THE BUSINESS GUIDE TO

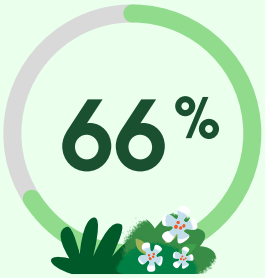
CARBON ACCOUNTING

A guide to understanding carbon accounting, your organization's environmental footprint, and how you can get started.

OVERVIEW

Why should a business account for its carbon?

The need to deliver high-quality data to validate environmental claims and take action on climate has never been greater. Pressure from investors, employees, customers, and communities means that increasingly, sustainability is tied to financial, reputational, and operational risks for companies. Organizations that proactively prioritize sustainable solutions not only cultivate positive stakeholder sentiment in the short term but set themselves up for long-term success by minimizing risk, capturing new opportunities, and gaining competitive advantage.



66% of executives who responded to an Environmental Resources Management (ERM) survey said their organization was facing significant pressure from investors to report on climate-related risk and management.

Source: "Sustainability: Emerging from Its Echo Chamber," by Matt Haddon and Freddie Hospedales

Carbon accounting is a critical step in measuring your climate impact and addressing it. In this guide, you'll gain a strong understanding of what carbon accounting is and how to account for carbon emissions throughout your value chain. You'll also learn how to analyze the results and use these insights to inform your climate action priorities.

What is carbon accounting?

Carbon accounting is the process by which organizations quantify their greenhouse gas (GHG) emissions so that they may understand their climate impact, set goals to reduce their emissions, and identify risks and opportunities for their business. In some organizations, a company's carbon footprint is also known as a *carbon inventory* or a *greenhouse gas inventory*.

Carbon accounting is the foundation for implementing meaningful climate action in your organization. Once you take inventory of your GHG emissions, you can start to make carbon reduction plans that support your sustainability strategy.

What are greenhouse gas emissions?

The Kyoto Protocol, the international treaty committing countries to reduce GHG emissions, identifies six types of greenhouse gases, of which three are most common for companies: carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O).

Greenhouse gases trap heat, which sustains life on Earth by allowing the sun to warm the planet and prevent the warmth from escaping into space. However, an increase in GHG emissions, largely caused by human activity, is disrupting the atmospheric balance that maintains our climate, resulting in extreme global effects on ecosystems, economies, and communities. These negative impacts include extreme heat, major wildfires, megastorms, and rapidly rising sea levels.

The world uses the common unit CO2e, or carbon dioxide equivalent, to simplify discussion around GHG emissions. The EPA defines CO2e as the number of metric tons of CO2 emissions with the same global warming potential as one metric ton of another GHG. In other words, CO2e refers to the impact from all GHGs, normalized and described in terms of CO2 impact. By referring to the impact of all GHGs in terms of CO2e, we can make direct comparisons among various GHGs.

How should you categorize emissions?

Companies' environmental footprints come from both direct emissions and indirect emissions. Direct emissions are those within the operational control of the company. Indirect emissions are those that come from a company's value chain. Although companies don't have complete control over their indirect emissions, both direct and indirect emissions are critical components of a company's total GHG footprint and its accompanying climate strategy. For the purpose of carbon accounting, all emissions are separated into one of three scopes.

SCOPE 1

Direct emissions from activities of the company, such as fuel combustion from onsite gas-fired boilers or diesel generators, and emissions produced by company-owned vehicles.

- Company vehicles
- Company facilities

SCOPE 2

Emissions from the generation of purchased or acquired electricity, steam, heat, or cooling consumed by the reporting company but generated elsewhere, such as a power plant.

- Electricity
- Steam
- Heating
- Cooling

SCOPE 3

Indirect emissions from all other sources in the company's supply chain, including employee commuting, business travel, purchased goods and services, raw materials, and distribution.

- Business travel
- Employee commuting
- Transportation and distribution
- Purchased goods and services
- Capital goods (machinery, tools, buildings, and computers)
- End-of-life treatment of sold products

STEP 1

Assemble your team.

Carbon accounting requires collaboration with many internal and external stakeholders. These are some of the teams most often involved in gathering the activity data that's used to calculate emissions and identify opportunities for reduction.

FACILITIES MANAGEMENT

The impact from powering your company's owned facilities and vehicles makes up your scope 1 and 2 emissions. A representative from this department can connect you with the data needed to calculate these and can also help analyze the data to identify the biggest opportunities to reduce the emissions in your direct control.

FINANCE

Emissions reductions almost always have a cost impact. Sometimes reducing emissions costs money, and sometimes it can actually result in a financial benefit. It's important to establish a strong relationship with your finance team to forecast these impacts as you hone your strategy.

