The draft short-term reduction targets include a 5% reduction in our overall energy consumption across our portfolio by the end of 2021, we achieved a 27% reduction across scope 1,2 and 3. We also recognise that business-related travel represents a significant source of operational emissions associated with our business. Consequently, we have prepared a target to achieve a 10% reduction in air travel emissions by end of 2021, however the total reduction upon 2020 was 8%. This reduction target is complemented by our commitment to support employees to reduce emissions associated with their work-related commuting through hybrid working and better video conference facilities across all locations.

#	Target timeframe	Draft environmental targets	Progress in 2021	Achieved/ on track
1.1	Short-term, up to 2022	By end of 2021, aim to source at least 90% of paper consumed from recycled or sustainable sources, where a supply contract is in-place	Complete	Achieved
1.2		Remove single-use plastics from offices across portfolio by end of 2021	Complete	Achieved
1.3		Ensure office-based recycling amenities available across all portfolio assets, by end of 2021	Complete	Achieved
1.4		100% of Amlin employees engaged annually on MS&AD Group Environmental Policy & the associated sustainability priorities	Complete	Achieved
1.5		Commit to ensuring that 100% of the global property estate has a dedicated environmental sustainability plan by end of 2021	To be completed in 2022	Delayed
2.1	Medium-term, up to 2025	20% reduction in energy usage across portfolio by end of 2025	Progressing	On track
2.2		20% reduction in air travel emissions by end of 2025	Progressing	On track
2.3		Support Amlin employees to achieve a 10% reduction in emissions associated with commuting to work travel by end of 2025	Progressing	On track
2.4		Commitment to achieve at least 75% waste diversion from landfill rate, through primary disposal route, by 2025	Progressing	On track
2.5		Commit to adopt paperless approach across 50% of assets by end of 2025	Progressing	On track
2.6		Achieve 10% reduction in absolute water consumption by end of 2025	Progressing	On track
3.1	Long-term, up to 2030	40% reduction in Scope 1 & 2 carbon emissions across portfolio by end of 2030	Progressing	On track
3.2		Set net-zero emissions reduction target up to 2030	Progressing	On track
3.3		Adopt paperless approach across all portfolio assets by 2030	Progressing	On track
3.4		Achieve at least 90% waste diversion from landfill, through primary disposal route, by 2030	Progressing	On track

Figure 4.5: Draft environmental targets, designed to manage the environmental impact of our global portfolio and 2021 progress update.

These draft targets build on the aspiration to achieve the following reductions:

- A 20% reduction in energy consumption across the property estate by end of 2025.
- Further aiming to reduce the impact of our air travel, with a 20% reduction in air travel emissions by end of 2025.
- Support MS AUL employees to achieve a 10% reduction in emissions associated with commuting to work by end of 2025.

The development of our draft long-term Scope 1 & 2 emission reduction target was informed by the Science Based Targets initiative (SBTi) methodology and is aligned with the decarbonisation pathway required for the well below 2°C climate scenario.

Other environmentally beneficial initiatives that have been implemented by the MS AUL Property Services team to support our targets include:

- Reducing the total floor area across the office portfolio in 2021 by approximately 25'000 ft<sup>2</sup>.
- Supporting hybrid working which resulted in a 30% reduction in scope 3 emissions for employee commuting.
- Engaging our landlord in Kuala Lumpur to install LED lighting to our 5,000 ft<sup>2</sup> office.

- Worked with our Landlord in The Leadenhall Building to install waterless urinals and changed to sensor taps in our Chelmsford office to reduce water consumption.
- Installed water and electrical sub metering in our UK offices to better understand our scope 2 electrical usage.
- Upgraded our air conditioning system to the IT room in Chelmsford to a system that consumes 82% less energy.
- Implemented a document archiving process that is purely digital and removes the need for transportation of hardcopy documents.
- Implemented an electronic postal distribution process that minimises unnecessary paper retention and improves our recycling rates.
- Working with our data centre providers (scope 3) to ensure 100% of energy consumption is renewable.
- Reused various furniture items across our global estate to minimise landfill when over 200 office chairs were shipped to our European offices.
- Upon vacating our dining facilities on L45 of TLB the full professional kitchen was donated to King's Church in Catford for their homeless meals charity.



#### 4.3.4 Roadmap to guide progress and achieve emissions reductions

To support our energy & emission reduction targets, we have a clear roadmap that will guide the proposed actions we need to take to achieve these commitments. The roadmap below for example, for our draft long-term Scope 1 & 2 emission reduction target considers:

- Implementing all energy savings opportunities identified through compliance with the EU's Energy Efficiency Directive; and
- Exploring energy decarbonisation opportunities across our portfolio.

Figure 4.6 below demonstrates how opportunities to reduce emissions from business travel and commuter travel align with possible 2030 targets. We have started to introduce a series of initiatives to support our employees to reduce emissions from their business travel and employee commuting.

This includes implementation of a travel policy for business travel, through a centralised travel partner. The policy mandates the selection of lower carbon-intensive flight modes for business travel and restricts Business Class flights to journeys of 5 hours or longer. In parallel, we also continue to invest in and roll-out of standardised digital and video conferencing technologies across 100% of our office portfolio. This ensures our employees have the tools to adapt their approach to engage colleagues and clients.

