

# ENVIRONMENTAL FOOTPRINTING

## WHO'S LEADING THE WAY?



*Consumer desire for sustainably sourced goods and services is transforming the way our food is grown and how products are being made. Retailers, such as Walmart and McDonald's, are increasing their expectations in terms of the environmental impact of their supply chain. The size of a producer's Environmental Footprint (EF) is therefore beginning to play a more significant role in the marketplace as well as market access. Furthermore, producers are realizing the economic and environmental benefits associated with sustainable production and EF can help inform these management decisions.*

*The footprinting movement initially began with carbon assessment, but today, a broad range of environmental metrics are being used to determine a product's total environmental impact. Initiatives have been launched by third party organizations to contribute to the coordination of EF. Alberta Agriculture and Rural Development (ARD) is conducting a project to determine the EF of four major Alberta agri-food commodities (canola, chicken, egg and potato) using a Life Cycle Assessment (LCA) approach. For more information on this project, see ARD's "Agri-Food Footprinting in Alberta" information bulletin.*

*These initiatives are helping businesses gather credible information and assess their environmental impact in terms of carbon, water, energy, land use and more. Through EF businesses, including primary producers, are able to implement beneficial management practices and decrease their environmental impact, which often results in production efficiencies and cost savings.*

*The following is a selection of various EF initiatives that highlights some of the major Global and North American initiatives that have and continue to be developed.*

## Global Initiatives

### The Carbon Disclosure Project

The Carbon Disclosure Project<sup>i</sup> (CDP) is a not-for-profit organization that focuses primarily on decreasing the impact of greenhouse gas emissions and promoting responsible water use around the world. The organization provides a framework through which businesses and cities can measure their environmental impact and share their information with other members. The information is compiled and reported annually. Environmental data is collected on a voluntary basis and CDP now holds the most greenhouse gas emission data in the world. More than 60 countries are contributing to this information center, including Canada and the United States. The CDP has 50 supply chain members including Coca-Cola Enterprises Inc., Nestlé, PepsiCo Inc. and Wal-Mart Stores Inc. Furthermore, approximately 81 per cent of the Global 500 companies reported greenhouse gas reduction efforts through CDP in 2011, including those from the agriculture industry such as Bayer and Monsanto.

### The Sustainability Consortium

This global consortium encourages the assessment of goods and services on a life cycle basis in order to measure sustainability. The Sustainability Consortium<sup>ii</sup> (TSC) works with global stakeholders to develop credible, science-based measurement and reporting tools that are then made available to producers, retailers and consumers. TSC is developing the Sustainability Measurement and Reporting System (SMRS); a tool intended to act as a global arena where companies can measure and report their product sustainability. The SMRS will allow for product level LCA information to be shared for businesses to take advantage of sustainable production opportunities. The largest sector reporting to TSC is the Food, Beverage and Agriculture sector. With active participants such as Syngenta, Tyson Foods Inc. and Unilever, this sector is a leader in TSC sustainability research and reporting.

### Water Footprint Network

The Water Footprint Network<sup>iii</sup> is a global water footprinting organization. With international partners such as the World Wildlife Fund, Pepsico and Nestlé, this initiative focuses on developing standards and water footprinting tools that are made freely available. The Water Footprint Network supports collaborative research to promote sustainable, fair and efficient fresh water use around the world. This organization places a large emphasis on agriculture as agriculture accounts for the vast majority of the water footprint. Therefore, global and national scale footprints have been developed for many agricultural products. By making the information available for free, this organization looks to increase awareness of water footprinting and encourage its application around the world.

### Cool Farm Institute

This recently formed not-for-profit organization focuses on carbon footprinting. By using a greenhouse gas calculator called the “Cool Farm Tool” (CFT), the Cool Farm Institute<sup>iv</sup> helps primary producers around the world measure and manage greenhouse gases from livestock and crop production. The CFT has been used in Canada by the Canadian Pulse Growers Association as part of the Cool Farm Tool Pilot. The tool was used to determine the on-farm carbon footprint of Canadian navy bean production and the results were used to compare the CFT to other footprinting tools. Heinz has also used the CFT to determine the carbon footprint of its California grown tomatoes. The goal was to provide tomato growers with a useful tool and to promote climate-friendly best practices in the agriculture industry.

The Cool Farm Institute is also working on developing a tool that allows growers to report their carbon footprints to suppliers in a standardized way, spreading the environmental information along the supply chain.

