

## Projeto GHG Protocol Agropecuário no Brasil: Frequently Asked Questions

### 1. What is the GHG Protocol?

The Greenhouse Gas Protocol (GHG Protocol) is a joint initiative of the World Resources Institute (WRI) and the World Business Council on Sustainable Development (WBCSD). Established in 1999, the GHG Protocol works with businesses, governments, and environmental groups around the world to build credible and effective programs for tackling climate change. Its standards are the most widely used tools to measure, manage, and report GHG emissions.

### 2. What are sources of agricultural emissions?

Agriculture releases GHGs into the atmosphere through a wide range of farming practices. In Brazil, agricultural emissions mostly come from digestive processes in cattle (56% of sectoral emissions) and agricultural soils (35%). Smaller sources include manure management (5%), rice cultivation (2%), and the field burning of sugar cane residue (2%)<sup>1</sup>. Agricultural production also results in indirect emissions from the conversion of forests and other lands to agriculture, upstream manufacture of agricultural inputs, and downstream transport of agricultural products.

### 3. Why are agricultural emissions so difficult to measure and report?

Unlike industrial sectors, agricultural emissions are strongly influenced by environmental conditions, such as soil moisture content and temperature. For this reason, it can be difficult to:

- Separate man-made effects from natural ones and thus ensure that GHG inventories are useful as management tools.
- Obtain accurate emissions data.
- Set and track progress toward emission reduction goals against a background of highly variable emissions.
- Account for agricultural activities that do not have immediate GHG impacts (e.g., carbon sequestration from tree planting).

### 4. What does the GHG protocol Agricultural Toolset offer?

The toolset offers a comprehensive package for measuring and reporting agricultural emissions. It comprises two modules:

- (i) The Agricultural Guidance, which details how a company or farm should combine emissions data across its agricultural operations into a single inventory; and
- (ii) An Emissions Calculation Tool, which calculates the GHG emissions from a wide range of agricultural practices and covers the highest-emitting subsectors in Brazil – soy, corn, cotton, wheat, rice, sugar cane, and cattle.

## 5. Who should use the toolset?

The toolset should be used by:

- Companies that own or control agricultural operations.
- GHG reporting programs.
- Public institutions and non-governmental initiatives that seek to monitor GHG emissions from agriculture.

The Calculation Tool may also be used by both suppliers of agricultural inputs and the customers of agricultural companies to quantify the value chain emissions from the products they buy and sell.

Many companies in other sectors also have land-based GHG emissions. Examples include the construction, mining, and utility sectors. The Guidance can be used by these companies to inform how they include the related emissions in their inventories.

## 6. What are the benefits to businesses in using the toolset?

In general, using the toolset can contribute to managing GHG emissions in the agriculture sector and, consequently, contribute to a low-carbon economy in Brazil. More specifically, using the toolset companies can:

- Understand the operational and reputational risks and opportunities associated with agricultural emissions.
- Identify GHG emissions reduction opportunities, set reduction targets, and track performance.
- Report to stakeholders, including civil society and internal management.
- Realize co-benefits from emissions reductions, such as energy conservation, increased productivity, and improved soil and water quality.

## 7. What emissions sources does the Calculation Tool cover?

Direct emissions from sources located on farmland:

- Addition of livestock waste and synthetic fertilizers to soils
- Addition of lime and urea to soils
- Manure management
- Enteric fermentation
- Rice cultivation
- Land use change
- Crop residue management
- Fuel use

Indirect emissions from sources located outside of farms:

- Purchased electricity
- Purchased agrichemicals

## 8. What methodologies does the Emissions Calculation Tool use?

The methodologies are the same as those used in the Second Brazilian Inventory of Anthropogenic Emissions<sup>i</sup>. The use of emission factors customized to the Brazilian context was prioritized. However, when such factors were not available, the tool uses default emission factors from the Intergovernmental Panel on Climate Change (IPCC).

## 9. What recommendations does the Guidance provide on biogenic carbon?

The emission and removal of carbon dioxide (CO<sub>2</sub>) by plants and soils is a very important part of agriculture's impact on the climate. Indeed, it is estimated that over 90% of the mitigation potential of agriculture rests in soil carbon sequestration<sup>ii</sup>. Because the GHG Protocol Corporate Standard provides very little guidance on accounting for such 'biogenic carbon' impacts, a large part of the Guidance provides specific recommendations on this topic. These recommendations cover the types of biogenic CO<sub>2</sub> emissions and removals that should be accounted for, as well as how information on biogenic carbon should be reported. To optimize the transparent reporting of decision-relevant information, the Guidance recommends that biogenic carbon data are separately reported for the following categories: emissions from land use change, emissions and/or removals from agricultural activities, and emissions from biofuel use.

## 10. Is use of the toolset compulsory?

Use of the new toolset is voluntary. In the future, governments and programs may decide to use the toolset or some version of the toolset when creating mandatory programs or regulations.

## 11. Can the Calculation Tool be used to prepare product GHG inventories?

Yes, the Calculation Tool can be used to calculate the portion of product GHG emissions that relates to agricultural activities. Additional calculation tools will have to be used to quantify the GHG emissions from other value chain stages. The GHG Protocol Product Life Cycle Accounting and Reporting Standard<sup>iii</sup> provides information on how to develop product GHG inventories.

## 12. Which companies road tested the toolset?

Duratex, JBS, Grupo Maggi, Marfrig, BP Biofuels, Bunge.

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<sup>i</sup> [http://www.mct.gov.br/upd\\_blob/0214/214061.pdf](http://www.mct.gov.br/upd_blob/0214/214061.pdf)

<sup>ii</sup> [http://www.ipcc.ch/publications\\_and\\_data/ar4/wg3/en/contents.html](http://www.ipcc.ch/publications_and_data/ar4/wg3/en/contents.html)

<sup>iii</sup> <http://www.ghgprotocol.org/standards/product-standard>