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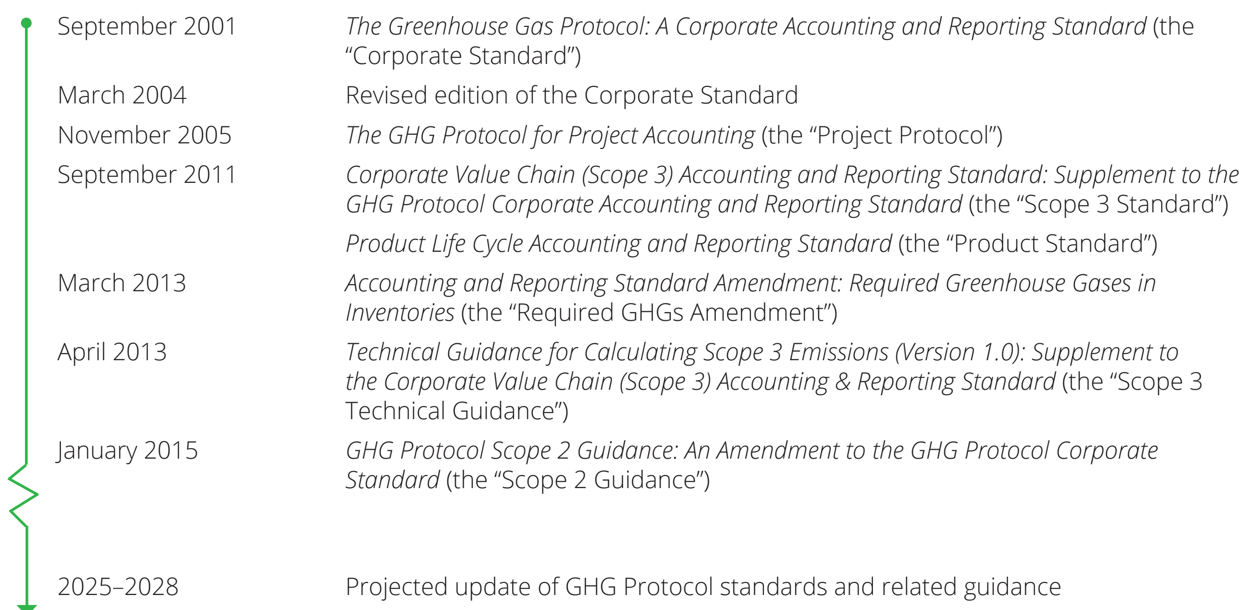
On the Radar
Greenhouse Gas Protocol Reporting Considerations

The Greenhouse Gas (GHG) Protocol is a set of standards and related guidance on accounting for and reporting GHG emissions. Its ongoing development, which has spanned more than two decades, represents the work of a multistakeholder partnership (the "GHG Protocol organization") consisting of businesses, nongovernmental organizations (NGOs), governments, and other entities convened by the World Resources Institute (WRI), a U.S.-based environmental NGO, and the World Business Council for Sustainable Development (WBCSD), a Geneva-based coalition of nearly 200 international companies. The timeline below illustrates the issuance dates of key GHG Protocol standards and related guidance.



The GHG Protocol provides a framework for companies and other types of organizations preparing a GHG emission inventory. Specifically, it addresses the accounting for and reporting of seven GHGs: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3).

Current Reporting Landscape

The current GHG emission reporting landscape is evolving. The number of companies that are reporting on GHG emissions is increasing and will continue to rise as a result of new climate and sustainability standards and regulations across the globe.

While the new climate and sustainability standards and regulations are driving change in the reporting landscape, it is also important to recognize the potential business value of monitoring a company's GHG emissions. Such monitoring may allow companies to identify business and financial risks that arise from their operations and provide management with insight into how to effectively manage those risks.

