Measuring and tracking the amount of carbon dioxide and other greenhouse gas (GHG) emissions by an individual, organization or country is referred to as carbon accounting.

One hundred companies are responsible for 71% of all GHG emissions. But even organizations outside of that group create more emissions than they realize if they don't have effective carbon accounting practices.

All companies can and do play a significant role in protecting the environment. Shareholders and customers may demand it, and many US businesses will be required to file up-to-date and accurate disclosures. Legislation like California's Climate Corporate Data Accountability Act (SB 253), enacted in October 2023, and the SEC's long-awaited climate disclosure ruling, expected in April 2024, are demanding a shift in how many organizations think about their carbon accounting practices.

Assessing emissions is a critical component of environmental, social and governance (ESG). Through carbon accounting, organizations can understand just how much GHGs they're emitting and take action to reduce their carbon footprint

In this guide to carbon accounting, we cover the following topics:

- Definitions of "carbon accounting" and "carbon credit accounting"
- The importance of carbon accounting
- Carbon accounting standards and frameworks
- Methods, best practices and reporting
- Top features of carbon accounting software

What is carbon accounting?

Carbon accounting is a process through which organizations calculate their total GHG emissions. This process is typically used to help companies quantify their environmental impact and measure their progress against their ESG goals.

What is carbon credit accounting?

A carbon credit is a permit that allows an organization to emit a fixed amount of CO_2. With carbon credit accounting, organizations account for all the carbon credits they have as a path toward cutting their emissions.

There's money to be made as we transition to a decarbonized economy, and the companies that do that are the ones that will do well.
— Michael Levine, Chief Sustainability Officer, V.P. Sustainability and Managing Counsel, Under Armour, Inc.

Why is carbon accounting important?

Carbon accounting is important because it helps organizations understand how their business activities impact the environment. This is good for the planet, but it's also great for business. Organizations can use carbon accounting as a tool to:

- Remain compliant: Many industries regulate GHG emissions. Carbon accounting helps businesses prove they comply with any regulations relevant to their operations.
- Mitigate risk: High emissions can introduce operational and reputational risks. Since carbon accounting is a path to reducing emissions, it can also reduce the risks that come with them.
- Improve processes: High-emission operations can be less efficient. Organizations can use carbon accounting to identify and solve inefficiencies.

Carbon accounting standards & frameworks

There is no one standard or framework for carbon accounting. Instead, organizations can choose a standard to inform how they account for their GHG emissions. Five of the most common standards and frameworks for emissions are:

1. Intergovernmental Panel on Climate Change (IPCC): The IPCC offers a foundation for thorough carbon accounting based on transparency, accuracy and consistency.
2. Task Force on Climate-Related Financial Disclosure (TCFD): Created through the 2015 Paris Agreement, the TCFD framework guides organizations on which data to disclose to key stakeholders.
3. Global Reporting Initiative (GRI): More than 10,000 organizations follow the GRI standards to inform how they account for and communicate about emissions.
4. The Carbon Disclosure Project (CDP): The reporting for the CDP asks for voluntary and non-financial disclosures that focus on an organization's climate footprint, risks and opportunities.

5. Greenhouse Gas Reporting Protocol (GHGRP): The GHGRP requires that organizations with large GHG emissions — like fuel and gas suppliers — report their emissions data, which is then made public every year.

Carbon accounting methods

There are four primary carbon accounting methods, each of which analyzes a different impact of GHG emissions. These are:

1. Supplier-specific method: This method focuses on product-level data from suppliers of goods and services.
2. Physical-unit method: This method calculates a company's GHG emissions based on the number of physical units it uses, such as the amount of gasoline or electricity required to complete all business activities.
3. Spend-based method: With the spend-based method, organizations calculate the emissions produced for each monetary unit by multiplying the associated emissions by the monetary value of the good or service.
4. Hybrid method: As the name suggests, this method uses data from hybrid sources — typically supplier-specific data supplemented with third-party data.

Best practices for carbon accounting

Carbon accounting should be thorough, accurate and transparent. It should offer the board the insights they need to make strategic decisions and give shareholders the peace of mind that the organization is operating ethically and sustainably. To accomplish this, start with the following best practices:

1. Record relevant assets & activities: Keep a thorough accounting of the assets, activities and processes that contribute to the organization's total carbon emissions. This may include operations throughout the entire value chain.
2. Document data sources: Make note of all the organization's sources for emissions-related data. This may be based on its chosen carbon accounting method.
3. Track your carbon: Take an always-on approach to emissions tracking. This should include monthly, quarterly and annual carbon measurements.
4. Follow standards & frameworks: Choose a standard or framework, and ensure your approach follows its guidance.
5. Use purpose-built carbon-accounting technology: Easily collect, analyze and report on sustainability data with technology specifically designed to draw carbon-accounting

inputs from multiple sources across your organization, benchmark it against company goals and international sustainability frameworks, and provide audit-ready reports.

6. Maintain a board-ready dashboard: This helps organizations get real-time insights into emissions KPIs, including total emissions, Scope 1, 2 and 3 emissions. Additionally, your carbon-accounting dashboard should be customizable, so you can surface key sustainability data directly to your board and they can make informed oversight decisions.
7. Get certified: Formal training, like the Climate Leadership Certificate Program from Diligent, gives organizations the skills to effectively complete carbon accounting, including overseeing climate risk and creating informed growth strategies.

What should a carbon accounting report look like?

Carbon accounting reports are not universal. An organization's report depends on its industry and activities, the standard or framework it follows and the method it chooses. However, most carbon accounting reports should include:

- Key metrics, scores and data points, especially Scope 1, 2 and 3 emissions
- Risks and opportunities related to the organization's emissions
- How key metrics contribute to possible risks and opportunities
- The company's strategy for resiliency in the face of climate risks

Carbon accounting audits

For carbon accounting to be effective, it has to be accurate. With carbon accounting audits, auditors check key metrics, dashboards and carbon accounting reports to ensure all calculations and the resulting data are accurate.

Carbon accounting audits should seek to answer the following:

- Is the carbon accounting methodology accurate?
- Has it been applied correctly?
- Is the data accurate, complete and timely?

The auditor will then use the answers to these questions to approve the accuracy of the organization's carbon accounting.

5 traits of the best carbon accounting software

Not all carbon accounting software is created equal. Organizations should review all available software to ensure it has the features to satisfy the requirements of their unique carbon accounting software. That said, the best carbon accounting software should have the following traits:

1. Meets your reporting requirements: Whether you're following GHG, CDP or any other principles, ensure the software you use is compatible with your framework of choice.
2. Includes all emissions scopes: Scope 1, 2 and 3 emissions matter. Make sure you find software that can measure and report on all three types of emissions.
3. Accurate calculations: Accuracy is key to effective carbon accounting, yet many software providers used broad-based calculations or estimates that can't accommodate specific use cases.
4. Ongoing monitoring: Carbon accounting should be always on, even if it's in the background. Ensure whichever software you choose includes automated workflows so that carbon accounting can take place with minimal oversight.
5. Easy to use: Top carbon accounting software makes data and reports easy to access, with reporting templates and customizable dashboards. This ensures that even your least-tech-savvy board members can review and act on your data.

Enhance your carbon accounting with Diligent

Carbon accounting can be time-consuming and complex. Calculating emissions, completing audits and delivering timely reports are all necessary yet challenging components of a carbon accounting program. Carbon Accounting Software from Diligent can automatically collect data, produce audit-ready reports and present a single source of truth for your emissions.