SRA Consulting
NEWSLETTER

Carbon Accounting: Tracking Emissions to Tackle Risk

What is Carbon Accounting?

Carbon accounting is the process of measuring and tracking a company's greenhouse gas (GHG) emissions. It helps organizations understand where their emissions come from, so they can manage, reduce, and report them effectively.

Why Is It Important Now?

Among the many global challenges, climate change stands out as one of the greatest threats to the future of humanity[1]. Its impacts can no longer be ignored—from extreme weather events to disruptions in global supply chains.

In this context, carbon management has emerged as a top priority. Companies across sectors are major contributors to greenhouse gas emissions, but they also hold significant capacity to drive the necessary change. Therefore, net-zero targets have become an important reference point, aiming to translate the macro-level concept of planetary boundaries into measurable and actionable goals at the corporate level[2].

Why Everyone Will (and Should) Care?

Carbon emissions have become a cross-sectoral concern. Consumers, investors, and businesses increasingly factor carbon footprints into decision-making. Even non-environmental professions such as accountants and managers are affected—highlighting that emissions management is no longer optional, but a shared responsibility toward a sustainable future.

[1]Augoye, O., Muyiwa-Ajayi, T. P., & Sobowale, A. (2024). The effectiveness of carbon accounting in reducing corporate carbon footprints. International Journal of Multidisciplinary Research and Growth Evaluation, 5(1), 1364-1371.
[2]Carrión, E., Larrinaga, C., & Gallagher, D. R. (2025). Carbon accounting for the translation of net-zero targets into business operations. The British Accounting Review, 57(2), 101456.

Understanding Carbon Accounting: Concepts and Frameworks

Carbon accounting has emerged as a standardized method for measuring and reporting corporate carbon emissions, offering a structured approach for disclosing environmental impact. The most widely adopted framework is the Greenhouse Gas (GHG) Protocol, developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD). It classifies emissions into three scopes, providing a comprehensive framework to assess emissions across the corporate value chain.

Scope 1 (Direct)

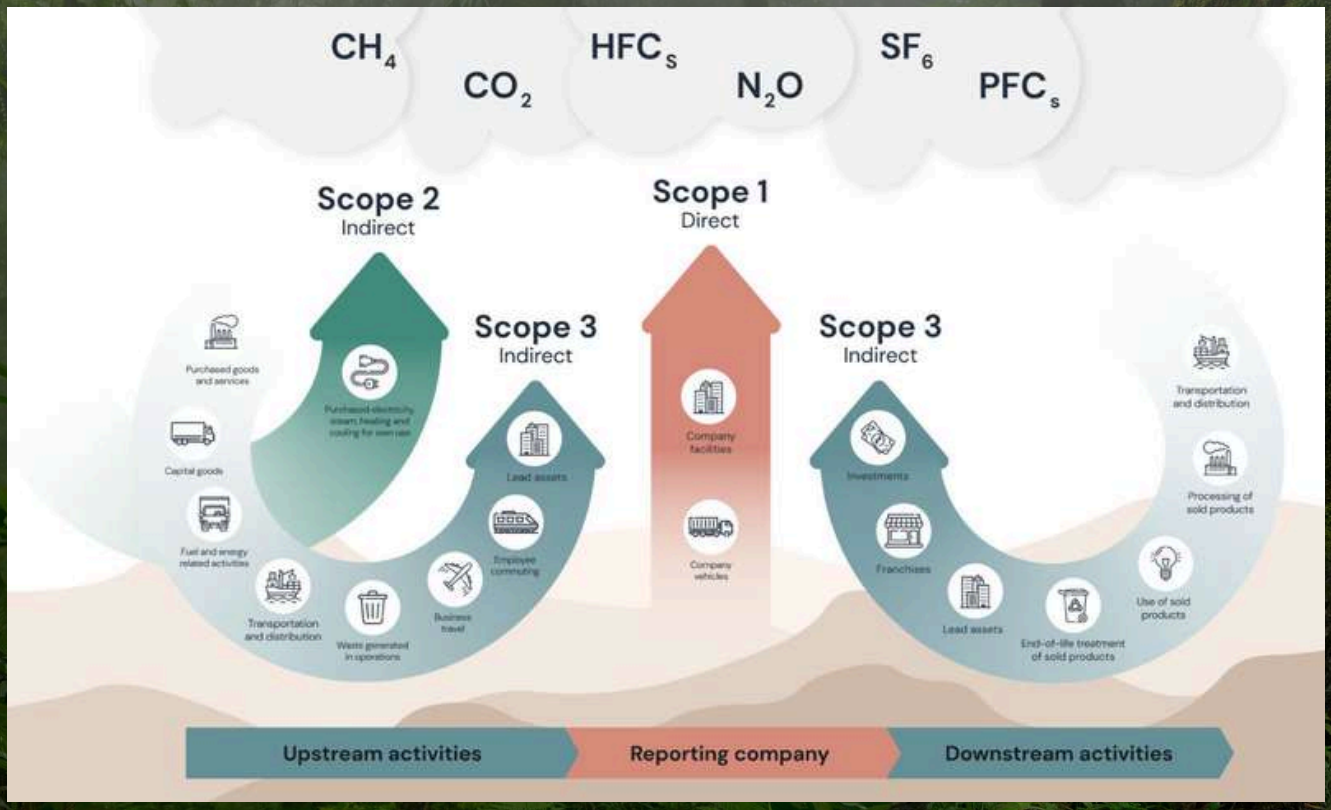
Emissions from sources owned or controlled by the organization (e.g., fuel combustion, company-owned vehicles).