Companies within the scope of the E.U. Corporate Sustainability Reporting Directive (CSRD) are required to report on GHG emissions in accordance with the European Sustainability Reporting Standards (ESRS) or equivalent standards to be determined. The reporting timeline for the CSRD varies depending on the structure of the company, and a directive that postpones by two years the application of certain requirements under the CSRD by large entities that have not yet begun reporting and by listed small and medium-sized entities was published in the *Official Journal of the European Union* on April 16, 2025. However, some entities have already begun to report. For more information about the CSRD, see Deloitte's January 9, 2023; August 17, 2023 (updated February 23, 2024); and March 7, 2025, *Heads Up* newsletters.

Various companies will need to comply with the International Sustainability Standards Board's (ISSB's) IFRS S1 and IFRS S2, which require disclosures such as information about GHG emissions and sustainability- and climate-related opportunities and risks, subject to jurisdictional adoption. IFRS S2 specifically requires reporting of GHG emissions measured in accordance with the GHG Protocol. IFRS S1 and IFRS S2 are effective for annual reporting periods beginning on or after January 1, 2024, subject to individual jurisdictional mandates. For more information about IFRS S1 and IFRS S2, see Deloitte's June 30, 2023, *Heads Up*. For a list of jurisdictions that are taking steps to adopt or use IFRS S1 and IFRS S2, see Deloitte's *Adoption of IFRS Sustainability Disclosure Standards by Jurisdiction* (commonly referred to as the "ISSB Adoption Tracker").

In the United States, the SEC issued a final rule on climate-related disclosures on March 6, 2024. Among the final rule's disclosure provisions is a requirement for registrants to report GHG emissions in a manner similar to that prescribed by the GHG Protocol. However, on April 4, 2024, the SEC voluntarily stayed the effective date of the final rule pending judicial review by the Eighth Circuit Court of Appeals of petitions challenging it. On March 27, 2025, the SEC voted to withdraw its legal defense of the final rule. On April 24, 2025, the court issued an order pausing the case and instructed the SEC to provide a status report within 90 days indicating whether it intends to review or reconsider the rule. For more information about the final rule, see Deloitte's March 15, 2024 (updated April 8, 2024), *Heads Up*.

Three bills signed into law in California — SB-253, SB-261, and AB-1305 — require both public and private U.S. companies doing business in California to provide certain climate-related and GHG emission disclosures. Portions of Sections 38532 and 38533 of the California Health and Safety Code that were established upon the passage of SB-253 and SB-261 were amended by SB-219. The California Air Resources Board must adopt regulations to codify the requirements in SB-253 by July 1, 2025, and to codify the requirements in SB-261 by January 1, 2026. The effective date of AB-1305 is January 1, 2024. For more information about SB-253, SB-261, and AB-1305, see Deloitte's October 10, 2023 (updated December 19, 2023), *Heads Up*. For more information about the amendments in SB-219, see Deloitte's October 1, 2024, *Heads Up*.

For a comparison of significant sustainability-related reporting requirements issued by the SEC and the state of California in the United States, the European Union via the CSRD, and the ISSB within the IFRS Foundation, see Deloitte's May 13, 2025, *Sustainability Spotlight*.

