OCTOBER 2025

Scope 3 Emissions for Property/Casualty Insurers

American Academy of Actuaries
A Policy Paper by Climate Related Financial Disclosures Subcommittee

American Academy of Actuaries

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October 2025

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Introduction

The financial reports routinely released by insurers have recently begun to include the disclosure of various environmental, social, and governance (ESG) data. In particular, there is growing interest in information about the greenhouse gas (GHG) emissions of life, health, and property/casualty insurers[1], along with new disclosure requirements being issued or proposed by various governments and regulators (partially covered in Section 3 below).

This policy paper addresses what the data so far have found to be the largest potential component of those GHG disclosures for insurers, namely Scope 3 emissions[2], and focuses on this issue from the perspective of U.S. insurers.[3]

This policy paper is divided into the following sections:

1. What Are Scope 3 Emissions?
2. Basic Approach Suggested
3. Recently Announced or Proposed Scope 3 Disclosure Requirements
4. Issues
5. The Enabler Concept
6. Achieving the Objective

1 This policy paper elaborates on the Academy's January 2024 *ESG and the Actuary* issue brief, namely its concluding section dealing with "ESG Financial Disclosures."
2 As noted, this paper does not address the other components of GHG emissions, namely Scope 1 and 2 emissions. Those are generally immaterial for insurers and other financial institutions, according to a 2022 report by the Carbon Disclosure Project, "CDP Technical Note: Relevance of Scope 3 Categories by Sector."
3 The authors acknowledge that different jurisdictions may take different actions with regard to such disclosures.

Please note that this policy paper focuses solely on describing the current status of Scope 3 financial reporting disclosure requirements in the United States, particularly for U.S. insurers. It does not address any risk management issues related to climate change, nor does it consider how the financial reporting requirements may change in the future. For example, while outlining various sources of uncertainty, it does not attempt to predict how the uncertainty will or will not be resolved. It also points out issues with regard to the current situation regarding Scope 1 and 2 reporting (in the context of Scope 3 reporting proposals) and with regard to current data shortfalls. Those situations may change in the future, but this policy paper does not attempt to presume if or how those situations may change.

The Academy trusts that this policy paper is informative and thought-provoking for those involved with insurer Scope 3 disclosures or with an interest in the subject. We believe that wider discussion of the various issues associated with such disclosure proposals would produce the best outcome. As such, we would be interested in feedback with regard to whether readers found this valuable, and with regard to future discussions on this topic.[4]

4 For actuaries involved with such disclosures, to the extent that such disclosures would be considered part of actuarial services, the authors suggest review of ASOP 4, *Actuarial Communications*, and its guidance with respect to areas of uncertainty.

Section 1:
What Are Scope 3 Emissions?

More than two decades ago, the World Business Council for Sustainable Development and the World Resources Institute co-published a landmark framework for the accounting and reporting of GHG emissions—the GHG Protocol Corporate Accounting and Reporting Standard.[5] This standard targets GHG covered by the 1997 Kyoto Protocol, including carbon dioxide and methane as well as other gases. A key objective of the standard is to help reporting entities assemble a "true and fair account" of their emissions in a GHG inventory which, in turn, can support an effective strategy to manage and reduce GHG emissions.

The GHG standard defines several categories to help distinguish various direct and indirect sources of emissions. Scope 1 describes direct emissions from sources that are owned or controlled by a company. Scope 2 describes indirect GHG emissions associated with the purchase of electricity, steam, heat, or cooling by the company. For those following that standard, companies are required to separately report Scope 1 and 2 emissions at a minimum. Note, however, that analysis of reports under that standard has found Scope 1 and 2 GHG emissions to be immaterial for insurers and other financial institutions.

Scope 3 GHG emissions are an optional reporting category under that standard, and comprise all emissions other than Scope 1 and 2 emissions from the company's economic value chain. They are a consequence of the firm's activities but from sources beyond its ownership or effective control. The GHG protocol lists 15 categories of Scope 3 emissions[6] and bifurcates that list into those associated with upstream activities (with suppliers) and those associated with downstream activities (with customers). For example, the upstream categories include GHG emissions due to the purchase of physical products used by the reporting entity (such as copier paper) as well as employee business travel. Downstream categories include the use of sold products as well as investments (a major category for insurers).

5 The GHG Protocol Corporate Accounting and Reporting Standard was published in September 2001 and revised in March 2004.
6 The full list of these 15 categories can be found in the Appendix.

Why are these disclosures of interest?

GHG emissions generally are a matter of growing concern to many in society given the diverse threats that climate change poses to both physical property, and human health and well-being. Among the World Economic Forum's 10 reasons why CEOs should care about Scope 3, four illustrate the range of motivations:

1. Growing requirements from regulators.
2. Financial business case for change.
3. Increase in process efficiency and productivity, leading to long-term sustainable profits.
4. Collective action is needed for a systemic transformation towards net-zero.

Proponents of Scope 3 emissions reporting suggest benefits to both the individual companies and to the society as a whole. This policy paper does not take any position on whether these and other stated potential benefits of reporting outweigh the challenges and costs of reporting, which are the primary focus of the paper.

As a result many company stakeholders—company owners and their proxies on the boards of directors, supervisory authorities, customers, activist nongovernmental organizations, and the media—are paying more attention to the current GHG "footprints" of these companies, in addition to their plans to reduce emissions to meet avowed targets in the years to come. This heightened level of interest reflects a widespread sense that stronger collective action is required to stabilize GHG concentrations in the atmosphere.