Scope 2 (Indirect – Energy)

Emissions from the generation of purchased energy used by the organization (e.g., electricity, heat, or cooling)

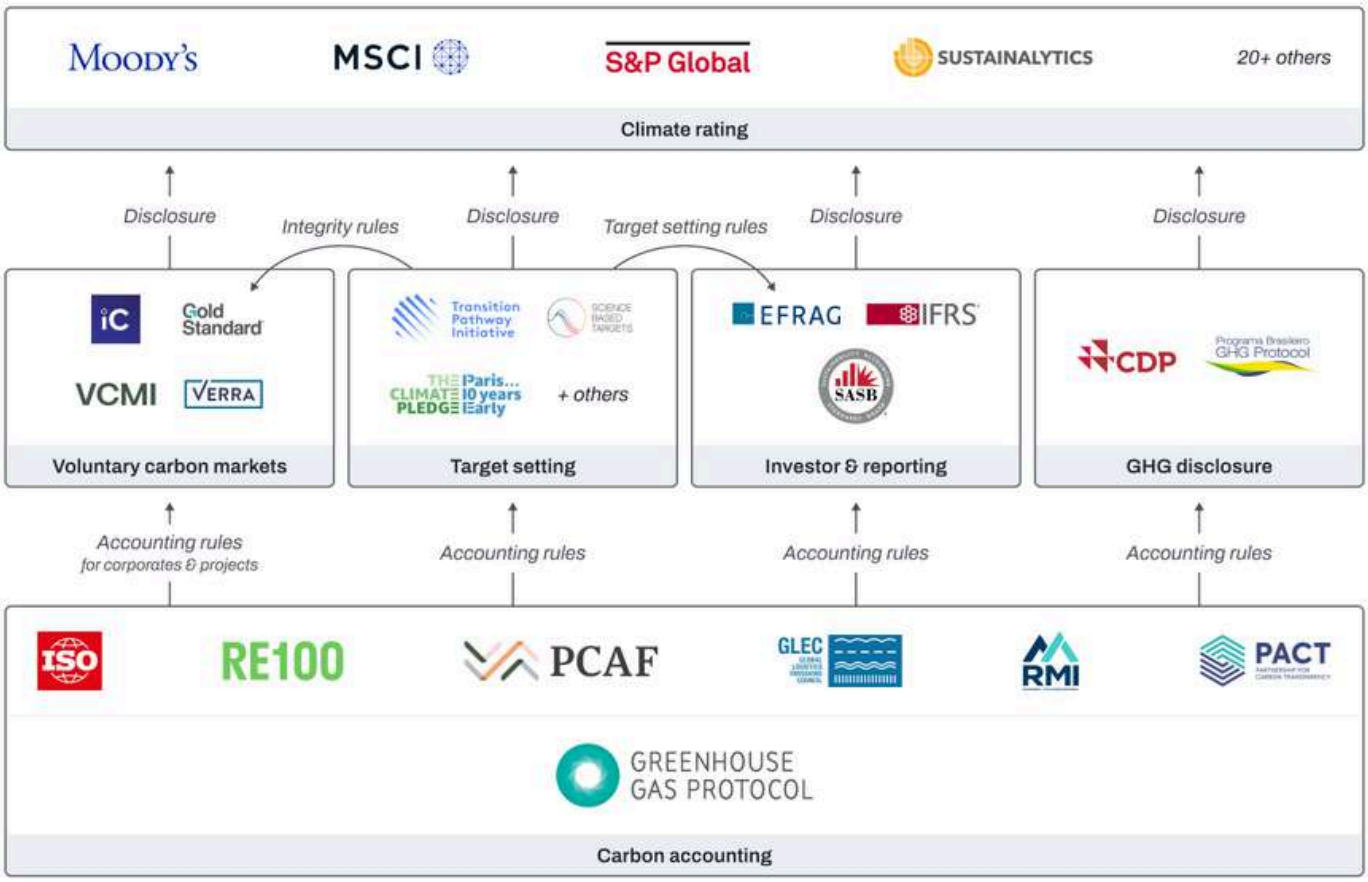
Scope 3 (Other Indirect)