Classifying GHG Emissions

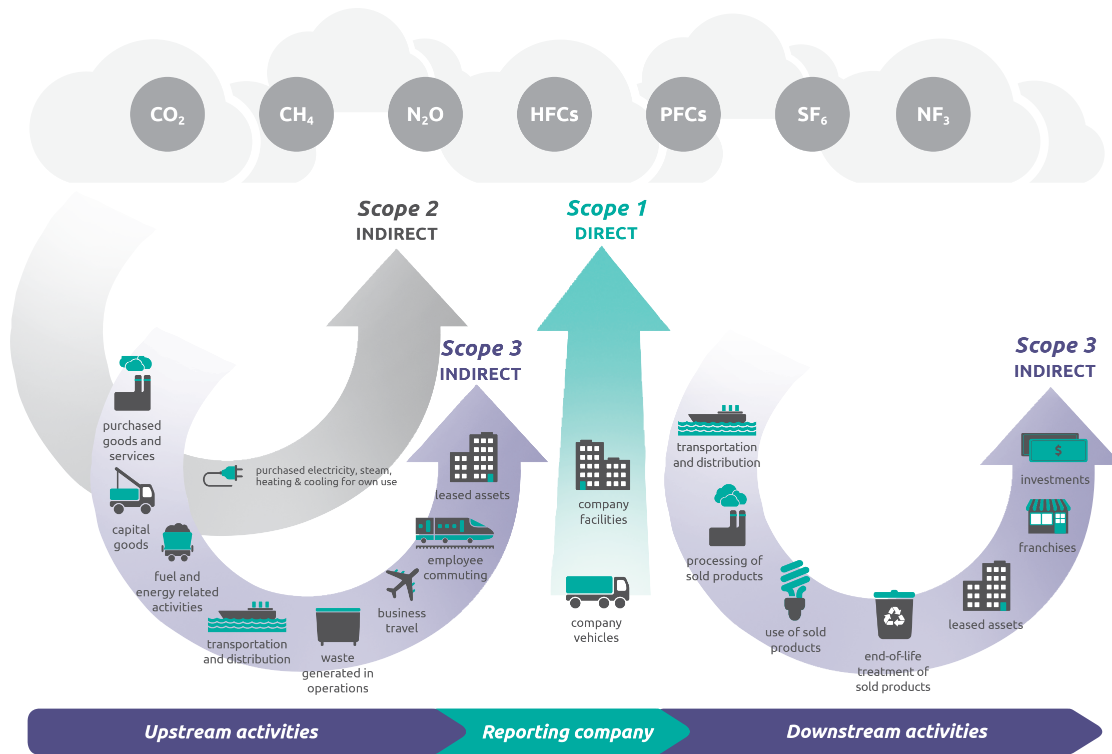
Under the GHG Protocol, GHG emissions are classified into three scopes as follows:

Scope 1 emissions	Represent emissions generated directly from sources owned or controlled by the reporting company. Examples of Scope 1 emissions include GHG emissions from the generation of heat, electricity, and steam; GHG emissions from physical or chemical processing; fugitive emissions; and GHG emissions from the transportation of materials, products, waste, and employees.
Scope 2 emissions	Represent indirect emissions that are derived from purchased electricity, heat, steam, and cooling. Scope 2 emissions are often the most significant source of emissions for office-based or service companies. Two calculation methods are used to report on Scope 2 emissions: the location-based method and the market-based method. The location-based method reflects the average emission intensity of grids on which energy consumption occurs, while the market-based method reflects emissions from electricity that companies have purposefully chosen.
Scope 3 emissions	Represent all other indirect emissions that are a consequence of the activities of the reporting company but occur at sources not owned or controlled by the company. Reporting on Scope 3 emissions generally involves the greatest amount of estimation in the current reporting landscape because of the infancy of data collection and data quality. There are 15 categories of reportable Scope 3 emissions.

Figure I of the Scope 3 Technical Guidance, which is reproduced below, illustrates a reporting company's value chain and the classification of GHG emissions into Scope 1, Scope 2, and the 15 categories of Scope 3.

Scope 3 Technical Guidance, "Introduction," Page 6

Figure I Overview of GHG Protocol Scopes and Emissions Across the Value Chain



Defining an Organizational Boundary

The organizational boundary provides the basis for identifying emission sources from assets owned or controlled by the reporting company. For this reason, it is critically important to correctly identify the organizational boundary.

Applicable climate and sustainability standards and regulations may prescribe organizational boundaries that differ from those delineated in the GHG Protocol. Therefore, if a company is reporting on emissions in accordance with a specific standard or regulation, it would need to carefully consider the organizational boundary requirements of that standard or regulation.

If a company is reporting on emissions in accordance with the GHG Protocol rather than a specific standard or regulation, it may choose one of three approaches to identify its organizational boundary. However, once the company selects an approach, it must apply that approach consistently across the organization. The three approaches are outlined below.

Equity Share Approach	Financial Control Approach	Operational Control Approach
Account for emissions on the basis of the company's percentage ownership or economic interest in its subsidiaries, investments, and assets.	Account for emissions on the basis of the company's ability to direct the financial and operational policies in its subsidiaries, investments, and assets.	Account for emissions on the basis of the company's ability to introduce and implement operational policies in its subsidiaries, investments, and assets.