In this context there is an emerging risk dynamic—namely one of public perception. Concerns about company action (or relative inaction) regarding their GHG emissions have translated into calls for more transparency by many governments[7] and climate activists. There is, as well, some expectation that the GHG data prepared by companies, including insurers, should be reasonably consistent, and hence broadly comparable[8], across each industry sector and across sectors akin to other financial reporting.

Various proposals believe such GHG reporting will need to include the entire "value chain" relative to GHG emissions arising from a given product or service, in order to encourage reducing such emissions. Such proposals believe that limiting the reporting to just Scope 1 and 2 emissions is not sufficient, and that Scope 3 emissions need to be included in such financial reporting disclosures.

7 This can be seen by the new disclosure requirements found in Section 3, such as those issued via a new California law and put in place by the Canadian regulator—Office of the Superintendent of Financial Institutions (OSFI).
8 The issue of comparability is discussed later in this policy paper.

Not too surprisingly, there are costs and benefits associated with being among the early adopters of Scope 3 reporting. This has added a new dimension to a company's reputation risk calculus, compounding other climate-related financial risks. It bears noting that the foregoing dynamic is playing out against a backdrop of institutional investors with varying levels of ESG commitment—including large pension funds and other active investors and endowments—and their decisions regarding which assets to hold or sell.

The rest of this policy paper focuses on Scope 3 disclosure challenges of most interest to insurer reporting.

Section 2: Basic Approach Suggested

In the insurance industry, particularly within the property and casualty (P/C) sector and investment management for the life insurance sector, measuring Scope 3 emissions is an evolving priority. At the time of the publication of this paper, there are only two proof of concept methodologies for practical considerations being proposed. These are the proposals by 1) GHG protocol published in 2011[9] and 2) Partnership for Carbon Accounting Financials (PCAF) published in 2022.[10] Note that neither is authoritative absent any action taken by an authoritative financial reporting standard setter such as the U.S. Securities and Exchange Commission (SEC).

GHG protocol approach

While the GHG protocol provides detailed guidance on calculating Scope 3 emissions for many industry sectors, its direct applicability to insurance entities remains limited. Of all the categories, Category 15 Investments is the more relevant one and addresses four types of financial investments as follows:

- Equity investments: emissions from the investee's operations (both Scope 1 and Scope 2) are attributed to the investor based on their proportional share of equity in the investee.
- Debt investments: if there is known use of proceeds, the proportional share of emissions is determined by the investor's contribution to the total project costs, which include both equity and debt financing. The emissions considered in these calculations include

9 This is the date that the GHG protocol published a paper, Corporate Value Chain (Scope 3) Accounting and Reporting Standard, a supplement to its 2004 GHG Protocol Corporate Accounting and Reporting Standard.
10 The PCAF proposed standards can be found here.

the direct Scope 1 emissions of the investee or project, indirect Scope 2 emissions from electricity consumption, and, where relevant, Scope 3 emissions associated with the investee or project.

- Project finance: approach is similar to debt investment if there is known use of proceeds.
- Managed investments and client services: no prescribed guidance and reporting is optional.

For debt investments and project financing, the emissions are reported in the initial year of financing and need to reflect the total projected lifetime emissions of the project. In case of uncertainty about a project's lifespan, the company may report a range of emissions estimates (e.g., for a coal-fired power plant, a range might cover 30 to 60 years). Reporting should also include detailed assumptions underlying these estimates.

PCAF (Partnership for Carbon Accounting Financials) approach

Building on the GHG protocol's proportional approach, PCAF offers a methodology[11] that covers a slightly broader set of financial instruments through the concept of financed or facilitated emissions for the following investment types: primary issuance of capital market instruments, syndicated loans, public and private equity, and debt investments.

The standard also provides guidance for commercial lines and personal motor lines on calculating insurance-associated emissions from reinsurance activities, where there are no financing activities or ownership associated with those emissions. This added category of "insurance-associated emissions," which is not found in the GHG protocol standard, is probably the major difference between the two proposals from the U.S. insurer perspective.

The PCAF approach begins by categorizing investments into predefined asset classes, after which each asset class has a specific attribution factor calculation method.

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11 The PCAF standard specific to insurance Scope 3 emissions was published in November 2022 and is titled Insurance-Associated Emissions: The Global GHG Accounting & Reporting Standard/Part C.
12 See footnote 9. The graphic is found in "Financed Emissions 2nd Edition" on page 40.

At a high level:

- Public equity and corporate bonds: emissions from the issuer of a security are attributed to insurers based on their ownership percentage in that issuing company. The more equity or bonds an insurer holds, the larger the share of that company's emissions attributed to the insurer.
- Mortgages and commercial real estate: emissions are attributed based on the outstanding mortgage amount to the property value at the time of loan origination.
- Sovereign bonds: emissions are attributed based on the ratio of exposure to sovereign debt relative to GDP.
- Commercial lines: the attribution factor is the ratio of premiums charged the insured divided by the total revenues of the insured.
- For personal auto lines, the attribution is calculated based on the share of insurance costs to the total cost of ownership of running a vehicle, calculated insured by insured. (This approach is based on the concept that the personal auto insurer is acting as an "enabler" of GHG emissions arising from the use of the auto. The "enabler" concept is discussed later in this policy paper.)

Note that the bottom two bullets are labeled "insurance-associated emissions" by the PCAF, meant to represent Scope 3 emissions associated with insurance underwriting. The PCAF bases this category on the "enabler" concept, with this approach and concept discussed separately in Section 5.

The PCAF has stated an intent to expand its approach beyond that described in its 2022 publication, so what is discussed in this policy paper may change in the future.