Accounting

Carbon emissions accounting is very similar to financial accounting, both in the skills and effort required to get the job done and in the third-party audits and quality required (or soon to be required) by governmental regulations.

Travel

Business travel can account for a significant portion of a company's scope 3 emissions. You'll want to include whomever is responsible for managing corporate travel software, approving employee travel, and coordinating travel for executives in the conversation. They will play an important role in data collection, as well as in identifying and implementing travel-related GHG reduction strategies.

HUMAN RESOURCES

Carbon emissions from employee commuting, working from home, and so forth can be tricky to measure. HR can help by conducting surveys about daily commuting practices and work habits. This team can also be an important partner for engaging employees in activities that reduce emissions in the office and beyond.

IT/INFRASTRUCTURE

If a company owns, operates, or utilizes data centers, the infrastructure team will play an integral role in carbon emissions accounting and reduction. The IT team can also provide helpful support in implementing and managing GHG tracking software.

LEGAL

The data that gets reported and disclosed should be reviewed by members of your legal team. They can also help put emission requirements into supplier contracts (see the sustainability exhibit for more on how to do that). And they can review third-party agreements related to emission reduction projects, renewable energy deals, and carbon credit purchases.

PROCUREMENT

Indirect (scope 3) emissions usually account for the vast majority of a company's GHG footprint, with a large portion coming from upstream, or supply chain, emissions. Therefore, it's critical to establish strong relationships with your procurement team to identify the best ways to engage with your suppliers on this issue. The deep emissions reductions that will be required in scope 3 will only be possible by working together on both data collection and data reduction activities throughout the value chain.

PRODUCT DEVELOPMENT

For companies that manufacture products, the design, use, and end-of-life treatment of these products determine their environmental impact. The product design and/or engineering team should be engaged to ensure accurate data collection and to ensure that insights from the footprinting process are fed directly back into the design process to maximize reductions.

STEP 2

Conduct your greenhouse gas footprint.

SET YOUR BOUNDARIES

The first step in calculating your GHG footprint is identifying what the boundary of your calculation will include. Companies often align with the methodology outlined by the Greenhouse Gas Protocol, which explains how companies should identify which assets to include for scope 1 and scope 2 emissions and how to categorize and frame their scope 3 emissions.

For scope 3 emissions, you should capture emissions data for all your direct, or Tier 1, suppliers. We refer to these as *upstream emissions*. If you produce a finished product or a service that gets sold to a customer with no further chain, you should collect emissions from distribution channels and resellers, also known as *downstream emissions*. If you produce intermediary goods that go through further processing (for example, raw copper, which gets produced into copper sheets, which get produced into copper wire), then you want to track emissions until your product becomes a final product. If all companies do this, that reduces the amount of upstream tracking required.

This explanation ties most closely to manufacturing, but the same principle of tracking one step upstream and all steps downstream can be applied to other industries as well. Regardless of the industry, companies must define and disclose their reporting boundaries, which may include the GHGs themselves, their sources, the reporting period, the geography, or the business structure or unit.

COLLECT YOUR DATA

Once you've established your boundaries, you can begin data collection. But collecting the activity data that serves as the foundation for a GHG footprint is not simple. For scope 1 data, you'll need to find information on natural gas and diesel used onsite, as well as fuel logs for owned vehicles. Scope 2 data largely consists of electricity and natural gas bills, but finding these can be challenging, especially for smaller offices. Sometimes companies end up needing to fill in the gaps when certain data records simply aren't available by estimating impact using headcount or square footage.

Scope 3 data is by far the most complex. Many companies collect as much actual data as possible – travel data, for example – and then rely on estimates to fill in the gaps where source data is especially challenging to capture. In the end, it's most important to do the best you can with what you have and to commit to continued efforts to improve data quality and data consistency over time.

CONVERT YOUR DATA INTO EMISSIONS

The raw data you gather will not come to you as carbon emissions data. Data for a flight, for instance, might include the price, distance traveled, ticket class, and aircraft type. Turning that data into metric tons of CO2e requires a series of calculations and conversions. In some cases, there are a few ways to complete these calculations, and it's important to carefully consider which emissions factors and methodologies will provide the most accurate, complete picture of your GHG emissions.

For electricity data, two different methodologies are recommended: the location-based method and the market-based method. Location-based emissions communicate the carbon impact of electricity based on the local electric grid that each building is physically connected to. The market-based method allows companies to account for renewable energy purchases they have made (for example, through a power purchase agreement), meaning that their total emissions will be lower. Because these two methods each tell an important part of a company's GHG impact story, the GHG protocol recommends that companies calculate their emissions using both of these methods and share both side by side in GHG footprint reports.