A company may need to use judgment to identify subsidiaries, investments, and assets within its organizational boundary. Once a company identifies its organizational boundary, it will be required to identify the activities and sources of emissions, including how emissions are categorized (i.e., Scope 1, Scope 2, or Scope 3) — also known as an operational boundary.

Judgment in Measuring and Reporting Emissions

The GHG Protocol standards and related guidance provide latitude in application and related judgments, which has led to diversity in practice in how companies report GHG emissions. The WRI and WBCSD are currently evaluating this diversity through their transformation process, which is discussed below. Companies are encouraged to consult with their advisers on the application of the GHG Protocol to ensure that their accounting and reporting treatment is appropriate.

The GHG Protocol was initially developed over two decades ago to achieve multiple objectives, one of which, as stated in the Corporate Standard, is "[t]o provide business with information that can be used to build an effective strategy to manage and reduce GHG emissions." Since that time, the regulatory landscape has evolved to reflect the capital markets' heightened demand for disclosures about companies' GHG emissions, resulting in an increased focus on transparency, consistency, and standardization. Such evolution has shifted how the GHG Protocol is being applied by companies to suit their purposes.

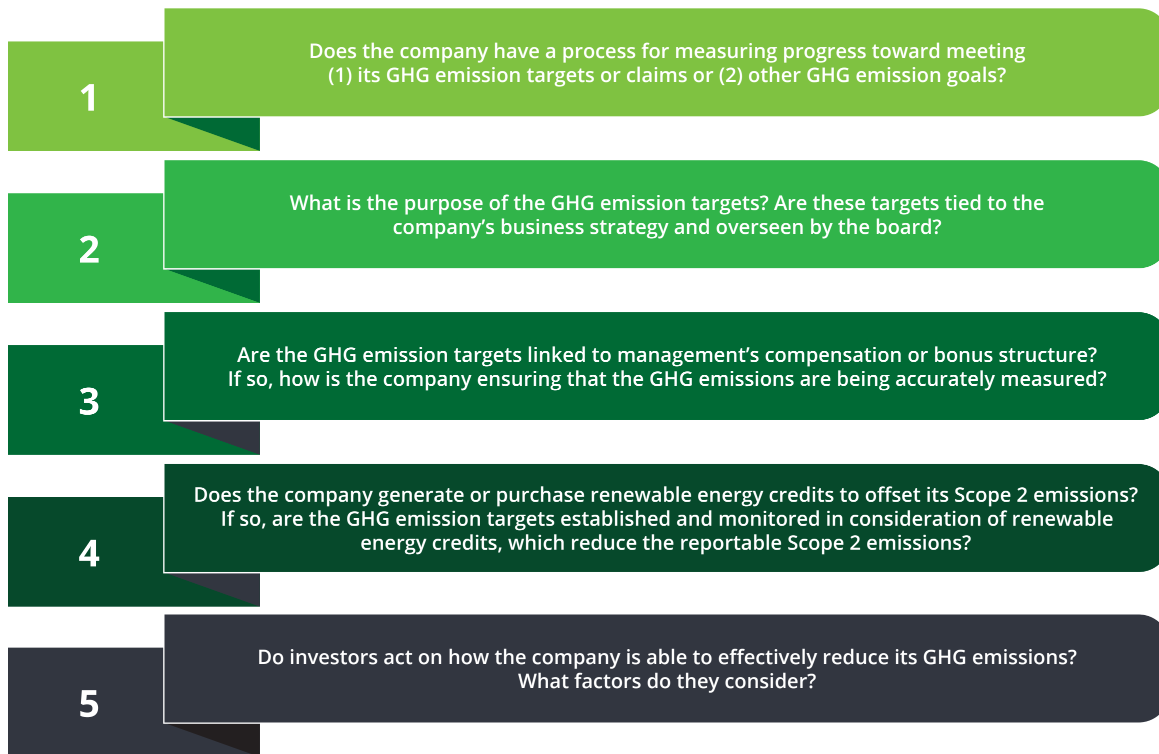
As business models evolve and transform, some companies may find that the current guidance in the GHG Protocol on accounting for emissions does not clearly address their circumstances. For example, since the GHG Protocol was developed before the introduction of circular business models (i.e., reduce and reuse), companies operating under such models must use greater judgment to apply the guidance. In such instances, companies are encouraged to provide clear and robust disclosures to ensure that users of their GHG emission reports can understand the judgments, inputs, and assumptions on which their GHG emission calculations are based.