Emissions from activities not owned or controlled by the organization, excluding Scope 2.



GREENHOUSE GAS EMISSION (GHG) PROTOCOL STANDARDS

THE GLOBAL FRAMEWORK BEHIND CORPORATE CARBON REPORTING



Source: Greenwood, N. 2025. Updates to the GHG Protocol https://www.minimum.com/post/updates-to-the-ghg-protocol

The GHG Protocol is undergoing its most comprehensive update in over two decades.

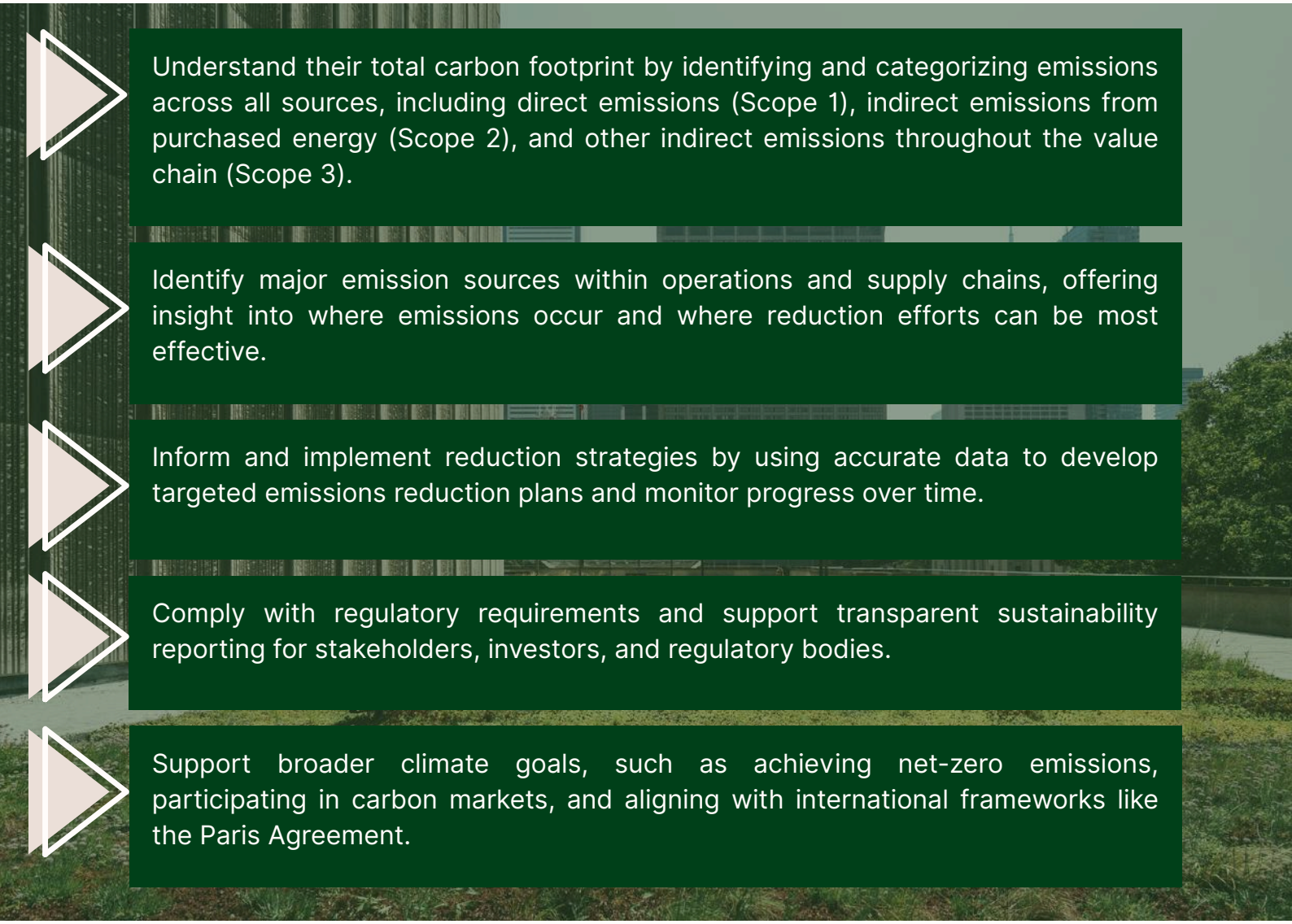
New standards will address the impact of corporate climate actions and market instruments.

