COP26 Action Plan: Three Urgent Steps to Standardize Emissions Reporting

Toward a Digitally Native GHG Protocol

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We have entered the decisive decade that will determine our ability to decarbonize the economy and ensure the planet can maintain a livable climate. To hit ambitious decarbonization targets, we need to quickly develop systems to make scope 3 greenhouse gas (GHG) emissions visible and traceable across supply chains[i]—starting with the highest-emitting industrial sectors.

Getting GHG disclosures right could accelerate the transition to zero-carbon production, and first movers will reap the benefits of taking action to meet the demands of an increasingly climate-conscious customer base. Companies urgently need better disclosures to satisfy customers and investors without getting overwhelmed by spreadsheets and painstaking calculations. Consumers are demanding to know the carbon footprint of products so they can support brands taking bold steps to protect the planet. And policymakers are starting to require fail-proof metrics to underpin carbon pricing measures.

Developing a technical architecture that will more comprehensively track and trace emissions throughout the supply chain essentially **transforms climate intelligence into actionable business intelligence**. Creating this new system will save time and money while moving our society toward a decarbonized future.

It Will Take a New Approach

To confront the challenges of climate change we must address the environmental impact of the goods and services we use daily. In the coming weeks, negotiators at COP26 will attempt to finalize rules for Article 6 of the Paris Agreement that will enable a global carbon market. Chief among these concerns is how this market can be built on **quality information** and objective data to create real change in supply chain operations and market dynamics. Our vision is to **make carbon emissions visible** via harmonized accounting, a digital representation of emissions, and clearly defined carbon market rules: a **"digitally native" GHG Protocol**.

Achieving this requires a new approach to tracking GHG emissions robust enough to incentivize the entire economy to do the right thing.

We believe this can best be achieved by integrating the current carbon accounting systems with a new paradigm for what carbon means.

Current systems—that have been the best available until now—are based on approximations, calculations, and unwieldy and disputed rules.

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[i] "The 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." (from ghgprotocol.org)

This new approach should be informed by systems and processes already in place, and bring in new elements to add credibility, comparability, traceability, and accountability.

Step 1: Create Unified Accounting Principles

Carbon accounting was revolutionary and groundbreaking when it was first introduced. By bringing the problem of industrial emissions to the fore, the GHG Protocol started the important work of making companies accountable. However, the Protocol only works well for a single entity (usually a company) to track its own progress, given that it is "not designed to support comparisons between companies based on their scope 3 emissions."[ii] Comparing even two companies in the same industry can be problematic because the Protocol itself offers multiple options for allocating for the same emissions, and there are fundamental gaps in what can be captured and reported.

Now is the time to take GHG accounting and reporting further by applying the massive analytical capabilities and technologies that have already transformed efficiency and profitability in our global economy.

We must create high-level guidance establishing **common reporting principles** so that companies can compare between different materials suppliers. For example, steel produced via a traditional process may have a significantly different emissions profile than steel produced at a state-of-the-art new facility. We must also create sector-specific guidance that reduces the amount of interpretation required for comparable and consistent reporting.

To achieve these goals, our team is focusing on **incentivizing upstream primary data—data collected directly from a plant or process**. At the same time, we recognize that while a carbon market cannot be built on averages, we also cannot allow waiting for perfect information to halt progress altogether: this is why our team's work is grounded in life-cycle assessment studies to understand where guidance can be changed to more accurately represent emissions. The goal is to build a bridge between averages and primary data so that, over time, companies are incentivized to shift toward primary data. We are committed to making this a universally accepted principle; in our collaboration with the World Business Council for Sustainable Development around the Value Chain Carbon Transparency Partnership methodology,[iii] we supported a specific metric that assigns better value to disclosures based on the proportion of primary data used.

We also need well-defined units of trade. What is a ton of green steel? This work starts with defining the functional unit of trade, and making sure that unit is developed in a consistent and repeatable manner.

