

ENERGIZING PRODUCTIVITY
FOR AGRIBUSINESS

CARBON FOOTPRINTING 101



In the new era of a low carbon economy, managing the carbon output of a business is quickly becoming a necessity. Historically, there has been no pressure to measure, manage or reduce carbon emissions but this is quickly changing. While the introduction of regulatory programs such as cap and trade are still a long way from directly impacting most organizations, pressure from customers and stakeholders is creating a requirement to report and reduce carbon emissions to compete and win in today's economy. While carbon presents a new challenge to business, it also offers tremendous opportunities for those who take a proactive approach to addressing carbon emissions.

**Government
of Alberta** ■

WHAT IS A CARBON FOOTPRINT?

Also known as a Greenhouse Gas (GHG) Inventory, a carbon footprint is the amount of GHG emissions produced as a direct or indirect result of an organization, individual, event or product. In other words, every activity that a business engages in throughout the value chain, from the extraction of raw materials to energy use through to the use and disposal of a final product all result in the direct or indirect discharge of carbon emissions. When an organization translates their activities into carbon emissions using standard multiplier approaches and aggregates all these emissions, they are left with an inventory of GHG emissions more popularly referred to as a carbon footprint.

IS THERE A REQUIREMENT TO REPORT?

While most regulatory reporting requirements are focused on the large emitters such as power generation plants, there is increasing pressure from customers and other external stakeholders to report and reduce carbon emissions. This presents an opportunity to help secure relationships with existing customers while attracting new customers seeking supply chain partners committed to environmental sustainability.

ARE RECOGNIZED STANDARDS AVAILABLE?

Yes. The internationally recognized gold standard for carbon accounting and reporting is the Greenhouse Gas (GHG) Protocol. This protocol was developed by the World Business Council for Sustainable Development and the World Resources Institute. Organizations, large and small, across the globe use this standard to calculate and report their carbon footprint.

BENEFITS

- Retain and Attract Top Talent – more and more individuals are looking to work with organizations committed to sustainability. A commitment to measuring, managing and reducing carbon is a clear sign of this commitment.
- Meet Customer and Stakeholder Demands – many retailers and larger organizations are now requiring organizations in their supply chain to report and improve their carbon footprint.
- Identify Areas of Opportunity – carbon emissions represent waste and carbon footprinting highlights where the largest sources of waste exist in an organization.



BENEFITS Cont.

- Future Recognition – those organizations who are voluntarily taking action to reduce their carbon footprint through energy, material and waste reduction may receive future recognition under regulatory programs through the development of a carbon footprint today.
- Manage Risk – even though most organizations are not subject to regulatory requirements, regulations are constantly changing, and developing a carbon footprint today allows organizations to analyze exposure to future regulatory programs.

GETTING STARTED

Developing a carbon footprint can be a complicated exercise, but organizations are encouraged to start with the basic components and build from there. Here are seven easy steps that organizations can take to develop a carbon footprint and begin to drive reductions.

1. Setting Organizational Boundaries:

An organizational boundary determines what constitutes the company for the purpose of consolidating GHG emissions. Smaller organizations with one facility can skip this as there is only one facility to account for. Larger organizations with multiple facilities should determine which facilities and what percentage of each facility will be included in the footprint based on operational control or level of ownership in the facility. Either the control or ownership approach can be taken and is up to the facility unless regulation requires otherwise. For example, if Company A chooses the ownership approach and has 50% ownership in Facility B, then it would also account for 50% of Facility B's emissions.

2. Setting Operational Boundaries:

Choose the scope of emissions that will be accounted for. There are three scopes of emissions:

Scope 1: Direct emissions resulting from company-owned and controlled assets.

Scope 2: Indirect emissions from purchased electricity or steam.

Scope 3: All other indirect emissions resulting from the operation of the organization.

Voluntary reporting registries request accounting for Scope 1 and 2 emissions, while Scope 3 is optional at this time.

3. Setting Base Year:

Determine the base year against which future years will be benchmarked. Organizations are encouraged to choose a base year at least three years prior to the current year to allow for proper analysis and trends to appear.

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GETTING STARTED Cont.

4. Identifying Emission Sources:

Determine the organization's sources of emissions for Scopes 1 and 2 – below are the typical emission sources for these scopes:

Scope 1: natural gas, propane, refrigerants, fuel from company vehicles, process or stack emissions.

Scope 2: purchased electricity or steam.

Scope 3: is not addressed at this time as it can become quite complex.

5. Gathering Activity Data:

Gather usage data for each of the emissions sources from the base year forward. For example, gather monthly natural gas and electricity consumption from utility bills or fuel usage from pump receipts.

6. Calculating Emissions:

GHG emissions are calculated by multiplying the activity data by the appropriate emissions factors for each. Use the [Carbon Footprint Calculator](#) provided to perform this step. Simply follow instructions for entering activity data and the calculator will complete the calculations automatically.

7. Documentation and Reporting:

Document the above steps and the completed calculations using the [Carbon Footprint Reporting Template](#).



BOOST YOUR BUSINESS PRODUCTIVITY! GO LEAN AND GREEN.

CARBON FOOTPRINTING 101: Companion tools are available online. Download the [Carbon Footprint Calculator](#) and [Carbon Footprint Report Template](#) at <http://agriculture.alberta.ca/productivity>.

CONTACT US: productivity@gov.ab.ca
310-FARM (3276)
agriculture.alberta.ca/productivity

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