Section 3: Recently Announced or Proposed Scope 3 Public Disclosure Requirements

Recent Scope 3 reporting requirements have been issued or proposed by the following bodies:

- The International Sustainability Standards Board (ISSB) via its S2 standard.
- Canada's Office of Superintendent of Financial Institutes (OSFI)[13] via a new guideline.
- The state of California via a 2023 statute.[14]
- The SEC original proposal from early 2024, although the final proposal (which is currently being appealed) did not include required Scope 3 disclosures.

Note that other markets/jurisdictions have also issued Scope 3 proposals. The above is a list of those considered to be the most relevant to U.S. insurance entities.

International Financial Reporting Standards[15] ISSB S2

In June 2023, IFRS's ISSB issued its second standard, S2 Climate-Related Disclosures. S2 included reporting requirements for GHG emissions reporting by scope (1, 2, and 3) to be measured in accordance with the GHG Corporate Standard (2004). The objective design of IFRS S2 is to meet investor needs. Under IFRS S2, Scope 3 disclosures are required if the emissions are found to be material when measured using the Scope 3 Standard (2011). If an entity's activities include asset management, commercial banking or insurance, additional disclosures are required for Category 15. Per the October 2022 decision by the ISSB, the basis for these Scope 1, 2, and 3 disclosures is the GHG protocol.[16]

13 OSFI is the principal insurance regulator in Canada, with regulatory authority for the largest insurers in Canada.
14 SB-253 Climate Corporate Data Accountability Act.
15 Standards issued by the ISSB are considered part of International Financial Reporting Standards (IFRS).
16 Per the IFRS S2 Climate-related Disclosures standard which was subsequently released by the ISSB in June 2023 and made effective in January 2024. Note that, consistent with the approach taken for IFRS Accounting Standards issued by the International Accounting Standards Board (IASB), it is for jurisdictional authorities to decide whether to mandate the use of IFRS S2, including whether to modify the standard before adoption.

The originally published S2 (in the accompanying Basis for Conclusions document, paragraph BC129) stated that insurance-associated emissions were not part of the required Scope 3 disclosures. In the first half of 2025, the ISSB exposed proposed amendments to S2, with comments on the proposal to be discussed in the second half of 2025. Those amendments reiterated that insurance-associated emissions are not required under S2, but some sense of the relative size of this exclusion should be mentioned in the disclosures. Therefore, while S2 has adopted the GHG protocol guidance with regard to Scope 3 disclosures, it has not adopted the PCAS guidance with regard to insurance-associated emissions.

Note that any standard issued by the ISSB has no force of law unless adopted by a governmental or regulatory body. Such standards also may be modified by the adopter, so the official requirement may not match the full wording of the ISSB standard.

Canada's Office of Superintendent of Financial Institutes (OSFI)

The Climate Risk Management Guideline (B-15) outlines the governance and climate risk management expectations for financial institutions regulated by OSFI. Canada OSFI has redefined the 15th category, which GHG defined as Investments, to be financed emissions and specifically calls out insurance-associated emissions from the PCAF approach into a 16th category.[17] Scope 3 for the financial institutions is outlined to follow the GHG protocol. For those Scope 3 emissions that are financed, facilitated, and insured assets, the reporting methodology is expected to follow the PCAF standard. If a financial institution does not follow the GHG protocol or PCAF standards, it must compare its results to the methodology prescribed in those two resources.

The 16th category, namely insurance-associated emissions, was originally going to be effective in 2025 for life insurers regulated by OSFI. For P/C insurers regulated by OSFI, Scope 3 emission reporting was originally going to be required in 2026. In February 2025, OSFI announced a three-year delay in its Scope 3 disclosure requirements such that Scope 3 disclosures would be required for 2028 fiscal year reporting for all insurers. Those interested in these developments are advised to check the OSFI websites for additional details and updates.[18]

17 Note that the PCAF proposal includes "insurance-associated emissions" as a supplement to the 15th category of investments, and not as a 16th category.
18 The OSFI standard can be found here.

California legislation regarding climate risk disclosures

In October 2023, California passed SB 253, the Climate Corporate Data Accountability Act, which mandates GHG emissions disclosures from all U.S. businesses operating in California (including insurers) that have over $1 billion in revenues. A reporting entity will begin reporting in 2026 and in conformance with the GHG protocol standards for scopes 1, 2, and 3. Scope 3 emissions reporting will begin 180 days after Scope 1 and 2 emissions are publicly disclosed. Emission disclosures must be independently audited by a third-party assurance provider.

Starting in 2033, and every five years thereafter, the state board will review and possibly update the Scope 1, 2, and 3 reporting standards to a new "*globally recognized alternative accounting and reporting standard.*" If updated, then they will review the regulations also for a possible update. Therefore, the California Scope 3 reporting will not include "insurance-associated emissions" until possibly after this 2033 review.

SEC

On March 6, 2024, the SEC adopted new rules requiring public companies to disclose extensive climate-change-related information in their SEC filings. These rules mandate material disclosures of Scope 1 and 2 GHG emissions for large accelerated filers and accelerated filers[19] (unless exempted), along with an independent assurance report at the limited assurance level.[20] After a set period of time, large accelerated filers will transition to a reasonable assurance level. The new rules exclude Scope 3 emissions from the reporting requirements. On March 15, 2024, a federal appellate court imposed a temporary stay on the rules pending judicial review.

Note that SEC rules only apply to companies under their authority. For example, privately held companies that do not sell securities are not under the SEC's authority.