Final revised standards are expected to be released in 2027, following extensive consultations.

The Key Tasks of Carbon Accounting

The key task of carbon accounting is to systematically measure, track, and quantify the greenhouse gas (GHG) emissions produced directly and indirectly by an organization. Also known as greenhouse gas accounting, this process provides the essential data foundation that organizations need to understand and manage their climate impact.

Carbon accounting enables organizations to:



- Understand their total carbon footprint by identifying and categorizing emissions across all sources, including direct emissions (Scope 1), indirect emissions from purchased energy (Scope 2), and other indirect emissions throughout the value chain (Scope 3).
- Identify major emission sources within operations and supply chains, offering insight into where emissions occur and where reduction efforts can be most effective.
- Inform and implement reduction strategies by using accurate data to develop targeted emissions reduction plans and monitor progress over time.
- Comply with regulatory requirements and support transparent sustainability reporting for stakeholders, investors, and regulatory bodies.
- Support broader climate goals, such as achieving net-zero emissions, participating in carbon markets, and aligning with international frameworks like the Paris Agreement.

In summary, carbon accounting plays a crucial role in helping organizations manage, reduce, and report their GHG emissions in a responsible and data-driven manner.

STEPS TO MEASURING CARBON FOOTPRINT

Define Boundaries and Identify Emission Sources

Start by identifying which parts of your organization are included in the calculation—this may involve subsidiaries, joint ventures, or partially owned operations. Then, determine which activities contribute to GHG emissions across Scope 1 (direct), Scope 2 (energy use), and Scope 3 (value chain). The more complex the structure, the more important it is to clarify responsibility for each source of emissions.

Collect Data and Calculate Emissions

Gather activity data relevant to your operations—such as fuel use, electricity consumption, business travel, or purchased goods. Emissions are calculated by multiplying this activity data by appropriate emission factors from credible sources like the GHG Protocol, IPCC, or national databases. When direct data is unavailable, use estimates transparently and validate them against historical trends.

Report, Track, and Set Targets

Report your total emissions as gross CO_2e (before any carbon credits or offsets). Include Scopes 1 and 2, and use intensity ratios where appropriate. Choose a base year and establish a policy to update it after significant changes. Regularly monitor emissions with dashboards and consider third-party assurance for greater credibility. Finally, set emissions reduction targets to drive efficiency, demonstrate climate leadership, and build stakeholder trust.