Setting GHG Emission Targets

As companies evolve, investors shift their focus, and the economy transforms, companies are starting to set GHG emission targets. These targets are widely focused on reducing Scope 1 and Scope 2 emissions. Companies often cite their ability to more easily control Scope 1 and Scope 2 emissions as the primary reason for focusing GHG emission targets solely on Scopes 1 and 2. Management uses these GHG emission targets in transforming their businesses but are also increasingly linking them to compensation and bonuses. Lenders are also using GHG emission targets in debt covenant agreements and financing arrangements.

Companies may use renewable energy credits to offset their Scope 2 emissions. Given the prevalence of renewable energy credits in the marketplace, companies may have the opportunity to completely offset their reported Scope 2 emissions and meet GHG emission targets even though they may still generate a significant amount of Scope 2 emissions.

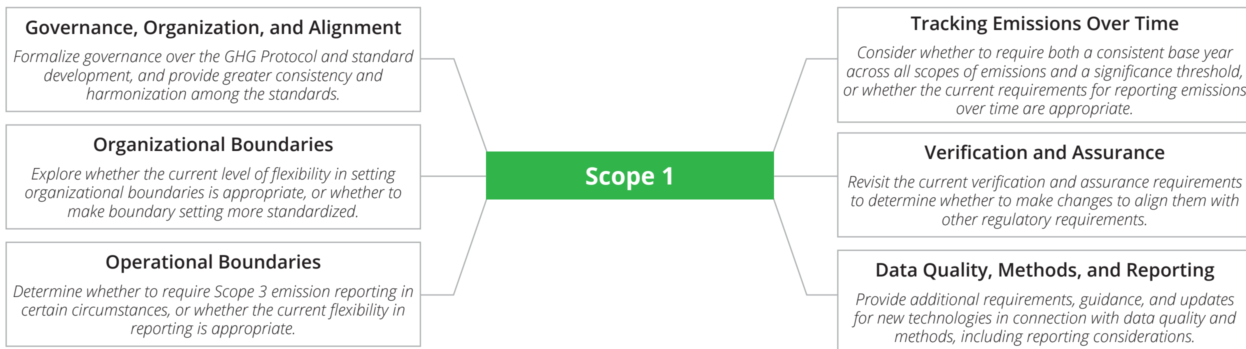
The heightened focus in the marketplace on GHG emissions and the increasing linkage of GHG emission targets to compensation and bonuses make it important for companies to measure their GHG emissions accurately. Management and the board of directors may want to consider focusing on the GHG emission targets set by the company and the targets' potential impact on the company's financial or operational metrics or other risks within the company. Specifically, they may want to ask themselves the questions below.



How the GHG Protocol Is Transforming

The WRI and WBCSD have undertaken a process to gather feedback from stakeholders to refine, amend, and provide enhancements to the GHG Protocol standards and related guidance. Feedback was gathered in the first quarter of 2023, and revisions to the standards and guidance are expected to be proposed and finalized in phases from 2025 through 2028.

The WRI and WBCSD have released a webinar recording discussing their findings on Scopes 1 and 3, as well as a summary of findings on Scope 2. Key themes and points raised by stakeholders are summarized in the figure below.