### Product Carbon Footprint World Forum

Focusing on the environmental impact of greenhouse gases, the Product Carbon Footprint (PCF) World Forum<sup>v</sup> acts as an international platform for information exchange. This global organization brings together footprinting initiatives from around the world so best practices that promote climate-conscious production can be shared. The PCF World Forum holds a biannual World Summit that brings together a variety of stakeholders to discuss carbon footprinting, as well as approaches to achieve low-carbon production and consumption. The most recent PCF World Summit highlighted initiatives from countries such as Taiwan, Nigeria, France, Canada and many more. A variety of agri-food retailers participated in the latest PCF World Summit, including McDonald’s Europe, PepsiCo and Kellogg Europe.

## North American Initiatives

### Holos

Holos<sup>vi</sup> is a Canadian greenhouse gas footprinting tool developed by Agriculture and Agri-Food Canada (AAFC). This tool assesses greenhouse gas emissions of Canadian farms by taking a “whole-systems approach”. This whole-farm tool considers information that is entered for an individual farm on an annual time scale. The Holos model is based on the Intergovernmental Panel on Climate Change (IPCC) methodology that has been tailored for Canada. The current model available is Holos Classic, a user-friendly tool targeted for producer use. AAFC plans to release a more comprehensive tool for researchers, Holos Research Beta, that will allow for more flexibility in the data manipulation.

## Field to Market: The Keystone Alliance for Sustainable Agriculture

This footprinting initiative, based out of the United States and facilitated by the Keystone Center, focuses on developing indicators to estimate environmental, economic, social and health impact of agricultural production. Field to Market: Keystone Alliance for Sustainable Agriculture<sup>vii</sup> is a coalition of a variety of U.S. agriculture stakeholders, including farmers and large agribusinesses such as Cargill, General Mills and the National Potato Council. An outcome of their work includes the Fieldprint Calculator, a free tool available online that allows growers to voluntarily assess how their management choices are impacting both the environment and their production efficiency.

The agricultural indicators developed by this coalition have been applied to the production of peas, lentils, canola, wheat and flax in Western Canada<sup>viii</sup>. Pulse Canada, the Canadian Canola Growers Association, Ducks Unlimited Canada, the Canadian Wheat Board and the Flax Council of Canada were involved in this project and, with these indicators, were able to demonstrate that the environmental outcomes of each commodity improved over a period of two decades.

## Carbon Footprint Québec (Empreinte Carbon Québec)

The government of Quebec has launched a carbon footprint pilot project, Carbon Footprint Québec<sup>ix</sup>, with the goal of implementing carbon labeling in the province. In order to achieve this, the project aims to contribute to the development of a standardized methodology for carbon footprinting by analyzing the Product Category Rules (PCRs) of different commodities. PCRs are rules aimed to categorize products so that their environmental information may be appropriately compared. As a member of the PCF World Forum, Quebec will share the results of this pilot project with other forum members. Companies for this pilot project were selected from a variety of industries, including agriculture, which is represented by a major Canadian dairy processor– Agropur.

*The area of EF is relatively new and many of the initiatives highlighted above are still under development. Footprinting tools are expanding beyond just carbon assessment and are now starting to include a wide variety of environmental metrics. Some tools are being developed for grower and producer use, while others have application at the consumer level. Initiatives are focusing on a range of footprinting opportunities, such as data reporting, PCRs, information sharing and sustainability calculations. This global movement is working to help everyone involved quantify the life cycle of a product to understand more about how production practices are impacting the environment.*

<sup>i</sup>[www.cdproject.net/en-US/Pages/HomePage.aspx](http://www.cdproject.net/en-US/Pages/HomePage.aspx)

<sup>ii</sup>[www.sustainabilityconsortium.org/](http://www.sustainabilityconsortium.org/)

<sup>iii</sup>[www.waterfootprint.org](http://www.waterfootprint.org)

<sup>iv</sup>[www.coolfarmtool.org/](http://www.coolfarmtool.org/)

<sup>v</sup>[www.pcf-world-forum.org/](http://www.pcf-world-forum.org/)

<sup>vi</sup>Little et al. 2008. Holos: A tool to estimate and reduce GHGs from farms. Agriculture and Agri-Food Canada.

<sup>vii</sup>[www.fieldtomarket.org](http://www.fieldtomarket.org)

<sup>viii</sup>Serecon Management Consulting Inc. 2011. Application Of Sustainable Agriculture Metrics To Selected Western Canadian Field Crops.

<sup>ix</sup>[www.empreintecarbonequebec.org/en/index.php](http://www.empreintecarbonequebec.org/en/index.php)

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