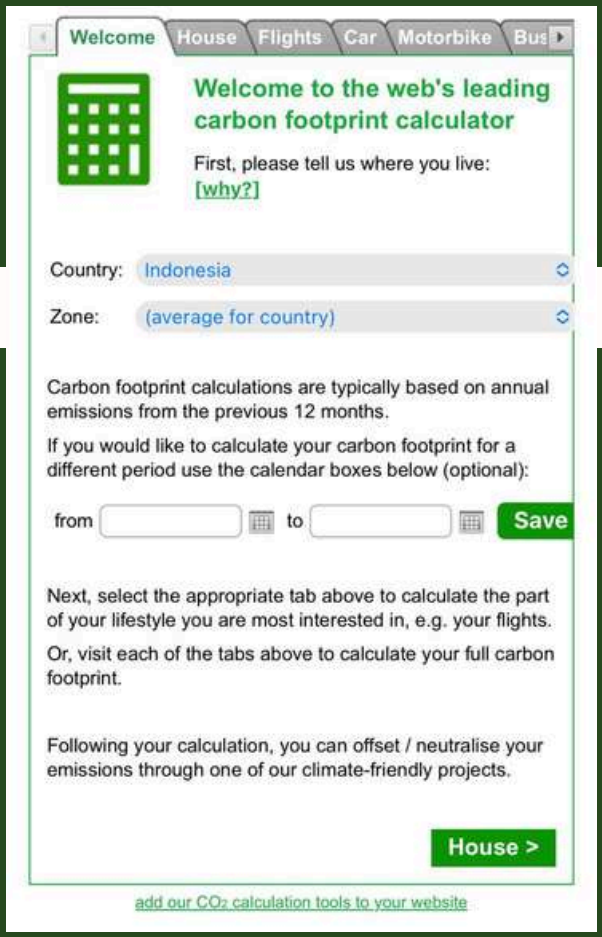
TOOLS AND CONVERSION FACTORS FOR EMISSIONS CALCULATION

Calculating greenhouse gas (GHG) emissions requires emission factors—values that convert activity data (like fuel use or electricity consumption) into CO_2e. Choosing the right source is essential for accurate results. Commonly used sources include:

- GHG Protocol
- Overseas national emission factors from other Government sources (e.g. United States Environmental Protection Agency)
- National emission factors from other credible sources (e.g. Universities & Research Institutions)
- International emission factors (e.g. EU level, International Energy Agency)
- Global emission factors (e.g. IPCC level: http://www.ipcc-nggip.iges.or.jp/public/2006gl/)

To simplify the calculation process, various organizations have also developed online carbon calculators that are freely accessible. Two popular and user-friendly examples include:

- Carbon Footprint Calculator – carbonfootprint.com
- Business Carbon Calculator – carbonfund.org



Track Your Emissions!

Benefits of Effective Carbon Accounting

Effective carbon accounting delivers a wide range of benefits for organizations aiming to manage their environmental impact and remain competitive in a rapidly evolving business landscape.

Regulatory Compliance and Risk Management

Helps meet disclosure requirements and avoid legal or reputational risks.

Operational Efficiency and Cost Savings

Identifies inefficiencies to cut emissions, energy use, and costs.

Data-Driven Sustainability Strategy

Provides the basis to set targets and track decarbonization progress.

Market and Financial Advantage

Boosts brand value and access to green funding and incentives.

Stakeholder Trust and Reputation

Builds credibility through transparent, verified climate reporting.

Improved Supply Chain and Climate Impact

Tracks Scope 3 emissions and supports responsible supply chain actions.

Challenges in Implementing Carbon Accounting

While carbon accounting is widely recognized as a critical tool in the transition toward a low-carbon economy, its implementation in practice comes with notable challenges. If left unaddressed, these issues may reduce the effectiveness of emissions measurement and reporting, and ultimately weaken corporate decarbonization efforts. Three key challenges include:

1. Complexity of Measuring Scope 3 Emissions

Scope 3 emissions are indirect emissions from a company's value chain—such as suppliers, logistics, and product use—and can represent up to 80–90% of total emissions. However, limited data access, low supplier transparency, and the absence of standardized methods make accurate reporting challenging.

2. Risk of Carbon Leakage

To lower reported emissions, companies may outsource carbon-intensive activities to countries with weaker regulations. This carbon leakage results in minimal or no real reduction in global emissions, undermining the environmental benefits of corporate action.

3. Lack of Standardization in Practice

Despite guidance from frameworks like the GHG Protocol and ISO 14064, flexible interpretations lead to inconsistent reporting across companies. This hampers comparability and weakens the credibility of emissions data.

ABOUT US

SRA Consulting is a consulting firm in the business, management, and public sector that focus on several consulting services such as sustainability and reporting strategies, assurance, operational performance, accounting, governance, and other consulting services according to client's needs. SRA commit to provide services that are consistent, professional, and of the highest quality to create value for our clients. We deliver innovative solutions for business and government sectors and help them to manage the sustainability challenges that the world is increasingly facing. Our goal is to help our clients to achieve a sustainable growth.

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