[ii] "FAQ," Greenhouse Gas Protocol, https://ghgprotocol.org/sites/default/files/standards_supporting/FAQ.pdf

[iii] "WBCSD launches new Pathfinder to enable Scope 3 emissions transparency and accelerate decarbonization," World Business Council for Sustainable Development, March 4, 2021, https://www.wbcsd.org/Programs/Climate-and-Energy/Climate/SOS-1.5/News/New-Carbon-Transparency-Partnership-provides-forum-for-stakeholders-to-address-lack-of-Scope-3-emissions-transparency

To harmonize GHG disclosures for steel two aspects are likely critical:

1. A fixed-boundary approach to provide comparability at a product level, where emissions from a set of processes must be reported by steel companies irrespective of the ownership structure (this may involve collection of primary data from suppliers). This would help to resolve some of the ambiguities in existing frameworks such as the scope 1.1 emissions defined under the World Steel Association's method.

2. Allocation rules incentivizing the sector's decarbonization. For example, increasing the use of scrap as an input for steel production is an important decarbonization lever for the sector—but there is insufficient scrap to meet all demand. Providing separate allocation rules for ore- and scrap-based steel production establishes transparency that will drive necessary investments to meet growing demand.

Step 2: Build the Technical Architecture

Our aim is to introduce a technical architecture that will more comprehensively track and trace embodied emissions throughout supply chain operations.

By introducing this technical architecture, we aim to provide practitioners with the information needed to transform climate-related information into actionable metrics that drive demand signals for GHG emissions reduction.

This process gives substance to data, turning unorganized information into meaningful intelligence that drives market activation—transforming a system currently being questioned for its veracity into a robust, verifiable marketplace.

There are a number of ways to build a system addressing these needs. Our proposed solution uses technology that is readily available, tested, and proven to embody the necessary characteristics.

In order to influence supply chain behavior to reduce emissions, **we need a way to report and track real emissions as they move from asset to product and from company to company**. Unfortunately, this is not a simple matter of summing up suppliers' and customers' direct emissions. Instead, the emissions of a particular product are the proportion of those emissions that have been emitted to produce the product that you bought ("embodied carbon"), or that have happened as a consequence of the product that you've sold ("downstream carbon").

The current practice of solving this problem is by multiplying the amount of material in a product by a standard "emissions factor" that yields a good approximation, but it leaves you with limited options to reduce these emissions: reducing the amount of materials, or substituting them entirely, neither of which is often possible. The only way out of this is to track emissions as they travel at the product level, thereby creating "green" materials that contain fewer emissions.

The elegant way to do this is by digitizing supply chain emissions, improving upon the existing practice of using PDFs and spreadsheets. These efforts are already well underway[iv], and it is our goal to integrate improved guidance with existing solutions.

We believe the most efficient solution for digital tracking and exchange of carbon units is a standard, open-source technical architecture, so that solutions can share a cornerstone, and in turn be more comparable. It is our intention to

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[iv] For example, in the built environment, the Embodied Carbon in Construction Calculator (EC3), developed by nonprofit Building Transparency, is focusing on bringing more granularity to Environmental Product Declarations (EPDs) by incentivizing the shift from generic industry EPDs to product EPDs with asset-specific values and including further categorization for transparency and specificity.

spearhead this effort by offering a visionary architecture based on distributed ledger technology (cryptocurrency is the most ready example of an industry currently using distributed ledger technology). This could in turn be used to build any tracking system, exchange, or repository of information involving GHG disclosures.