19 The SEC has separate filing deadlines (and sometimes rule effective dates) that vary based on the size of the company as measured by the size of its "public float," loosely defined as the amount of its stock owned by the public that are available for trade. Large accelerated filers have the largest amount of public float, followed by accelerated filers, followed by all others. See this for the current SEC definition of these terms.

20 "Limited assurance is sometimes referred to as negative assurance. When limited assurance is provided, the CPA is basically saying that based on their work, they are "not aware" of any material misstatements. This is different from positive assurance, because under positive assurance, the CPA would say they have reasonable assurance that the financials are free from material misstatement." Quote taken from "What is limited assurance?"; Universal CPA Review; 2022.

In summary with regard to U.S. insurers, Scope 3 reporting is not currently required in the United States, except for those impacted by the California law starting in 2026, with the Scope 3 reporting based on the GHG protocol but not the PCAF proposed guidance. U.S. insurers with a Canadian affiliate will have to report Scope 3 emissions for their Canadian affiliate, with Canadian P/C insurers subject to the PCAF guidance on insurance-associated emissions starting with fiscal year 2028 reporting. These dates are all subject to change.

Section 4: Issues

This section discusses various issues arising from Scope 3 disclosure requirements and proposals, other than those arising from the PCAF "enabler" concept for insurance-associated emissions which are discussed in the following section. The first two issues are generic (comparability and materiality), while the remaining issues deal with practical difficulties.

Comparability

The following comes from a Frequently Asked Question response from the GHG protocol:[21]

> *Can the Scope 3 Standard be used to make comparisons between companies?*
>
> *The Corporate Value Chain (Scope 3) Standard is designed to enable comparisons of an individual company's GHG emissions over time. It is not designed to support comparisons between companies. Differences in reported emissions may be a result of differences in inventory methodology, company size or structure. Additional measures are necessary to enable valid comparisons across companies, such as consistency in methodology, consistency in data used to calculate the inventory, and reporting of intensity ratios or performance metrics.*

21 Corporate Value Chain Scope 3 Standard; Greenhouse Gas Protocol; October 2011.

Sometimes those creating financial (public) reporting standards attempt to create comparability by creating required disclosure templates. This may or may not make the disclosures more comparable, as such an approach does not address methodological differences in the calculation of the disclosure items. There may also be difficulties in creating one disclosure template regardless of the business model.

Based on the above, comparability across companies or industry sectors does not seem to be an objective of Scope 3 disclosure proposals. This would be atypical with regard to financial reporting requirements. Instead, the focus of the GHG protocol for Scope 3 disclosures is consistency over time for each reporting entity, such that the trend over time for that reporting entity can be observed.

Materiality

Materiality is a key concept in financial reporting, as it strives to focus on what is relevant to the user of the financial reports and to avoid overwhelming the user with voluminous but largely irrelevant information. As a general rule, information is deemed material if its omission or misstatement would impact a reasonable user's decision-making.[22]

In the area of GHG disclosures and general sustainability reporting, Europe and certain other countries have developed the concept of "double materiality." This approach treats the traditional materiality approach as applying to whether a potential disclosure item impacts the financial results of the reporting entity. This is labeled financial materiality under the double materiality approach. That approach treats financial materiality as distinct from what is called "impact materiality," where "impact materiality refers to the actual or potential effects of a company's operations on the environment and society."[23] This concept of double materiality has not been adopted by the accounting standards setters in the United States as of the date of this report.

22 The current U.S. materiality standard is based on a 1976 Supreme Court decision TSC Industries, Inc. v. Northway Inc., which stated "a substantial likelihood that a reasonable shareholder would consider it important in deciding how to vote…Put another way, there must be a substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the 'total mix' of information made available."

23 CSRD and double materiality: A comprehensive guide; Plan A; July 11, 2024.

With regard to whether or not Scope 3 emissions are material for insurance companies, there was an evaluation of 2021 public disclosures by industry sector by the Carbon Disclosure Project (CDP).[24] The resulting report found that the Investment category of Scope 3 emissions represented over 99% of total Scope 3 emissions (and over 99% of total Scope 1, 2, and 3 emissions). Note that the financial services sector includes more than just insurers (e.g., banks), and the reporting appears to be based on the GHG protocol 15 categories for Scope 3 (i.e., it does not appear to include the "enabler" category proposed by PCAF). The implication is that the only material GHG category for insurers may be the investment category, unless one adopts the enabler category proposed by the PCAF.

Data lags

Scope 3 disclosures are based on the Scope 1 and 2 GHG emissions of a company's suppliers and product users. But those values for their suppliers and customers are not available to a company in time for the filing of financial reports. For example, with regard to suppliers, if both the company reporting Scope 3 emissions and the entity supplying that company both publish their financial reports for year 20XX on Feb. 15, 20XX+1, it is impossible for the company to include the actual GHG emissions of its suppliers in the year 20XX report. The needed data for reflecting the actual GHG emissions for its suppliers aren't available until after the annual reports have been published. Either a reporting lag is required or some form of estimate is required. This was acknowledged in the new California law, California Senate Bill 253 (SB-253), regarding GHG disclosures when it discussed deadlines for Scope 3 disclosures "as close in time as practicable to the deadline for reporting entities to disclose scope 1 emissions and scope 2 emissions data." (See Appendix.)

One approach to dealing with data lags is to report estimates tied to the particular supplier or customer involved rather than actuals. This approach conceivably requires some form of later true-up for the difference between the estimate and the actual values that are eventually available. Such estimations are typically based on past relationships, so they tend to lag reflection of changes in those relationships. During times of changing practices, such lags can make the use of estimates less reliable, possibly impacting the analysis of trends.