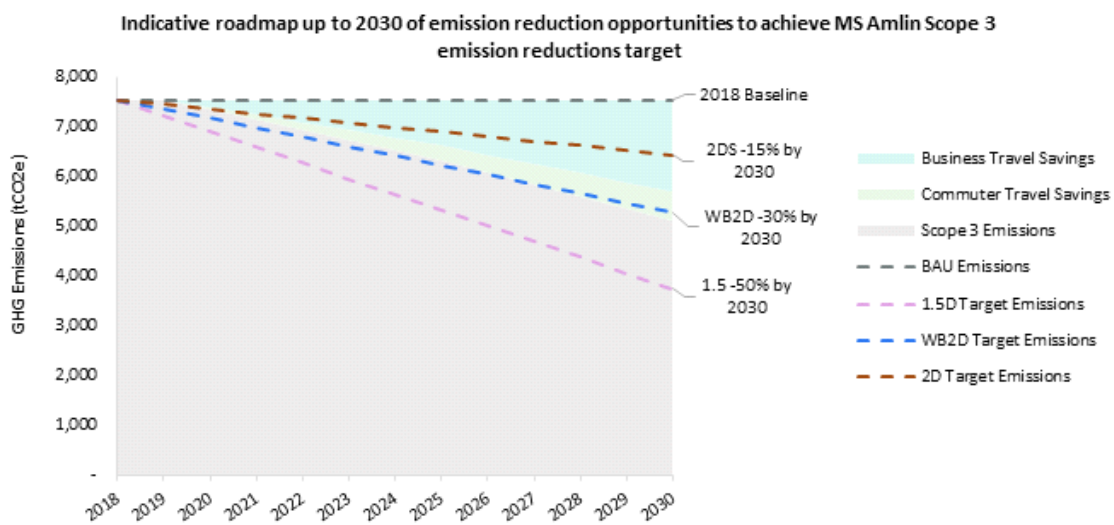


Figure 4.6: Opportunities to reduce emissions

## 4.4 Engage our employees on our commitment to address climate change, helping them to play their role in meeting this commitment in the workplace and encouraging them to make climate-informed choices outside work.

Whilst developing MS AUL's Sustainability Strategy, we have concentrated on understanding and encompassing our stakeholders' wide range of expectations about the role of MS AUL in society. One of our key stakeholder groups is our employees. It is only with the support of the company's employees, who play a vital role in addressing climate change in the workplace and by making informed lifestyle choices, that our sustainability ambition (see *Principle 1.1*) of net zero 2050 at the latest can be achieved. We have prioritised employee engagement and:

- Clarified MS AUL's Purpose in Relation to Sustainability, by linking sustainability priorities to an overarching company purpose, which acknowledges that our commercial ambitions and societal obligations are aligned.
- Engaged with colleagues across the business – through discussions at various fora, presenting at team meetings, conducting employee workshops, and on a one-to-one basis – to raise awareness of sustainability and climate related matters.
- Conducted employee workshops for all staff, focused on sharing knowledge on climate related matters, introducing the UNSDGs and asking colleagues to select three priority UNSDGs for the business to focus on (Evidence), ensuring our peoples' views are represented.
- Communicated the Board's sustainability ambition, changes to the governance structure and the sustainability priorities that were chosen by colleagues;
- Collected employee case studies of real life scenarios that explore the trade-offs between commercial decisions and sustainability related considerations
- Engaged with volunteering platforms and Lloyd's, to help facilitate take up of the three volunteering days available to all staff;
- Celebrated International Women's Day, Earth Day, and opportunities with Link, the LGBTQ network, sharing practical examples of how employees can get involved;
- Set up Working Groups in the business to help embed sustainability within our culture (see *Principle 1.2.3*).

### 4.4.1 Internal communications

The Internal Communications team is working alongside the Head of Sustainability and ESG to develop an internal communications and engagement plan, to first include an awareness raising climate campaign that will be shared via our key communication channels. We keep our people up-to-date with our ESG approach and progress, including sharing climate-related events, news, reports and stories via various media channels e.g. email updates, Our Intranet and our enterprise social networking platform – Yammer. The senior leadership host quarterly Townhalls for all staff, at which sustainability and climate change is a regular agenda item.

### 4.4.2 Listening to our people

- At the most recent townhall, we launched the MS Amlin Forest, having partnered with Ecologi (a social enterprise start-up) and Eden (a not-for-profit NGO that works in developing countries to redress deforestation). Our Forest directly supports livelihoods by restoring nature, creating jobs and economic development and promoting gender equality – building on and reinforcing our commitment to MS AUL's priority UNSDG (#13 – Climate Action and #5 – Gender Equality). One of the key drivers for this initiative was feedback from colleagues. Our Exco gifted each employee with 50 trees at the Town Hall meeting and has committed to purchasing one further tree for each risk written. Employees are also able to purchase trees and official carbon offsets. Each tree can sequester up to 2.025kg CO<sub>2</sub> per year, based on the weighted average density per hectare, the weighted average species distribution of trees planted to date, and peer-reviewed research on the carbon sequestration rates of fully-grown, healthy ecosystems containing those species.

### 4.4.3 Employee Commuting and Hybrid Working

Employee commuting remains an on-going focus. We will continue to address this through regular internal engagement to encourage the reduction of commuting and adoption of alternative travel options. These include, for example:

- Promoting flexible working arrangements through our "Hybrid working" initiative.
- Where commuting journeys are essential, we encourage employees to adopt alternative modes of transport (e.g. adoption of greater use of public transport and maximising off-peak travel commuting), and offer bicycle parking facilities at our offices.
- Offering a car salary sacrifice scheme (via Tusker who are hoping to be the "greenest Leading UK car benefit provider") so our people can drive a cleaner, more affordable and safer car.

After COVID 19, our Exco put considerable effort into evolving our hybrid working model. This involved workshops with colleagues and asking for input from all staff. Our colleagues have a choice as to where they work, with the outcome being not only a better work/life balance but reduced time commuting and therefore reduction in emissions.

We have also updated the Travel Expenditure Policy with a view to continuing to reduce international travel except in circumstances deemed necessary. This includes an updated approval process, with strong encouragement to our people to make a decision based on not just the commercial impact but also the environmental impact of travel.

#### 4.4.4 Charitable Giving

We have redefined our approach to charitable giving as a business, to align our partnership programme with our business and ESG strategy – with the input of colleagues. We are in discussion with a handful of disaster relief charities who operate in regions impacted natural disasters caused by climate change about corporate partnership opportunities that align with our underwriting activities and sustainability priorities. This will involve a formal process to select a new charity partner that works to support communities vulnerable to climate-related events through, for instance, preventative measures, empowering communities to become more sustainable, and deployment of emergency response to natural disaster. A number of colleagues are involved in those conversations.

Each colleague also has three volunteering days available to support a charity / activity of their choice, with communication of their efforts and requests for volunteers shared through our internal channels. The charities / activities include those linked to mitigating and adapting to climate change.

#### 4.4.5 Waste and paper

We continue to promote the adoption of digital working methods and has begun to cut down the number of printing/ photocopy machines to discourage unnecessary printing. Paper currently used is sourced from sustainable sources. We also continue to rollout a recycling programme across all offices, encouraging staff to separate materials for recycling and therefore divert waste from landfill. Disposable plastics such as cups, straws and cutlery have all been removed with employees encouraged to use water taps and reusable bottles/coffee cups to reduce waste. Data and stats requested from property services.