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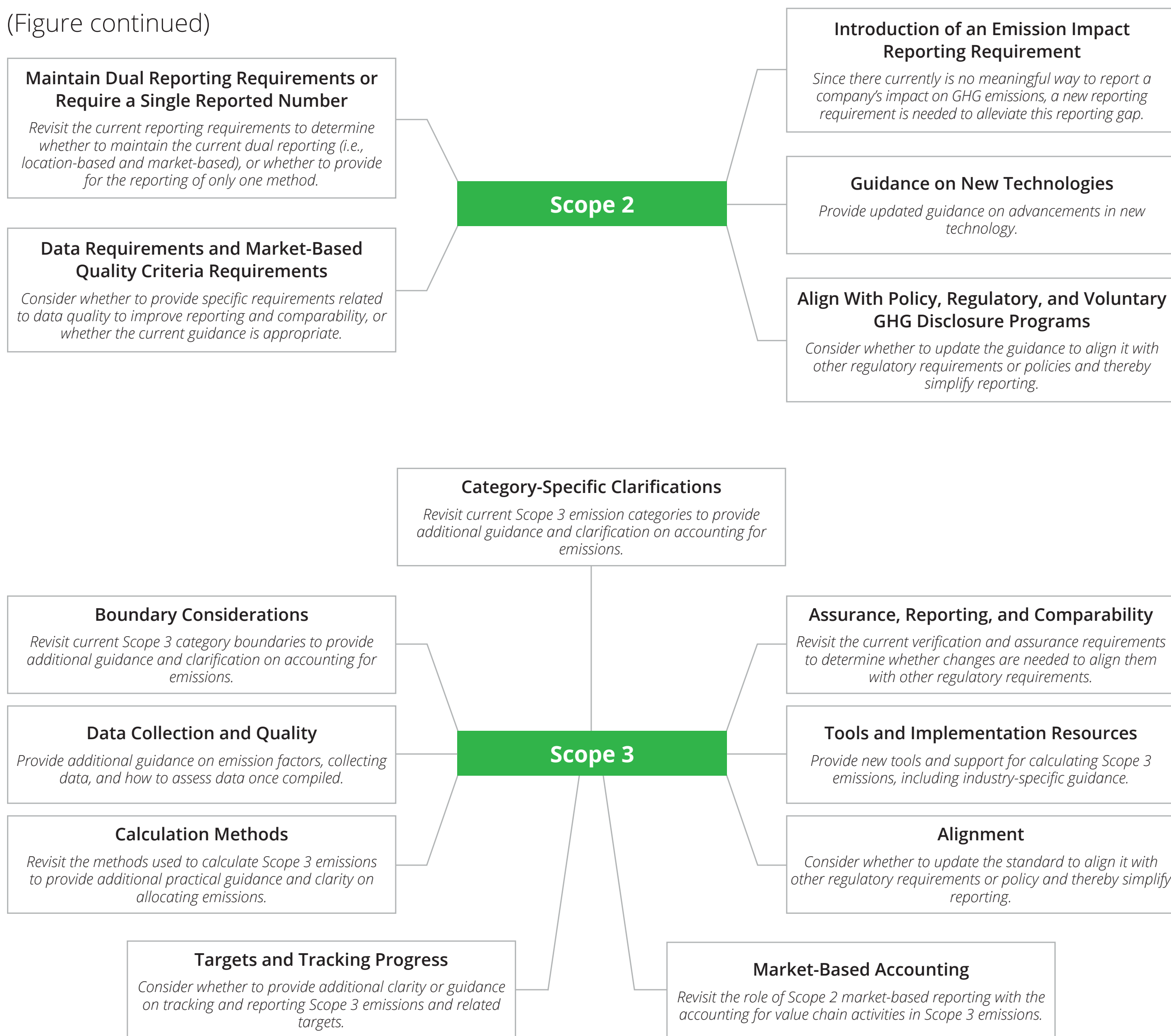

On the basis of the feedback provided to the WRI and WBCSD, a significant number of revisions to the GHG Protocol are expected. The update process is being overseen by the GHG Protocol organization's newly established Steering Committee (SC) and Independent Standards Board (ISB). Five technical working groups (TWGs) have been established to develop the proposed updates, which will be subject to approval by the ISB. Companies are encouraged to carefully monitor the activities of the GHG Protocol organization to stay informed of any developments related to implementation guidance and revisions.

Deloitte's Roadmap *Greenhouse Gas Protocol Reporting Considerations* discusses how companies account for and report GHG emissions under the GHG Protocol.

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