24 CDP Technical Note: Relevance of Scope 3 Categories by Sector; CDP Worldwide; 2025.

Tying supplier/product user reporting to the Scope 3 reporting entity

Conceivably, the reporting of Scope 3 emissions would be based on reporting of Scope 1 and 2 emissions from the suppliers of the company, as well as the users of the company's products. But that reporting may not have sufficient granularity to identify the emissions from the particular product the company obtained from the supplier, or from the particular usage of the company's product by the company's customer. As a result, the development of Scope 3 emissions amounts from suppliers and from users of a company's products may have to be based on broad allocations or estimates.

The Greenhouse Gas Protocol published a paper, "Technical Guidance for Calculating Scope 3 Emissions," that discusses some of these reporting issues. The paper pointed out the "considerable time and cost burden to conducting a scope 3 inventory"[25] if attempting to collect data directly from suppliers on a product by product basis. As such, it also mentions using broader estimates, such as allocating GHG emissions based on each product's mass or volume relative to the totals across all the supplier's products. It remains to be seen if such broad allocations are helpful in encouraging actions that lower GHG emissions.

Industry or product averages

One estimation approach that has been suggested is the use of averages across the industry for certain products, perhaps collected and/or disseminated by a trade association. Such an approach may avoid the problem with data lags, assuming that the averages used here would be locked in for a reporting year and not updated for later information, although by addressing one issue this approach may raise other issues.

Some of the approaches suggested are to multiply the amount spent (or sold) for a particular good by an emissions factor. Alternatively, the emissions factor could be applied to a product count or by the total mass (i.e., weight) of the particular product bought or sold. These approaches would seem to treat the products as commodities, not reflecting differences in suppliers or users of the product. As such, it is not clear how these approaches would encourage lower GHG emitting suppliers or product uses. Supposedly such broad averages could be adjusted for perceived GHG differences by supplier or product user, although this would add more estimation uncertainty to the reported values.

25 Technical Guidance for Calculating Scope 3 Emissions; Greenhouse Gas Protocol; 2013.

Product lifetime GHG emissions vs. single year emissions

The GHG protocol technical guidance mentions the need to consider "cradle-to-grave" and "life cycle" emissions factors. To the extent this deals with future GHG emissions (e.g., the cost to recycle a product sold to a customer), it is contingent on estimates of future technology and uses. The reporting of product lifetime GHG emissions adds to the overall estimation uncertainty, with that uncertainty being a function of the length of the future life cycle and potential changes in future practices (e.g., future recycling technology and methodology).[26]

Investment issues

Most of the above discussion of practical issues is focused on GHG emissions related to products. This product focus may not be as directly relevant to Scope 3 emissions arising from insurer investments.

The GHG protocol technical guidance suggests focusing on investments in industries that are major producers of GHG emissions. Their general approach is to determine the ownership share in a particular stock issuer and multiply that by the total Scope 1 and 2 emissions reported by that stock issuer. Interestingly, the initial version of the GHG guidance does not provide any guidance on Scope 3 emissions from investments in an issuer's general corporate debt.

It is clear that the suggested approach would produce double counting if an insurer also used a product from a firm where they had an investment. The PCAF guidance suggests addressing this via separation of those Scope 3 emissions arising from the investment category labeled "financed emissions" in that guidance.

26 The PCAF also discusses "lifetime" emissions in various contexts, but in a manner not easily summarized for this policy paper. Interested readers are advised to access the latest discussion in this area from the PCAF website.

Section 5:
The Enabler Concept

The PCAF proposal for Scope 3 emission disclosure includes a supplemental category under Investments (the 15th Scope 3 category) for property/casualty insurance companies. As mentioned earlier, this supplemental category is the major difference for P/C insurers between the GHG protocol and the PCAF proposal, as it is not found in the GHG protocol. The category is called "insurance-associated emissions," which is meant to represent the Scope 3 emissions arising from the P/C underwriting function. It is based on an "enabling" concept, under which an insurer that provides insurance coverage for an entity is considered to be enabling that company's actions in generating GHG emissions.[27] This section evaluates the issues associated with the enabling concept in two parts, those associated with the enabling concept in general, and those associated with the specific disclosure approach proposed by the PCAF.

General issues with the enabling concept

Three issues associated with the enabling concept are discussed below—the potential for unlimited extension of the concept, the situation of government mandates, and the rationale behind the concept.

Potential for expansion beyond P/C underwriting

The PCAF proposed the enabling concept for property/casualty insurance underwriting based on the proposition that such risk protection is a necessary part of running a business or operating a car. But there are many other products and services that can also be considered necessary parts of running a business or operating a car. For example, a business (at least in the United States) generally has to provide health insurance benefits to be viable, so a provider of health insurance to a business generating GHG emissions could be seen as "enabling" such emissions. Similarly, a driving school could be seen as enabling a lifetime of

27 The PCAF guidance also considers the possibility that the insured's operations could also be reducing GHG emissions.

GHG emissions from the vehicles their graduates drive after obtaining their driver license. There are many other potential applications of this concept to other areas.[28] So, a practical issue is: "Where does the application of this concept end?"[29]

Situation of government mandates

Public policy sometimes determines that certain insurance coverages are mandatory. In the U.S. this includes personal auto liability, workers' compensation, homeowners' coverage (to obtain a mortgage), and in some cases commercial liability insurance.[30] These requirements generally require the use of residual markets to cover those potential customers not able to obtain these mandatory coverages from the voluntary market. This means that the voluntary market cannot decide to disallow a process or operation that generates GHGs, as any such operation refused insurance from the voluntary market is assured that it can obtain such coverage from the residual market. In addition, under several residual market mechanisms in place, that operation that was refused insurance coverage may still show up in the insurer's premium results via assigned risk plans or assumed premium from a residual market pool. Therefore, the entities enabling the operations of the insured entities are actually those setting the mandates, rather than the insurers providing the direct insurance coverage.