Recognising the importance of emissions measurement, as regards our operations, we performed an in-depth review of our environment reporting programme. This review sought to solve the challenges faced with growing environmental reporting obligation, greater recognition of the important role that environmental stewardship has in reducing climate risk in the insurance industry, along with enhanced external scrutiny of environmental performance.

**Principle 5:**  
Inform public  
policy making





# Principle 5: Inform public policy making

## 5.1 Promote and actively engage in public debate on climate-related issues and the need for action. Work with policy makers locally, regionally, nationally and internationally to help them develop and maintain an economy that is resilient to climate risk.

### 5.1.1 Working with policy makers to help them develop and maintain an economy that is resilient to climate risk.

Ahead of COP26, which took place in November 2021, MS AUL joined over 80 businesses and business groups in signing a letter to the UK Prime Minister. The letter was coordinated by the Business Group Alliance for net zero and called on the UK Government to lay out a coherent, integrated and Treasury-supported net zero Strategy. This commitment demonstrated MS AUL's support for an ambitious domestic climate action that supports strong international diplomacy and Johan Slabbert, MS AUL's CEO, issued a public statement in further support of this action.



At COP26, 450 firms with \$130 trillion in assets committed to net-zero 2050. The UN-convened Net-Zero Insurance Alliance members (twenty-one global insurers and reinsurers, of which our parent is one) committed to individually transition their underwriting portfolios to net zero 2050. Since COP26, there has been considerable focus on the role that financial services can play in the transition to net zero 2050.

We reflected carefully on the discussions that took place at COP26 and the actions taken by:

- The Network for Greening Financial Services - NGFS (provided six recommendations for central banks, supervisors, policymakers and financial institutions to enhance their role in the greening of the financial system and the managing of environment and climate-related risks).
- The UK Government (set a legally binding net zero 2050 target).
- The Bank of England (set a key goal of supporting an orderly economy-wide net zero 2050 transition in response to climate change, which is now a core part of the PRA's core supervisory approach).

- Lloyd's (set a net zero 2050 ambition)

In February 2022, having considered the above and all of our stakeholders' expectations, our Board further built on its sustainability commitment by setting a target to reach net zero by 2050, at the latest, across all aspects of our business – this includes Scope 1, 2 and 3 emissions. Our approach is consistent with the Paris Agreement (2015) and reports produced by the Intergovernmental Panel on Climate Change (IPCC) – the United Nations body for assessing the science related to climate change – i.e. a maximum global average temperature rise of <2°C above pre-industrial levels by 2100.

In parallel to the above, we were one of 10 Lloyd's Managing agents who took part in the Bank of England's CBES initiative (see *Principle 2.3*) which was designed to:

- Present a fully coherent set of scenarios that could be used to assess climate risks facing key UK firms.
- Assist in enhancing management of our climate-related financial risks.
- Size the financial exposures to our climate-related risks.
- Understand the challenges to our business models from these risks; and gauge likely responses and the implications for the provision of financial services.

The responses in our submissions were consolidated with other submissions in order for the Bank of England to conduct a market wide call on 24 May 2022 to provide feedback on CBES. A key market finding is that participants will likely to be able to bear the capital implications of transition that fall on them.

We have discussed our progress to date and our future plans with Lloyd's Sustainability and Supervisory teams. We have also selectively provided input to Lloyd's sustainability initiatives (e.g. the Swiss Re – Lloyd's Lab pilot focused on ESG data for the private market). In June 2022, MS AUL was invited to participate in the Lloyd's Feasibility Assessment of a net zero Underwriting Toolkit initiative. By taking part, we have an opportunity to influence and shape the development of Lloyd's proposed methodology and better support and strengthen our underwriting approach.

### 5.1.2 Actively engaging in public debate on climate-related issues through industry collaborations.

As well as being members of ClimateWise represented by our Head of Sustainability and ESG being part of the Managing Committee, our Strategy Director is also on the Council. Our people regularly contribute and engage with climate-related external events and market bodies to actively engage, drive awareness and promote the debate on climate-related issues; these include:

#### 5.1.2.1 Industry Collaborations, market committees and memberships.

MS AUL is represented on key market committees and industry bodies with high engagement in climate change challenges. Our purpose on these committees and industry bodies is to actively contribute to the ongoing conversation and help identify and resolve issues facing the market. This work is done in partnership with other market participants and Lloyd's, where relevant. Key examples include:

- LMA Sustainability Committee – Our Head of Sustainability and ESG is currently the Chair
- LMA Climate Risk Working Group – Our Head of Sustainability and ESG is a member
- London Market Sustainability Working Group – Our Head of Sustainability and ESG is a member
- LMA Joint Power Committee – our Senior Underwriter, Energy & Industry is currently the Chair
- LMA Renewable Energy Sub-committee – our Senior Underwriter, Energy & Industry is a member
- Sustainable Underwriting Group Committee – our Senior Underwriter, Energy & Industry is a member
- Cat Risk Climate Change Group – our Research Manager, Risk Analytics is a member
- Lloyd's Sustainability sub-committee working group (part of the Joint Natural Resources Committee) – our Head of Natural Resources is a member

MS AUL is also a member of the Disaster Risk Facility (DRF) consortium, a group formed of Lloyd's syndicates, which offers insurance and reinsurance capacity against natural catastrophe for protection gap countries and regions. The consortium provides access to the collective underwriting expertise of Lloyd's members to help developing economies build resilience to all types of disaster, including climate-driven and weather risks. The key benefits of the facility:

- Ease of access to the pooled knowledge, expertise and resources of the consortium members
- Local contacts through Lloyd's global platforms

#### 5.1.2.2 Thought leadership and presenting at conferences

- Our Head of Natural Resources Underwriting, was a panel member at the Willis Towers Watson Energy market update in October 2021, discussing the Future of Underwriting and the need for balance between client support, the transition to net zero and an evolving ESG agenda. He also joined industry experts on the Sustainability Update panel at the Energy Insurance London event in October 2021. Attended by over 300 delegates from the energy insurance market, this conference focused on energy transition and renewables, sustainability initiatives within the insurance industry and the importance for businesses to step up their responsibility and engage with a range of stakeholders to drive progress.
- Our Head of Sustainability and ESG, was guest speaker at the Reuters Responsible Business Europe Conference in June 2022, discussing Scope 3 emissions for financial services businesses; this included defining scope 3 emissions for Underwriting, measurement approaches and methodologies and data. The conference was attended by 400+ CEOs and senior-level executives from business, finance, and government to build networks, collaborations and learning. Other speakers included Alok Sharma (COP26 President and UK MP), Mark Versey (CEO, Aviva Investors), Line Hestvik (Chief Sustainability Office, Allianz), Peter Jelkeby (CEO and Chief Sustainability Officer, IKEA UK) and Claire Coustar

