AON

Net Zero Underwriting

A Future-Ready Approach to Emissions Reporting

Prepared in collaboration with WollemAI

Snapshot

- Insurers have much to gain from taking a best practice approach to emissions reporting in their underwriting portfolio.
- Regulatory change is requiring insurers to report on Scope 3 emissions, but this data is also becoming increasingly important for access to capital.
- Despite a challenging backdrop, insurers have made considerable progress in recent years towards consensus on carbon emissions reporting standards and methodologies.

Across Asia Pacific (APAC) and other global regions, regulatory change is making emissions reporting a critical capability for all sectors, including insurance[1]. For the industry to report consistently and accurately on Scope 1, 2 and 3 emissions requires an approach that takes into account the emissions footprint for companies they underwrite, as well as emissions coming from their own assets and activities.

The Greenhouse Gas (GHG) Protocol Corporate Standard classifies a company's GHG emissions into three 'scopes'. Scope 1 emissions are direct emissions from owned or controlled sources. Scope 2 emissions are indirect emissions from the generation of purchased energy. Scope 3 emissions are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions[2].

For an insurer, Scope 3 emissions lie in their underwriting and investment portfolios.

[1] For example, mandatory climate reporting now exists in Australia and in New Zealand. Hubs across Asia, including Singapore, Hong Kong and Japan, are all considering similar regulation over the coming years.
[2] Greenhouse Gas Protocol, Frequently Asked Questions, December 2022.

Moving From Compliance to Business and Climate Resilience

As a major stakeholder across all industries, insurers have an important role to play in the global transition to a low carbon economy. Not only are they critical for enabling progress on renewable energy infrastructure, their business strategy can also have a major influence on the climate positive journeys many companies are undertaking. By directing capacity towards entities taking action on climate impacts, they become an important part of a finance ecosystem that supports a low-emission economy.

At the same time, insurers are having to consider how they will meet regulatory requirements to report on their own carbon emissions. At the time of writing, the majority of insurers have adopted some type of net zero target. Some of these may include Scope 1 and 2 emissions only.

As a large portion – as much as 90% – of an insurer's emissions footprint comes from Scope 3 emissions in their underwriting portfolio, setting targets for Scope 1 and 2 emissions only, may see companies failing to meet stakeholder expectations on climate action and low carbon transition. This introduces business risks, including loss of market share and access to capital, with Scope 3 emissions reporting now an expectation with investors.

Much of the current legislation in APAC does not currently require Scope 3 emissions to be included in carbon emission disclosures. However, early adopters of mandatory climate reporting in the region, such as Australia[3] and New Zealand[4], are phasing in Scope 3 emissions reporting as a disclosure requirement after the first reporting year. Other jurisdictions are soon to follow suit - both Hong Kong[5] and Singapore[6] have signaled Scope 3 disclosure requirements from 2026, and Malaysia[7] in 2027, for their main board issuers.

[3] Australian Government, The Treasury, Mandatory climate-related financial disclosures, January 2024.
[4] External Reporting Board, General Requirements for Climate-related Disclosures, December 2022.
[5] HKEX, Disclaimer for the Consolidated Main Board Listing Rules, accessed March 2025.
[6] SGX Group, SGX RegCo to start incorporating IFRS Sustainability Disclosure Standards into climate reporting rules, January 2024.
[7] Bursa Malaysia, Proposed Amendments to The Main Market Listing Requirements and Ace Market Listing Requirements in Relation to Sustainability Reporting Requirements and Other Enhancements, January 2024.

What is Net Zero Underwriting?

Net zero underwriting is the process by which insurers measure, manage and reduce the GHG emissions associated with their underwriting portfolios, with the ultimate goal of achieving net zero emissions across their underwriting activities.

As a robust strategic approach to emissions reporting, net zero underwriting can offer a number of benefits for insurers including:

- Meeting reinsurer expectations and capital market demands for ESG alignment
- Responding to growing investor and customer demands for climate action
- Positioning insurers as sustainability leaders and trusted risk advisers
- Preparing the way for embedding net zero underwriting into pricing

Reporting on Underwriting Portfolio Emissions: Challenges and Solutions

The emissions reporting situation for the insurance sector is further complicated by slow progress towards consensus on setting industry wide net zero targets.