As stated above, it is the entity that established the mandate that is the enabler of any resulting emissions. That enabler may be a state or federal government, or a federal agency such as a bank regulator. This does not necessarily mean that the Scope 3 data from such an approach has no value, but it does mean that the "enabler" justification for tying it to the underwriting entity is subject to question.

Rationale behind the enabling concept

Per the PCAF, one rationale supporting this concept is "Re/insurance customers have a vital need for re/insurance for their businesses, and this creates leverage for re/insurance companies in discussing GHG emissions with such customers." The existence of such leverage may be questionable, as potential insureds may not want to be involved with an insurer that tries to influence their insured's operations in ways not directly correlated with claim potential.

28 As one other example, a provider of services along highway rest stops could be seen as enabling long distance driving, and the GHG emissions that result.

29 The PCAF identifies this issue in page 27 of its proposal (Insurance-Associated Emissions Standard PART C) where it states (with regard to vehicle emissions) "*For example, for vehicles not only insurance is required to drive the car, but also the vehicle's registration or fuel. Ultimately, there can be multiple contributors that enable the activity to take place*." This is further discussed within the context of motor vehicles in page 42 of the PCAF standard, where it states "*PCAF acknowledges that insurance companies are not alone in this role of enabler. Several private companies' and governments' activities either contribute to the existence and use of each motor vehicle, such as through transportation policies and infrastructure, or government subsidies. Examples of enabling actors include the following: motor vehicles manufacturers, dealers, maintenance services, gas stations and repairers. All are players within the value chain of motor vehicles*."

30 In some cases, an entity is not allowed to hold an event or provide services unless it provides proof of insurance. In one example, the state of Connecticut requires those providing patient care services to have malpractice insurance.

PCAF application of the enabler approach

The PCAF approach has two components, one for commercial P/C lines and one for personal auto lines. The PCAF would require such reporting "where material and where data is available".[31] The PCAF reportedly expects to expand its approach to other personal lines and reinsurance treaty contracts in the future.

Commercial lines approach

The commercial lines component determines Scope 3 emissions by multiplying each insured's Scope 1 and 2 emissions by the ratio of the insured's premium to the insured's revenue. Where this detail is not available, the reporting insurer is directed to use estimates. This calculation is meant to be applied to all direct policies and facultative reinsurance contracts, but the initial proposal did not include treaty reinsurance contracts.[32] This would result in inconsistent treatment of residual markets for lines where coverage is mandatory, as some residual markets would be included in the portfolio of contracts while others would not.[33]

The PCAF approach to commercial lines also has some excluded policies and coverages, such as insurance for governmental entities and for "construction all-risk" policies.

Personal auto approach

The personal auto component determines Scope 3 emissions by multiplying a fixed factor (6.99%) times the estimated emissions by each insured car. The estimated emissions are based on the make, model, model year, and miles driven of each insured car. The fixed factor is based on an estimated global average of the insurance premium portion of the total cost of vehicle ownership.

31 Page 20 of the PCAF 2022 report, "Insurance-Associated Emissions, The Global GHG Accounting & Reporting Standard/Part C."
32 A proposal for the treatment of treaty reinsurance was exposed for comment in late 2024 (with a comment deadline of late February 2025). We could not find a confirmation that this proposal was finalized but it envisioned allocating the emissions associated with the gross insurance premium to where the risk eventually ended up on a net basis, after all the relevant reinsurance transactions. Such a proposal might be difficult to implement for residual market reinsurance mechanisms without material increases in the data typically captured from such insureds.
33 Assigned risk plans that allocate individual residual market insureds to voluntary writers would be reflected in the gross premium used in PCAF Scope 3 allocations, while those using residual markets based on reinsurance pools or assessments would not. In most cases, residual markets are not material enough to materially impact the result.

Issues associated with these two approaches

Granularity

Both of these approaches are extremely granular and can include capture or estimates of items that are not currently captured. For example, the commercial lines approach is based on capturing Scope 1 and 2 emissions data from the insured. Those data may not currently exist for U.S. insureds and are only being proposed in the future in the U.S. for SEC filers and certain California businesses. Such Scope 1 and 2 emissions data are not currently being proposed and may never be captured/estimated for certain types of insureds such as small businesses and non-SEC filers. Similarly, the personal auto approach requires the capture of miles driven by insured vehicle, and recommends those values by verified via either telematics or odometer observation. The data collection envisioned by both of these components would require material investment by insurers.

Data gaps

Both these approaches require detailed data at the individual insured risk level that may not exist. For example, the personal auto component requires average emissions data per miles driven by make, model, and model year. The PCAF references a U.S. Environmental Protection Agency site as a possible source for this data (obtained via tailpipe testing), but an initial investigation of this data found it to be very limited in some cases.[34] Similarly, the SEC does not yet have a requirement for U.S. companies to report their Scope 1 and 2 emissions, and any such reporting may only apply to the consolidated total. (The PCAF guidance suggests performing the calculations by subsidiary where the insurance is only for a subsidiary of a corporation.)

Where the detailed data proposed for the calculation are not available, the PCAF recommends the development of allocations and the use of averages.