(Global Head of ESG & Sustainable Finance, Deutsche Bank)

- Our Research Manager, Risk Analytics, presented a case study on Downward counterfactual analysis in insurance tropical cyclone models at the 2022 Symposium on Hurricane Risk in a Changing climate. The event took place in Florida (and virtually) in June 2022, bringing together experts from the fields of science, engineering and risk management to foster better understanding of tropical cyclone risks.
- In May 2022, Insurance Day published an article written by our Head of Sustainability and ESG entitled 'The re/insurance industry has a role in tackling global energy security', which focused on the complexities of transitioning away from fossil fuels amidst complex geopolitical pressures, the power of human innovation and government action.

#### 5.1.3 MS&AD Group Focus on Climate Change

Our parents has set the following objectives:

1. Support the realisation of a resilient and sustainable society; and
2. Promote decarbonisation, and establish an organisation in charge of addressing climate change; with a focus on: Climate Change; Nature; and Human Rights.

We have a regular dialogue with our parent to actively engage in debate on climate-related and other sustainability topics. One such example was the recent introduction of underwriting exclusions around thermal coal, informed by actions being taken by the Japanese insurance market.

#### 5.1.4 Surveys

We have taken part in external surveys, such as the Insurer Lloyd's ESG Survey (February 2022), Insurance Post ESG Survey (June 2022) and various Lloyd's and LMA surveys on climate change and related matters. We have used the output from the surveys to benchmark against peers and assess and evaluate the MS AUL approach.

#### 5.1.5 Action(s) the government, regulators and other industry bodies could take to accelerate opportunities:

- Government could exempt insurance policies meeting certain ESG criteria from IPT. This would allow insurers to provide more affordable solutions to clients.
- Industry bodies could collect and distribute data sets to allow underwriters to better understand risks and price appropriately.
- From Political Risk observation above: Regulators could assess the potential for allowing increases to insurer tenors on projects to higher than historic norms, including different treatment for capital requirements.
- Industry bodies could set up collaboration spaces between regulators, industry associations, manufacturers and insurers.
- Government, UK regulators and/or industry bodies could lobby foreign regulators to allow Parametric (small scale) Flood and Wind related products to be sold as 'Insurance'. This has a potentially very large market size.

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

MS AUL is also keen to collaborate and contribute to industry wide initiatives and tools that relate to climate change. As outlined in *Principle 3.2.1* and *Principle 5.1.2*, We are involved in a number of climate change research activities including:

- Supporting and funding climate change research via the Lighthill Risk Network (<https://lighthillrisknetwork.org/>)
- Publication in leading scientific journals and books.
- Supporting academic research and new technologies for extreme weather risk.
- Participation in the Lloyd's net zero Underwriting tool feasibility assessment.
- Working with the Oil and Gas Authority and University of Lancaster to better understand renewable technologies.
- Providing feedback to various data providers, who are looking to develop ESG rating models for insurance (e.g. Moody's, Fitch, Apex, Inver Re/Argos, Swiss Re).
- Participation in the Bank of England's CBES initiative.
- The development of bespoke view of catastrophe (and climate) risk through the evaluation and adjustment of catastrophe models

### 5.2.1 Lighthill Risk Network Partnership

In conjunction with the Lighthill Risk Network, MS AUL is sponsoring two research projects to provide data to support business strategies:

- Tom Philip: A Decision Theoretic Framework for writing Intra-Annual Reinsurance Backup Covers: A NAHU Test Case.
- Steve Jewson: Converting the Knutson et al. (2020) Tropical Cyclone Climate Change Projections to a Format the Insurance Industry Can Use.

### 5.2.2 Downwards Counterfactual Analysis in Insurance Tropical Cyclone Models: a Miami case study

The MS AUL Research team is publishing in 2022 a chapter in a book, titled 'Hurricane Risk in a Changing Climate', which is also sponsored by MS AUL and the modelling firm RMS. The book relates to presentations made at the second symposium with the same title, held in Miami in June 2022, for which the organizing committee contains several of the world's leading meteorologists and climate scientists. The main objective of the symposium series is to support communication among scientists, engineers, and insurers in order to increase understanding of and better ways to deal with tropical cyclone risks, and this objective will be continued with the book publication.

The MS AUL chapter is titled "Downwards Counterfactual Analysis in Insurance Tropical Cyclone Models: a Miami case study", and this looks at new techniques to explore historic events in "worse-case" mode for better risk management and business planning. MS AUL also participated on the poster judging panel at the symposium, and sponsored the Early-Career presentation award given to Dr Yi-Jie Zhu for a poster titled "Recent Rebounding of the post-landfall hurricane wind decay period over the continental United States".

These projects are due to complete in 2022, and are both intended to produce data which can be directly applied to modelling, risk frameworks, and business planning.

### 5.2.3 Partnership with Reask

MS AUL has commissioned a set of deliverables from Reask, an extreme weather risk advisory, forecasting, and modelling company. These deliverables are datasets for tropical cyclones in the north Atlantic basin, based on ERA-5 reanalysis of the period 1980-2019. Each year in the period is sampled multiple times to produce 20,000 years of ERA-5-driven stochastic activity. The metrics produced in the first set of deliverables cover basin-wide genesis, regional genesis, US landfall rate, regional landfall rate, and will also be calculated for sub-set periods to explore decadal variability, AMO phase, ENSO phase, and hurricane drought.

The second set of deliverables positions the observed historic risk in the wider distribution of modelled climates for the same period, using the CESM LENS project output (refer to *Principle 3.2.1* for more information on CESM LENS). These CESM LENS metrics will enable a calibration of vendor catastrophe models for North Atlantic hurricane to allow climate signals within the models to be verified and modified, and to make further refinement of the climate scenarios used to adjust the models via the Model Completeness Framework (for more information on the Model Completeness Framework see *Principle 2.3.1*).

### 5.2.4 Lloyd's Net Zero Underwriting tool feasibility assessment

As a leading syndicate in the Lloyd's market, keen to contribute to, influence and help shape the outcome of any future market approach and industry standard tools, MS AUL is currently one of seven Lloyd's Managing Agents who are part of a Lloyd's Net Zero Underwriting tool feasibility assessment.

