The consumption patterns of today’s society have gradually generated pressure on the environment, with negative consequences like global warming. Changes in the concentration of different greenhouse gases (GHG), resulting primarily from burning of fossil fuels, have increased the global temperature, causing very serious effects on both climate and environment.

We now face a great challenge: to redesign the social and economic development and reduce the negative impact on climate. Therefore, environmental management strategies are a requirement in all organizations to control and reduce negative environmental impacts.

The carbon footprint is an indicator that measures the impact caused by human activities on climate change. When applied to an organization, it shows the effect that the company has on weather, measured by the total amount of GHG emitted, and represented in units of carbon dioxide equivalent (CO2e).

This article proposes seven basic steps to follow in order to not only measure, but also manage the carbon footprint of an organization.

Step 1. Secure the support of employees and leaders.

Like any other management strategy, its success will depend on the commitment of all the parties involved, but primarily of the senior leaders of the organization, since carrying out this effort will involve the investment of various resources.

The successful reduction of emissions usually requires:

- Commitment of top management.
- Changes in some procedures, practices and policies of the organization.
- The participation of as many people as possible in the development and implementation of the initiative.
- Effective and regular communication among staff.
To achieve this initial support, it is necessary for the project manager to “sell” the idea. Although investment in environmental management and corporate social responsibility has recently been seen more as a necessity and less like a luxury, some reasons for carrying out a project of this scale are:

- Achieving cost reduction, because many of the strategies used to reduce emissions will bring a consequent decrease in expenses such as electricity bills, fuel consumption, etc.
- Acquiring environmental responsibility.
- Demonstrating leadership.
- Becoming informed and responsible companies.
- Improving work environment.

Step 2. Learn about GHG inventories.

Once the support of the organization is guaranteed, the company must understand in detail how to develop a GHG inventory, and therefore calculate a carbon footprint. For this end, various methods have been developed, among them:

- GHG Protocol, by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD).
- ISO 14,064 - Part 1, by the International Organization for Standardization (ISO).
- PAS 2050, by the British Standards Institution (BSI). This document analyzes the carbon footprint calculation for products and services.

The study and understanding of these methodologies can be performed within each organization, but the usual way is to hire outsourced consultancy services, because some topics of the protocols (in particular concerning the delimitation of the inventory and performing calculations) can be technical and require a certain degree of know-how.

Step 3. Determine data is needed to calculate emissions and where to find it.

Once the organization is familiar with the theoretical basis of carbon footprint and GHG emissions inventory, the next step is to collect all the historical information and necessary data.

The data usually includes energy consumption, fuel consumption, car use and flights, among others. Of course, this list of emission sources will vary depending on the nature of the operations of each organization.

Step 4. Calculate emissions of your organization.

To calculate the emissions of an organization, there are two main methods:

- Based on measurements, in which emissions are determined by continuous measurement of gas flows and the composition of GHG. Although it is the most direct and accurate method, it is only applied in facilities with continuous gas monitoring systems.
Based on calculations, which is the preferred method. Requires activity data and emission factors.

Step 6. Identify and implement opportunities to reduce emissions.

Whichever method is chosen, a series of calculations involving the determination of the carbon footprint must be performed, within a predefined period of time, which usually is one year.

Step 5. Agree emission reduction targets.

The next step is to set emission reduction targets in the organization, which should not be undertaken lightly. On the contrary, these goals should be established taking into account real options for improving the organization performance.

Thus, a base year must be chosen to serve as a benchmark for future measurements, and then targets for reducing emissions in the short and long term must be defined.

However, it will be impossible to reach a level of carbon neutrality (zero GHG emissions) by the sole implementation of internal improvements, for every action of development cause externalities to the environment. For this reason, a voluntary next step of the cycle is the purchase of carbon offset certificates, equivalent to the amount of GHG released by the company.

A carbon offset project consists of a reduction, avoidance or removal of GHG emissions outside the defined boundaries for the organization. Thus, a company could be supporting forest protection, technological changes in smaller companies or electricity generation from renewable sources, among others. By supporting these projects, the reductions, avoidances or removals of GHG that are carried out can be considered as part of the company’s carbon accounting, and therefore compensate the footprint.

It should be noted that before offsetting through the purchase of these certificates, actual reduction of emissions through internal programs must be a priority. The purchase of offsets should just apply for those emissions that have been impossible to avoid.
Step 7. Obtain benefits and achieve leadership. Publicly report the GHG inventory.

The last step in the management cycle of the carbon footprint is to report the GHG inventory, and thus share the information with the stakeholders of the company.

If the company has an annual sustainability report, an additional chapter devoted to the carbon footprint may be included. If the company does not have this kind of report, then a separate document should be created.

At this point, the organization will reap the benefits of having completed the previous steps successfully.

Last but not least, a process of continuous improvement should take place in future determinations of the carbon footprint. Thus, a first study will probably find several shortcomings in the way the company operates and registers data. Gradually correcting these actions is an important part of the climate change management that must be implemented in the organization.

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