REVIEW AND AUDIT YOUR CALCULATIONS

Internal reviews are a critical step in the GHG inventory process. The intent of these internal reviews is to ensure that the data and methodology match the on-the-ground realities for the business and that the datasets are complete.

Next, it's best practice to engage an independent third party to complete a full review or even an audit of the GHG inventory to verify its accuracy. In spirit, this is very similar to a third-party audit of the financial records and claims of a publicly traded company. Reviews are sufficient for now, but full audits will eventually be among the requirements.

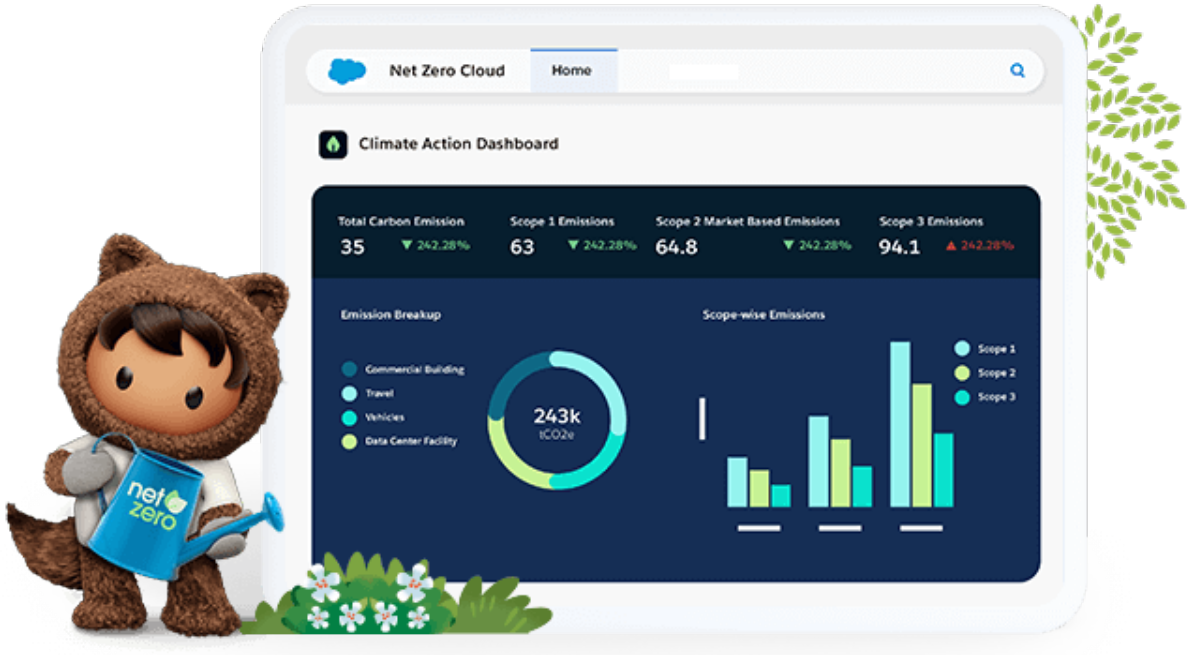
STEP 3

Streamline the process.

Companies that follow these steps manually require up to six months to create a trustworthy report on their carbon emissions. For years, companies have relied on spreadsheets, estimations, and incomplete data to create reports that were not particularly accurate and didn't necessarily paint the full picture of a company's carbon footprint. Some simply omitted entire emission categories because the effort required to capture and calculate the data was greater than the benefit of including it in their report.

But there is an easier, faster, more accurate way to account for your company's carbon emissions. Net Zero Cloud pulls your emissions data in automatically, so you get an accurate, timely view of all areas that contribute to your carbon footprint. It's a complete sustainability management platform that comes with analytics dashboards that help users make sense of their organization's carbon inventory. These dashboards are powered by Tableau and help users drill deep into their organization's energy usage patterns and carbon emissions intensities to find areas on which to focus carbon reduction efforts.

Carbon accounting can be an incredibly resource-intensive process, taking time, expertise, and budget, but it doesn't have to be. Net Zero Cloud enables organizations to quickly track, analyze, and report reliable environmental data to help your company reduce its carbon emissions. It has globally conforming emission conversion factors built in, allowing you to instantly translate energy use into carbon emissions. The data is also automatically categorized as scope 1, 2, or 3 emissions, so you know exactly where to concentrate your carbon-reduction efforts.



Ready to start accounting for your company's carbon?

Contact us here or call 1-800-667-6389.