### 5.2.5 Energy Underwriting

As well as increasingly writing and actively supporting wind, solar, hydro and biofuels assets, our Natural Resources Underwriting team is working with the Oil and Gas Authority to explore how best we can support and develop the Carbon Capture and Storage (CCS) market in the UK and around the world, given there are an abundance of worldwide depleted oil and gas wells that can potentially be used and that CCS will be a vital component of transition as we use the existing fossil fuel infrastructure to accelerate the efficiency of our energy supply through transition to net zero.

Our Natural Resources Underwriting team has also been working closely with the University of Lancaster to better understand Battery technology and how the different colours of Hydrogen can be insured.

In May 2022, MS AUL partnered with Altelium (an insurtech firm) to launch a client-centric battery energy storage system (BESS) construction all risk and operational all risk insurance solution. Altelium is a specialist insurtech business which offers insurance for batteries, underpinned by real-time AI-powered data analytics. The new arrangement is designed to help solve BESS customers' insurance needs and accelerate the growth of renewable energy and battery storage systems. Given the need to manage the peaks and troughs of energy demand with intermittent renewable energy sources, this presents a huge opportunity for MS AUL to support fair transition to net zero.

There is planned growth for Renewables in the 2023 business plan.

### 5.2.6 CBES

As part of the CBES climate scenario analysis follow up exercise (CBES Part 2), we analysed and considered specialist types of insurance products for the new technologies to support greening the economy. The nature of the Lloyd's market is one which is naturally responsive to customer demand and therefore we believe that specialist insurance products for new technologies linked to greening the economy would evolve over time. Refer to *Principle 2.1* for more details.

### 5.2.7 Evaluation and adjustment of catastrophe models

We have convened a Climate Risk Working Group to consider what strategic foresight was gained from the CBES exercise, the limitations of the approaches adopted and models used, how we embed the aspects of CBES that are most relevant to us within existing Risk Modelling, and how this translates into meaningful and applicable risk appetite and tolerance metrics. Refer to *Principle 2.3.4* for more details.

### 5.2.8 Employee Workshops

Research to help us understand the views and opinions of our people was conducted before the final selection of our priority UNSDG's. A series of employee workshops, facilitated by the Head of Sustainability and ESG, were conducted to identify what issues our people care most strongly about and where they felt our business can be most impactful. This approach has led to greater engagement from our people on the chosen priorities and helps to shape business decisions on our future strategy and approaches.

**Principle 6:**  
Support climate  
awareness  
amongst our  
customers /  
clients



# Principle 6: Support climate awareness amongst our customers / clients

## 6.1 Communicate our beliefs and strategy on climate-related issues to our customers/ clients

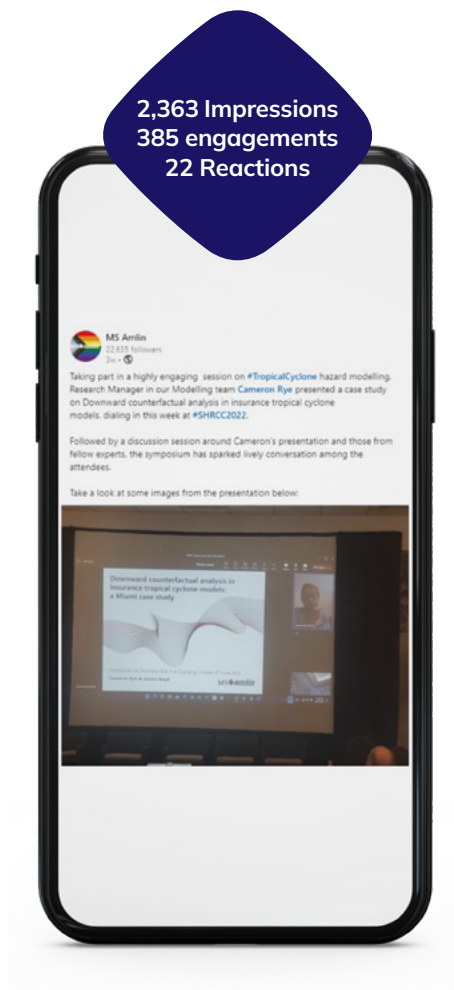
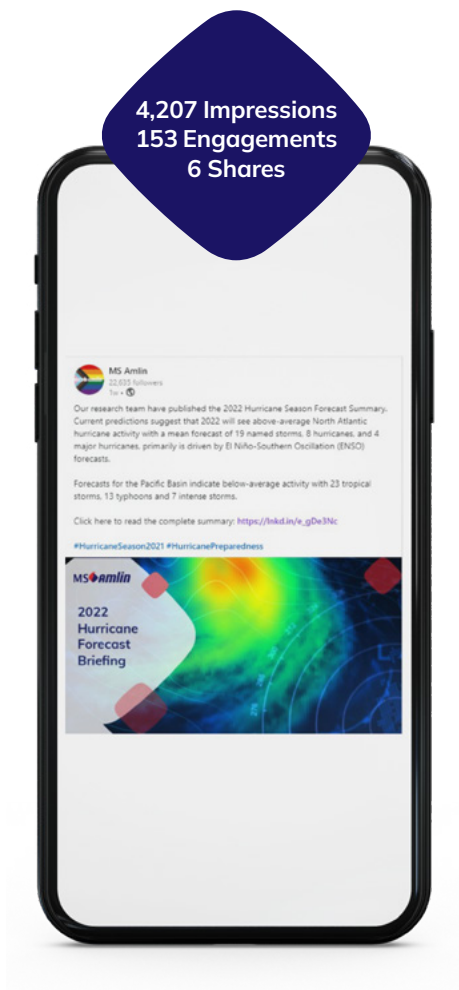
As set out in *Principles 1.1* and 2, we believe our business is well positioned to support sustainable economic development; and influence, enable and accelerate our clients through net zero transition. We also believe that it is responsible to offer thoughtful capacity (i.e. insurance that supports fair transition), which is why we are committed to the sectors that we specialize in and recognize that the world still needs oil and gas today. We communicate this and our related beliefs, strategies and priorities on climate related issues to our clients in a number of different ways.

### 6.1.1 Website

Our corporate website [www.msamlin.com](http://www.msamlin.com) is one of the key communication channels used to share information with our customers, brokers, partners and other stakeholders. In 2022, we published a dedicated sustainability area on the site to share progress being made in this area.