Creating this system will be an iterative and collaborative process. RMI will create a foundation that allows for markets and traceability solutions to be built in lockstep with partners and taking into account a wide range of perspectives and input from the public.
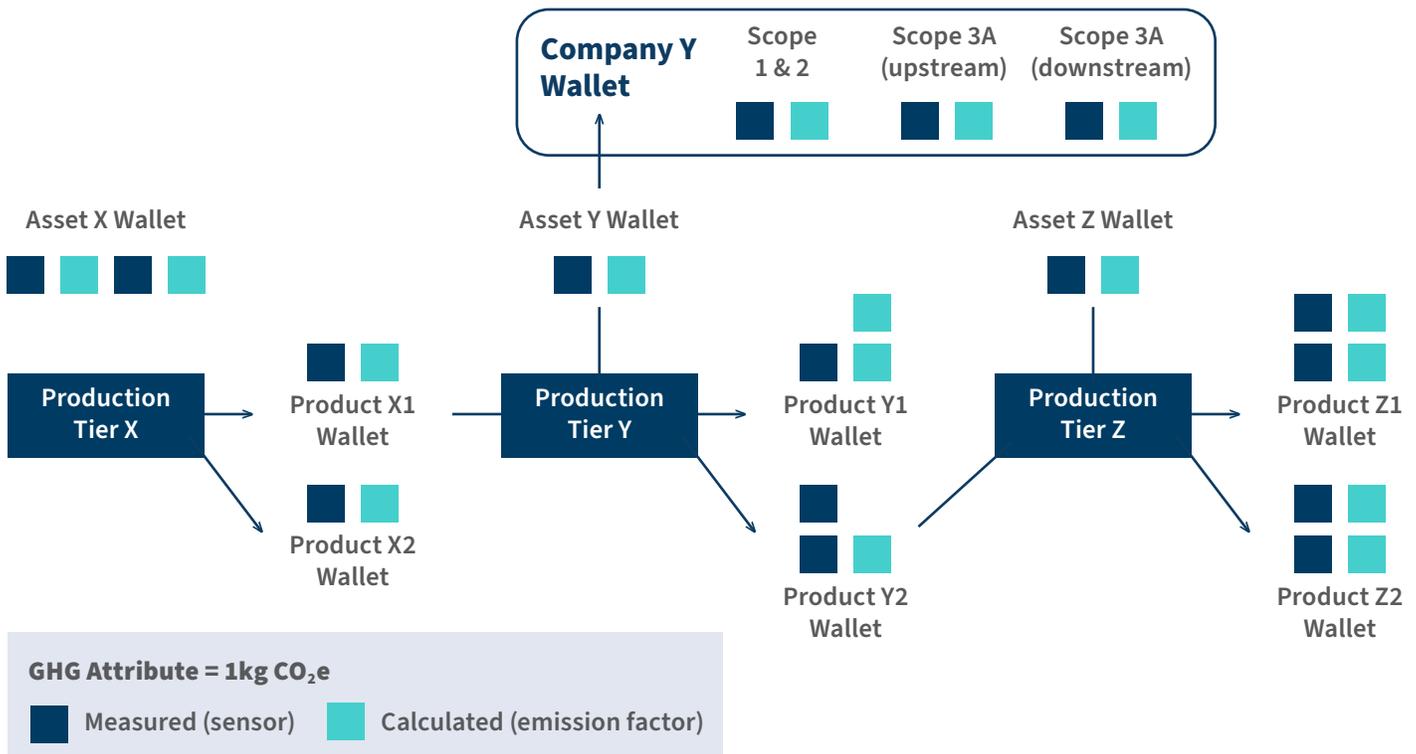
Step 3: Move the Market—Toward a New GHG Protocol and Beyond

The natural result of this work is that emissions themselves become a unit of trade. In other words, a product becomes a bundle of the product itself plus its carbon emissions. This is a "digital twin" of the product's carbon emissions and allows the product to be differentiated in markets.

An integrated system combining all types of carbon attributes would make it possible to define, digitize, and—most importantly—streamline the rules for integrating carbon products into the accounting practices of companies.

The combination of harmonized accounting and a digital twin of all emissions can give rise to a fully digital—or "digitally native"—system for reporting GHG disclosures at both the company and product levels.

This digitally native system will revolutionize disclosures. **What once was an unverified calculation can now be the simple content of a digital wallet that instantly verifies climate action and credentials, such as a company meeting 30% of its scope 3 emissions reduction goal.** A digitally native disclosure system puts a robust price on GHG externalities for the first time.

Carbon disclosures are becoming a cornerstone of corporate strategies and the importance of robust, verifiable GHG disclosures will only grow. Today over half of Fortune 500 companies have scope 1–2 targets, and we anticipate scope 3 targets being widely defined by 2025. Major standard setters are moving to legitimize the idea that a company's GHG inventory should become part of its financial disclosures: both the Securities and Exchange Commission (responsible for US GAAP accounting standards) and the International Financial Reporting Standards Foundation are considering rolling out these requirements.

Our vision is for a digital accounting system for GHG emissions; however, the same technical architecture could be repositioned for tracking any other environmental, social, or corporate governance metric (e.g., fair labor practices). Providing a measure of price and value aligns incentives toward an economy that naturally navigates toward a livable environment and more equitable society for future generations.