34 For example, the only Volkswagen model listed in the link referenced by the PCAF report was the Golf model.

Crude approach to allocation, with probable false precision

The proposed calculations under the PCAF standard include heavy use of broad industry or product averages (e.g., average amount of emissions per mile for a given make/model/year of a car) and heavy use of allocations (e.g., insured's emissions across all operations allocated to premium for a coverage that may be most relevant to only certain operations). Where data are unavailable, this use of allocations and averages is even greater (e.g., lack of Scope 1 and 2 emissions data for many small businesses). This is combined with false precision in at least one area (e.g., the use of a 6.99% global factor to represent the portion of total vehicle operating costs associated with insurance premiums).[35] This leads to concerns with reliability of the resulting disclosed values.

Note that these issues in allocation are beyond those normally found in financial reporting. Allocations in financial reporting usually involve taking a known amount for a known period for an entity and then allocating that amount to a finer level of detail within that entity. So the total amount being allocated is known and directly observable for the reporting entity, but not necessarily for a particular product, profit center, or other segment of that reporting entity. In contrast, many of the proposed approaches for Scope 3 disclosures deal with either an estimated amount for a broader industry or product total (not particular to the Scope 3 reporting entity), or a projection of a past observed amount for that broader group, and then allocating the estimated current value to individual reporting entities or products. The various guidance suggests that companies can refine these estimates to incorporate reporting entity-specific characteristics that may vary from the broad industry or product norms, but it is unclear whether such would be feasible or even possible.

Note that the PCAF acknowledges some of the above concerns in its standard, but stresses that the disclosure would be used for trends over time rather than absolute reported amounts in a particular year. Under that reasoning, it is consistency in methods over time that matter most. There is a danger, however, that a consistent method over time that does not adjust for differences between company practices may result in disclosures that do not reflect improvements in those practices.

35 The authors are skeptical that such a value (i.e., 6.99%) is reliably estimable to 3 significant digits, hence the label of false precision. Note that allocating vehicle GHG emissions to an insurer based on insurance premiums would allocate a higher amount of emissions for insureds purchasing higher policy limits, and lower amounts of emissions for insureds purchasing lower amounts of coverage, even if the GHG emissions from their vehicle usage were identical. This would not create a bias if all insurers had identical business mixes across all types of insureds, but this is not what typically happens in the market.

Section 6:
Achieving the Objective

Some of the objectives of Scope 3 emissions reporting are quite clear (GHG protocol) while others may be reasonably inferred (PCAF proposal). Yet any attempt to assess whether and how well Scope 3 reporting objectives may be achieved admittedly leans toward the speculative due to the many uncertainties involved.

While the objective of the GHG protocol is to arrive at a "true and fair account" of emissions, it is important to recognize that Scope 3 GHG emissions in many cases are not directly measurable—they are estimated indirectly. An insurer's Scope 3 disclosure will depend on Scope 1 and 2 estimates provided by suppliers and clients, and allocations made by the insurer. To the extent that Scope 1 and 2 data is not forthcoming from companies in which the insurer is invested, the insurer will have to estimate that portion of its Scope 3 emissions to fill the gap.

An allocation of available Scope 1 and 2 data will inevitably entail some use of average assumptions. Unfortunately, a greater dependence on generic formulae and broad averages can translate into more uncertainty regarding the accuracy of the resulting Scope 3 estimate.[36] Achieving the GHG protocol's objective depends on just how "true and fair" the various estimates and allocations are, and whether the Scope 3 result is sufficiently reliable to support effective decision-making—and indeed whether such decision-making based on insurer Scope 3 disclosures actually occurs. This is apt to be very much an open-ended question for most insurers.

Consistent with the GHG protocol's stated objective to support strategies to manage and reduce emissions, Scope 3 data are intended to be used internally to track an insurer's progress toward a reduced carbon footprint over time. This is often done in combination with other green metrics by a management team committed to greater environmental sustainability. In jurisdictions that do not require Scope 3 disclosures, an insurer may opt to publish their emerging Scope 3 data as evidence of their company's green ethos. One might suppose that such an incidental disclosure, the

36 The data challenges surrounding the estimation of GHG emissions and potential influence of averaging assumptions are not to be underestimated. For example, the U.S. Environmental Protection Agency (EPA) lacks GHG emissions data for every make and model of vehicle on the road, and those that are available are based on "average" city versus highway mileage mix assumptions. Likewise, when investing in a parent company, there is likely no clear-cut tracking of the GHG-intensity of the uses to which the additional funds are applied. It makes a difference, from a Scope 3 perspective, whether the investment is directed to an industrial production subsidiary versus a carbon capture start-up project.

byproduct of a corporate sustainability program, would be lauded by many stakeholders seriously concerned about climate issues. However, its social value would seem to depend on the reaction of the broader public and the extent of that response—and both are difficult to predict.[37]

There is an anticipation that more companies will share their Scope 1 and 2 emissions going forward, and that this data will be increasingly fulsome and accurate. Consequently, the need to fill the information gap with modelled data and allocations will diminish. Yet it may be too much to presume that the insurer's Scope 3 estimates will become ever more precise and reliable over time. The accuracy of an insurer's Scope 3 disclosures may well be subject to a proverbial "two steps forward, one step back" evolutionary process.[38] This leads to the simple fact that information disclosures are not cost-free. Insurers will invariably seek to balance the cost of preparing Scope 3 estimates with their putative benefit, namely the positive difference this information makes. This is a particularly acute issue for smaller insurance companies with limited resources. More accurate Scope 3 disclosures generally require a greater investment in their preparation, and it is likely (based on similar experiences with other operational costs) that policyholders will ultimately bear much of this cost.