Visit the [Sustainability area here](#). Content includes:

- A dedicated page on climate change and other environmental factors where we highlight our ambition and key priorities
- Initiatives and examples of company activities with regards to equality, diversity and inclusion
- How we are making a positive contribution to the communities in which we operate
- Measurement and reporting, where visitors can download our climatewise report and view our emission statistics
- Priority areas and how the business plans to deliver its sustainability ambitions
- Policies and statements that control our operations



### 6.1.2 Social Media

We are active users of social media channels such as [LinkedIn](#) and [Twitter](#) and post regular updates and share information on the companies climate related activities. Our LinkedIn account has over 22,000 followers (an increase of 4,870 in the past year) with strong engagement with our ESG content.

Some examples of our sustainability posts and analytics are below.

### 6.1.3 Media

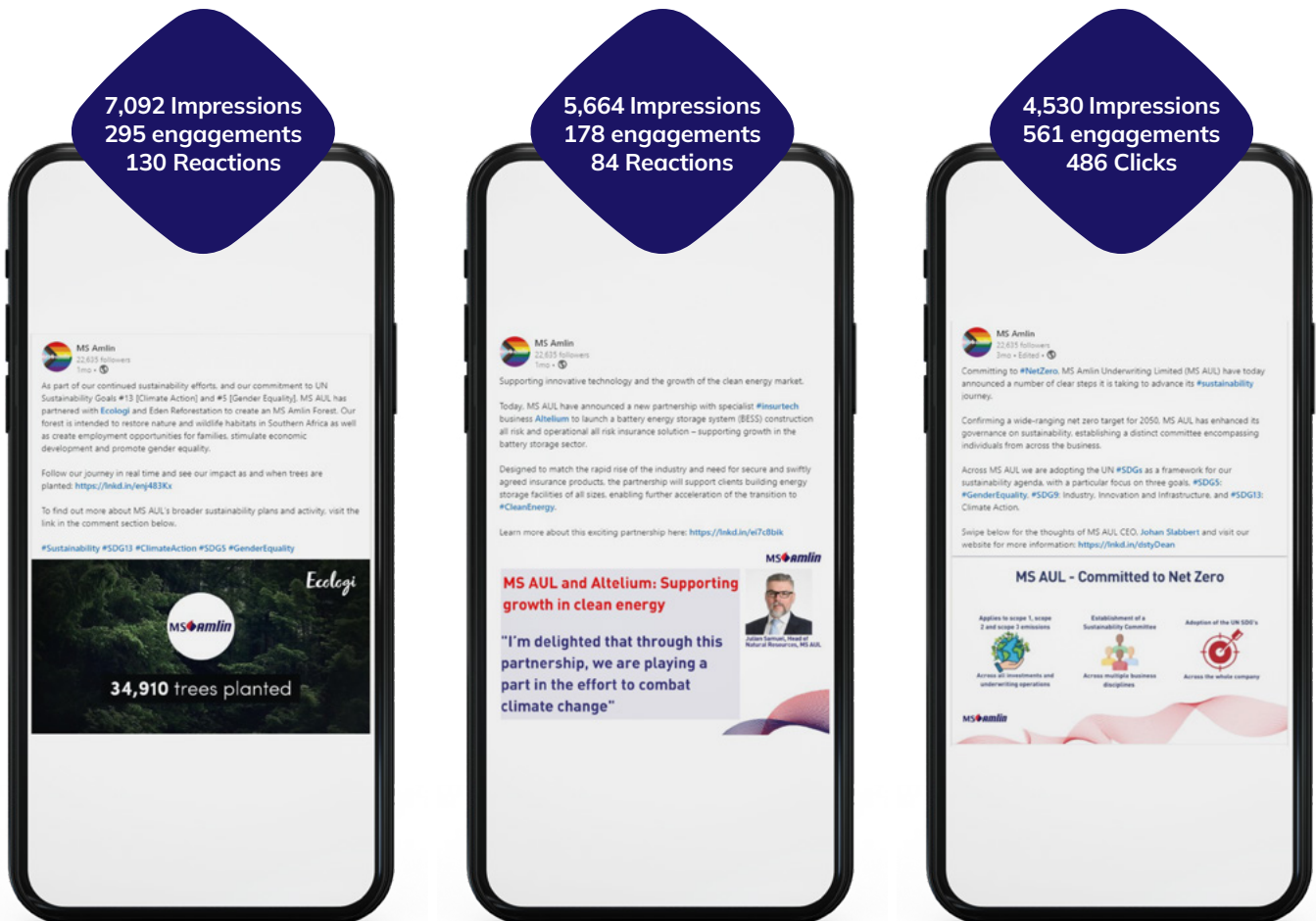
We have also engaged with journalists and trade publications to further enhance our climate related communications. During this reporting period, We issued a number of press releases which were picked-up and featured across the leading trade insurance titles. [Press releases](#) included:

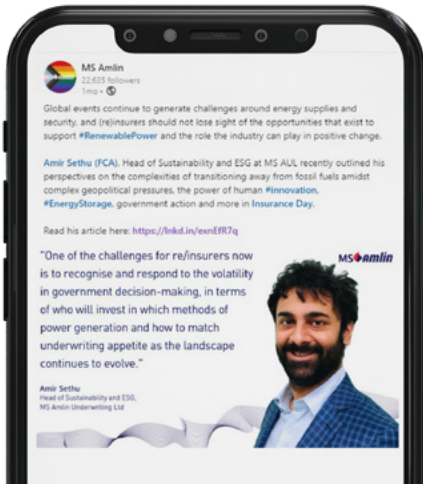
- May 2022 – MS AUL partners with Altelium to provide new battery energy storage insurance solution
- April 2022 – MS AUL appoints new Renewables Underwriter

- March 2022 – MS Amlin Underwriting Limited Commits to Net-Zero
- January 2022 – MS Amlin Underwriting Limited launches Phoenix 2 Re
- November 2021 – MS Amlin Underwriting Limited appoints Amir Sethu as Head of Sustainability & ESG

As well as short form content such as press releases, we are beginning to reach into longer-form copy, such as through the publication of thought leadership articles, with the intention of increasing our engagement with key stakeholders in the wider sustainability discussion. It is important to us that we do not simply focus on individual deliveries, but seek to inform, prompt and potentially educate our audiences on some of the sometimes subtle implications of events and developments around the globe.