Up until recently, the Net Zero Insurance Alliance (NZIA) had offered insurance companies a global forum for discussing and potentially ratifying a consistent approach to target setting. After the breakdown of the NZIA, the industry has faced a major roadblock on their pathway to net zero.

Coming to a consensus on methodologies and attribution factors to use for Scope 3 emissions is critical if insurers are to be consistent and comprehensive in their emissions reporting. As insurers don't actually own the assets they underwrite, they may not be expected to report on 100% of the emissions coming from these assets. The same principle applies for banks and financed-based emissions.

If companies were to choose different metrics and standards for assessing and reporting on their share of these emissions, this introduces risks of overstating or understating their carbon footprint compared to their peers. This, in turn, can impact brand and reputation, and access to ESG-linked capital, making it important for insurers to adopt a fit-for-purpose, industry-wide approach.

Stepping into this gap, the Forum for Insurance Transition to Net Zero (FIT) is now bringing together insurance companies and key industry stakeholders to discuss and advance net zero insurance thinking and practices[8]. Based on their discussions, the forum has now recommended the Partnership for Carbon Accounting Financials (PCAF) as the accepted methodology and standard insurers throughout APAC can adopt as a starting point for their emissions reporting. This standard, developed specifically for the financial services industry, aligns with the GHG Protocol which is the most widely used framework for measuring GHG emissions.

In particular, insurers are facing the following challenges:

- A paucity of real-time, accessible data on transition and emissions relevant to underwriters
- A burden on the insured to provide data in multiple formats and at different points in the underwriting process
- An inability to analyse like-for-like transition data at the aggregate level across portfolios
- Insurers' own insights not being consistent with the market
- Significant investment costs involved in acquiring data, embedding in own data models, and surfacing for reporting

This comes within the macro-environment of a growing need for insurers to align with climate and nature disclosures; (re)insurers evaluating opportunities in new climate tech and renewables, and exiting high-emitting activities; and regulators and stakeholders pressing insurers to manage their exposure to climate risks.

[8] United Nations Environment Programme - Finance Initiative, Forum for Insurance Transition to Net Zero, accessed February 2025.

How Insurers Can Get Their Net Zero Journey Underway

For insurers looking to develop a robust emissions reporting approach that supports both legislative compliance and business value, there are four important steps to follow:

Understand reporting requirements

Effective and accurate reporting starts with understanding specific reporting requirements for your jurisdiction. The timing and scope of regulations across APAC vary so it is essential to work through the detail to understand how best to align data gathering and analysis with legislation.

In Singapore, for example, mandatory disclosure is being introduced in 2025 for all regulated entities[9]. For New Zealand, legislation came into effect in 2023 for large publicly listed companies, insurers, banks, non-bank deposit takers and investment managers.[10] Legislation for Hong Kong[11], South Korea[12] and Japan[13] is also incoming, with many of these reforms expected to come into effect no later than 2026.

Get familiar with the PCAF standard

The Global GHG Accounting and Reporting Standard for Insurance-Associated Emissions from PCAF provides insurers with a methodology for measuring and disclosing GHG emissions associated with their insurance and reinsurance underwriting portfolios[14]. The standard uses a calculation that multiplies total emissions of the insured customer or asset by an agreed 'attribution factor' to determine the insurer's share.

Documentation for the standard also provides guidance on emissions data, data quality, and reporting requirements. While company-specific emissions data from clients may be desirable, the standard recognises that collecting data for each company can be a potential barrier for insurers reporting on their underwriting portfolio. ESG-data providers and climate technology platforms are put forward as an alternative data source for insurers to use.

Be aware of data challenges

Whether insurers are using company or sector specific data, or a combination of the two, it's important to be aware of potential pitfalls in data gathering and analysis.

- Data accuracy and consistency – gaps in data from insured entities and inconsistent data quality across different regions and sectors can hamper accurate reporting.