At length, an insurer might choose to limit or forego much of the costs of developing a detailed in-house Scope 3 estimate and opt for a more generic approach based on broad averages and sweeping assumptions. This could be a possible future for insurers treating this as a compliance exercise or with more limited resources, and an obvious opportunity for third-party vendors to provide lower-cost "quick and easy" Scope 3 tools. Such a scenario would lead toward boilerplate disclosures affording limited insight to a particular entity's contributions to GHG emissions and how to manage them.[39]

It seems clear that the vision of the proponents of the various GHG emissions reporting proposals is that institutional investors and other stakeholders will come to rely on Scope 3 disclosures to track the reduction in insurer emissions over time. Yet the extent to which certain insurers, those that are not statutorily required to disclose Scope 3 emissions, are able to and will voluntarily provide reliable data on their own initiative remains unclear. It is worth recalling that the goal of having Scope 3 disclosures that are comparable between

37 Relatedly, there is some expectation of a positive consumer response to insurer GHG emissions disclosures. However, buyers of personal insurance from independent agencies or brokers often only know their agent's name, and cannot name their insurance company. This is aside from their interest in environmental matters (or lack thereof). Given that price is often the major selling point for insurance, with customer service running second, the level of policyholder interest in insurer Scope 3 data seems open to conjecture.

38 This is in contrast to the manner in which actuarial reserves typically attain greater credibility and accuracy as more claim data becomes available.

39 Another market imponderable is its reaction to early insurance company adopters of Scope 3 reporting, or insurers that seek to provide more robust disclosures than their peers. Lauded for doing "the right thing" albeit at a slightly higher premium price point, or punished for not meeting heightened (or possibly even unrealistic) investor expectations? Being seen as a Scope 3 leader could make one a lightning rod for critical investor attention.

insurance companies—that are of sufficient quality to support buy-hold-sell investment decision-making or deciding which insurers to do business with—is not part of the stated objective of the GHG protocol or PCAF proposal. This is despite a widespread belief that Scope 3 data can be used for such business decisions and that it is indeed fit for that purpose. A moment's reflection on the current GHG emissions data challenges, and need for assumptions when assembling Scope 3 estimates, ought to make the downside risks of inter-company comparison plain. So, it is not yet clear whether the capital providers for insurers, or potentials insureds and agents, will embrace the use of this data sufficiently to make a significant difference in their business decisions.[40]

The PCAF proposal's "enabler" approach aims to have insurers use their commercial leverage throughout their customer base to reduce GHG emissions. The expectation is that insurers will pressure others to "do the right thing", and thereby avoid the stigma associated with being seen to enable "bad acts."[41] In this vein, the PCAF proposal endorses the use of a standardized approach to facilitate comparison of "insurance associated" emissions. While a standardized approach may seem to promote comparability, and thereby help a stakeholder to choose which insurance company to do business (i.e., with one that operates in a more "green" manner with regard to insurance-associated emissions), basic differences in insurer business models and practices may make the information gleaned from pairwise comparisons more apparent than real.[42]

Support in the United States for ESG initiatives and GHG reduction programs in particular, has been waning of late (as of the date of this publication) in some respects. Several very large asset managers have stepped back during the latter half of 2024, and in early 2025 the SEC indicated that it will not support its disclosure regulations in court. This opens the question as to whether, or to what extent (at least in the near term) that insurer Scope 3 disclosures would be used in stakeholder decisions, even if they are mandated.

40 Conventional wisdom suggests that one cannot manage what isn't measured. Yet insurance company investors can nonetheless implement an ESG strategy in the absence of insurer Scope 3 disclosures—or in situations where the disclosures are thought unreliable. Such an investor could adopt a top-down (macro) investing approach by targeting insurers that have less carbon intensive holdings. For example, less exposure to bonds issued by fossil fuel companies (exploration, extraction, refining, distribution and pipelines), fossil fuel-based utilities (coal and natural gas), airlines, and cement works.

41 Is it possible that the application of insurer influence might inadvertently substitute one environmental "bad behavior" for another? For example, suppose an auto insurer manages its liability portfolio in such a way to reduce Scope 3 emissions by declining to accept certain applicants, or by otherwise increasing prices. Vehicle owners may in turn adapt by replacing their internal combustion engine cars and trucks with electric vehicles (EV) to secure their insurance. Yet there are environmental and social issues associated with the mining of metals needed for EV batteries (cobalt, lithium); and in some parts of the U.S. fossil fuels are burned to generate the electricity that makes EVs run. Ideally, such unintended consequences would not happen if the base emissions estimates contemplated alternative harms.

42 For example, as mentioned earlier, the use of an insurer's premium to produce an estimate of Scope 3 disclosures would seem to allocate greater Scope 3 amounts to insurers that sell higher policy limits, making them appear less "green" than insurer that only sells minimal coverage.

Appendix–15
Categories of Scope 3 Emissions

The GHG protocol lists 15 categories of Scope 3 emissions.[43] These come from Table 5.3 of the GHG protocol paper titled "Corporate Value Chain (Scope 3) Accounting and Reporting Standard."

Upstream Scope 3 Emissions

1. Purchased goods and services
2. Capital goods
3. Fuel- and energy-related activities (not included in Scope 1 or Scope 2)
4. Upstream transportation and distribution
5. Waste generated in operations
6. Business travel
7. Employee commuting
8. Upstream leased assets

Downstream Scope 3 Emissions

9. Downstream transportation and distribution
10. Processing of sold products
11. Use of sold products
12. End-of-life treatment of sold products
13. Downstream leased assets
14. Franchises
15. Investments

43 Corporate Value Chain (Scope 3) Accounting and Reporting Standard; Greenhouse Gas Protocol; 2011.

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