Our first foray into this area was in May 2022, when [Insurance Day](#) published a Focus article from MS AUL's Head of Sustainability and ESG, Amir Sethu, titled: The re/insurance industry has a role in tackling global energy security.





### 6.1.4 Client meetings

Direct communications with our brokers and clients is often in the form of meetings, where the topic of climate change and transition plans has become increasingly popular. Underwriters have been educated on our climate strategy and, where helpful, the Head of Sustainability and ESG has joined client meetings in an advisory capacity to support, influence and ensure clients receive a consistent message on our climate strategy.

Given our Responsible Underwriting Philosophy, as set out in *Principle 2*, there is a strong focus on embedding climate change and sustainability more broadly within the underwriting process and drive change through Underwriter accountability rather than through control. Our Sustainability Committee, through a series of real life Underwriting case studies, has been exploring the intrinsic link between, for example, climate change and gender equality, two of MS AUL's priority UNSDG goals. The committee has discussed the benefits of investing in women's and girls' empowerment, as one of the top interventions to tackle the climate crisis, given the extent to which women are disproportionately impacted by climate change. In this way, we expect climate change and sustainability to become an integral part of Underwriting and central to Underwriter – Client conversations.

### 6.1.5 Planned activities

Whilst developing MS AUL's Sustainability Strategy, we have concentrated on understanding and encompassing our stakeholders' wide range of expectations about the role of MS AUL in society. These expectations are not mutually exclusive and there is an underlying theme amongst all stakeholder groups that doing the right thing will create enterprise value.

We believe that good communication will help us to develop trust with all stakeholders and clearly articulate needs, expectations and challenges, whilst creating opportunities. We have prioritised stakeholder engagement. As sustainability and climate change is a key strategic priority for the business, throughout 2022-2023 we plan to maintain this level of activity, ensuring our customers/clients continue to be aware of our progress.

In October 2022, we plan to host a series of Leader's events for our Natural Resources and Casualty clients to inform and educate them on our risk appetite and strategic priorities.

## 6.2 Inform our customers/ clients of climate-related risk and provide support and tools so that they can assess their own levels of risk.

We inform our clients of climate-related risk and provide support and tools so that they can assess their own levels of risk, through our publications, products and memberships of industry bodies – the latter of which is covered in *Principle 5.2.1*.

### 6.2.1 Research

In June 2022, we shared research with customers/clients by publishing a statement overview of the 2022 hurricane season forecasts. The report correlated forecast data from more than 29 research groups, private companies and universities which (on 23 June 2021) outlines for an above-average North Atlantic hurricane activity with a mean forecast of 19 named storms, 8 hurricanes, and 4 major hurricanes. All reports on atmospheric perils published by MS AUL, including this one, now automatically include commentary on the potential impact of climate change to the perils in question.

### 6.2.2 Articles

We continue to develop the Chart Magazine area on its website which features articles, interviews and insights from a variety of sources on topical issues and future innovations for businesses, people and society. Climate change is a key theme for content and in the past 12 months research and articles have been shared that cover thought-provoking topics such as:

- We must plug old oil and gas wells – Researchers reveal how drones could solve the environmental problem where former oil and gas wells are leaking pollutants into the ground, atmosphere and water supply
- UK wildfires on the increase – The impact climate change is having on UK wildfires and key warnings around if we don't plan ahead for major fires
- Global atlas for wind speed – A new atlas of wind speeds around the world will offer vital information to engineers building wind turbines, skyscrapers and bridges.
- Cooling buildings with white paint – Researchers in the US claim to have invented an ultra-white paint that reflects almost all sunlight and negates the need for air conditioning.
- When heat domes strike - Record temperatures in the Pacific Northwest during the summer in 2021 caused untold damage. The article explains heat domes and if they will become more frequent.

In addition to being hosted on our website, Chart Magazine content is also shared with customer/clients across social media platforms, and through direct email communications.

We also support and help clients assess their levels of risk through our representation and contribution to industry wide initiatives including Lloyd's, ClimateWise and the Lighthill Network.



### 6.2.3 Lloyd's

As one of the larger syndicates operating in the Lloyd's market, we are keen to embrace new opportunities to influence and help shape the development of future sustainability initiatives. For example; we have provided input to the Swiss Re – Lloyd's Lab pilot (focused on ESG data for the private market) and more recently have been invited to participate in the Lloyd's Feasibility Assessment of a Net Zero Underwriting Toolkit initiative.

As a responsible syndicate, we fully support both the ambition and specific commitments contained within the latest Lloyd's ESG Report, published in May 2022.

### 6.2.4 ClimateWise

MS AUL is a founding member, and active participant, of the ClimateWise initiative which represents a global network of leading insurance industry organisations. Our ESG Executive Sponsor is a member of the ClimateWise Insurance Advisory Council and our Head of Sustainability and ESG is a member of the Managing Committee.

Through our membership we have the opportunity to participate in research and task groups which explore issues related to the industry and climate change. This research is publicly available to our clients via the ClimateWise [website](#). For example our research manager was a member of the net zero underwriting task group for the "Insurers in Paris-aligned climate transition: Practical actions towards net zero underwriting" report.

### 6.2.5 Lighthill Risk Network

We are a core member of the Lighthill Risk Network. The network's purpose is to link its extensive academic knowledge to the research needs of industry. This provides the business community with a gateway into the latest knowledge and understanding of risk, while the scientific community have an opportunity to interact with industry. See *Principle 5.2.1* for our latest research projects.

### 6.2.6 Products

In January 2022, our Singapore based operation MS Amlin Asia Pacific Pte. Ltd. (MS AAP) launched the company's second Asia focussed reinsurance ILS offering, Phoenix 2 Re. The original offering, Phoenix 1 Re Pte. Ltd. was a landmark first locally issued ILS that provides capacity to local cedants, solely focused on the Pan-Asia region. Both transactions provide quota share capacity to the MS AAP Cat XL portfolio with differing but complementary risk appetites. The combination of both sidecars helps MS AAP to strengthen our status as a reputable treaty leader in the region. With the additional capacity, we are actively working with our cedants to help grow their reinsurance programmes, in turn reducing the protection gap and providing better catastrophe coverage for insurance clients.