[9] Singapore Exchange, Sustainability Reporting, accessed February 2025.
[10] Ministry of Business, Innovation and Employment, Mandatory climate-related disclosures, accessed February 2025.
[11] Hong Kong Exchange, Exchange Publishes Conclusions on Climate Disclosure Requirements, April 2024.
[12] Financial Services Commission, Taskforce on ESG Finance Holds Meeting and Discusses Key Details of ESG Disclosure Standards, April 2024.
[13] Responsible Investor, Japan proposes mandatory ISSB disclosure and assurance from 2027, May 2024.
[14] Partnership for Carbon Accounting Financials (PCAF), Insurance-Associated Emissions, November 2022.

- Scope and boundaries – integrating different data sources and matching data to reporting requirements can be difficult when there are different approaches to determining boundaries of responsibility for emissions associated with insured activities, and scope of emissions to be included (e.g. direct vs. indirect emissions).
- Technological limitations – with large and varied data sets to process and analyse, some insurers may lack the technological infrastructure and advanced data management systems required to ensure accuracy and reliability.

Harness the benefits of technology

Using Artificial Intelligence (AI) and Machine Learning (ML) can help insurers improve accuracy and consistency of emissions reporting data and outputs across clients and regions. These technologies can support net zero underwriting goals in a number of ways, including:

- Data collection and integration – to improve consistency, efficiency and reduce manual errors, AI can automate data collection from diverse sources and integrate data from multiple systems, for faster, more comprehensive reporting.
- Data quality and consistency – using AI models can automate anomaly detection to flag and resolve inconsistencies between data sets. Together with ML algorithms to clean and preprocess data, this solution provides greater accuracy and reliability and can fill gaps in available data.
- Enhanced decision making – with AI enhancements for risks assessment and ML to power scenario modelling and analysis, insurers can better understand potential climate impacts and risks to inform underwriting decisions.

While the terms Artificial Intelligence (AI) and Machine Learning (ML) are often used interchangeably, they refer to two different aspects of computer algorithms. AI is a computer algorithm that is able to simulate human-type intelligence through decision making. ML is a component of an AI algorithm that allows the system to learn from data. AI may incorporate many ML algorithms to make decisions autonomously and achieve the goal that it is set.

Emissions reporting is becoming a non-negotiable for insurers across APAC. While a robust approach must match legislative requirements for their jurisdiction, developing a best-practice reporting capability can enable companies to better inform their risk assessments, underwriting decisions, as well as supporting their access to capital in the reinsurance market.

The journey to net zero underwriting is not without its challenges, particularly when it comes to collecting sufficient data and carrying out effective analysis and modelling. Over the past few years, AI-based emissions calculators have emerged as a powerful tool to help insurers develop a fit-for-purpose solution for appropriate and accurate reporting for their complete emissions footprint, including Scope 3.

About Aon's Climate Risk Advisory

Aon's Climate Risk Advisory practice helps clients make better decisions about their climate-related financial risks - delivering data and expertise to unlock capital and make markets to drive the transition.

Aon's Transition Performance Index (TPI) enables a dialogue on transition progress between all parties in the risk and insurance value chain - informing advice, better decisions, and matching of capital to risk to accelerate the climate transition.

In Australia, Aon's Combined Hazard Information Platform (CHIP) Carbon product is able to quantify the carbon footprint of residential and commercial properties across the country and can be used to support Scope 3 emissions disclosure for insurers, lenders and real estate investors.

About WollemAI

Leveraging cutting-edge artificial intelligence and deep expertise in the land sector, WollemAI delivers highly precise, geo-location-based carbon emissions data and analytics.

The platform supports large organisations in meeting regulatory, investor, and stakeholder demands for emissions reporting in climate-related financial disclosures.

WollemAI is an official partner of the Partnership for Carbon Accounting Financials (PCAF).

About Aon

Aon plc (NYSE: AON) exists to shape decisions for the better — to protect and enrich the lives of people around the world. Through actionable analytic insight, globally integrated Risk Capital and Human Capital expertise, and locally relevant solutions, our colleagues provide clients in over 120 countries with the clarity and confidence to make better risk and people decisions that help protect and grow their businesses.

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