Phoenix 1 Re Pte, also received external recognition in when it was awarded the 'Insurance Initiative of the Year' award at the 2021 Insurance Asia Award. Held in August 2021, the awards honoured the exceptional initiatives and solutions in the Asia insurance market.

In May 2022, the Natural Resources team partnered with an insurtech firm to offer a high-capacity commercial battery storage and management product. Given the need to manage the peaks and troughs of energy demand with intermittent renewable energy sources, this presents a huge opportunity for us to support fair transition to net zero.

# Principle 7: Enhance Reporting



# Principle 7: Enhance Reporting

## 7.1 Submission against the ClimateWise Principles.

Being a founder signatory to the ClimateWise initiative, MS AUL continues to value the opportunity to collaborate with other industry practitioners to support the climate change agenda and since 2007 has reported annually against the ClimateWise Principles as one of the ways to demonstrate its contribution and commitment year on year.

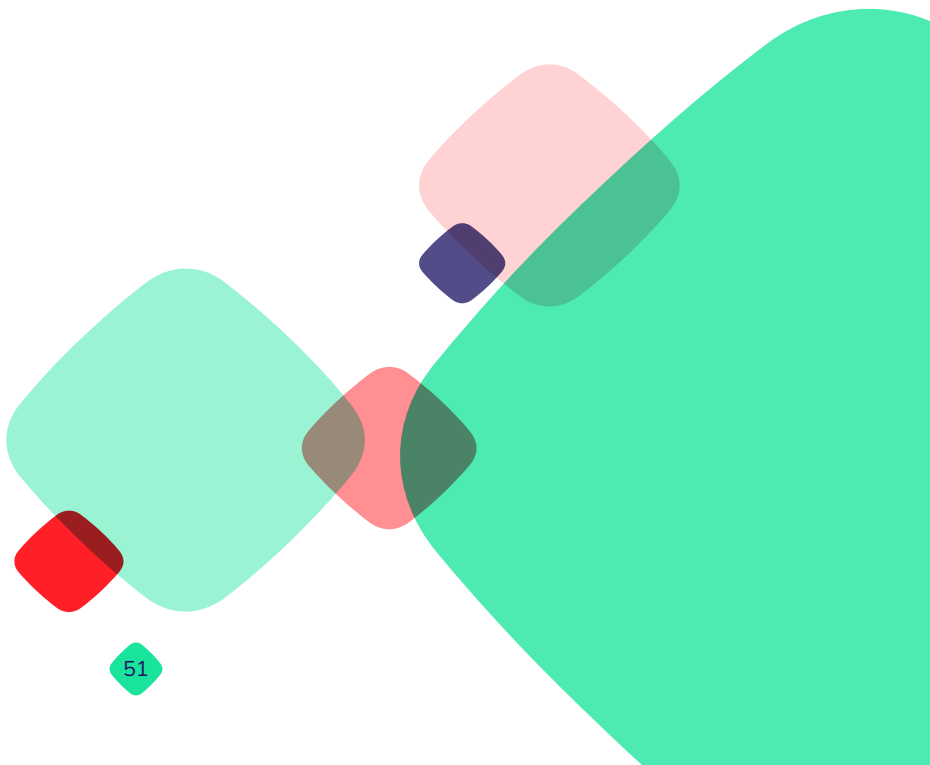
## 7.2 Publish a statement as part of our annual reporting detailing the actions that have been taken on these principles.

MS AUL publishes a copy of its ClimateWise report, which has been reviewed by the Sustainability Committee and approved by the Exco, on its website <https://www.msamlin.com/Reports> and employee intranet to demonstrate ongoing commitment to the ClimateWise Principles.

MS AUL's existing and future reporting requirements have been reviewed carefully and current feedback suggests that the additional effort required to produce a standalone, broader sustainability and/or TCFD report is neither justified by the potential benefits nor mandatory for MS AUL.

Achievements in the past 12 months, we have:	References
Agreed a new Sustainability Governance structure and defined our approach to Sustainability Reporting	<i>Principle 1.1 and 1.2</i>
Determined our sustainability priorities through a strategic risk and opportunity lens, focussing on key areas where we can be most impactful	<i>Principle 1.1 and 1.2, 2.1</i>
Continued to develop our sustainability strategy and share our progress with key stakeholders	<i>Principle 1.1, 1.2, 2.1 and 2.2</i>
Agreed Responsible Underwriting and Investment Philosophies to guide decision making outcomes	<i>Principle 2.1, 2.2 and 2.3</i>
Submitted our response to CBES Part 2	<i>Principle 2.1, 2.2 and 2.3, 3.1, 5.2</i>
Reduced the Scope 2 Emissions from our London office premises	<i>Principle 4.2</i>
Engaged and educated our people on our sustainability journey, sharing how they can get involved. This includes establishing the MS AUL forest.	<i>Principle 4.4</i>
Increased level of participation at industry events, research collaborations, market committees and memberships to learn and share knowledge of climate change challenges	<i>Principle 3.2, 5.1 and 5.2</i>
Prioritised stakeholder engagement via selected communications channels and published a dedicated sustainability area on our website	<i>Principle 6.1</i>

Figure 6.1: 2021-2022 Achievements



Future plans, we will:
Define our climate risk appetite
Further develop our responsible underwriting and investment Policies
Define target for net zero operational emissions
Increase market participation and profile e.g. SMI, trade media
Define ESG metrics and associated data requirements
Define system requirements to automate ESG data capture
Facilitate workshops to embed ESG within the Underwriting process
Develop an internal and external communications strategy for Sustainability
Deliver Sustainability Strategy

Figure 6.2: Our future plans

Given the nature, scale and complexity of MS AUL's business, management believes that less formal disclosures, via our website and wider media, provide greater reach and influence when compared to voluntary reporting. The effort that would otherwise have been afforded to voluntary reporting will be deployed in the business to drive sustainability outcomes that are aligned with our sustainability priorities (e.g. working with Underwriters to develop modified products that will support fair transition to net zero).

For 2021-2022, following discussions MS AUL's Audit Committee and other relevant parties, we have captured information concerning broader environmental, social and governance issues within our Climate Wise report, where relevant and will explicitly map the Climate Wise disclosures to the TCFD recommended disclosures, and SECR disclosures. We will demonstrate the adequacy of the mapping between the disclosures, as part of the approval process, and ask Internal Audit to review the work to provide assurance to the Audit Committee.

For 2022-2023 and beyond, we will continue to monitor the sustainability reporting landscape and update the Audit Committee on developments.

