



## Discussion paper: Calculating GHG emissions in the dairy sector

### Introduction

In 2008, SAI Platform's Dairy Working Group identified Greenhouse Gas (GHG) emissions as one of the main topics to be tackled urgently. The issue of climate change has been acknowledged as a priority by the ongoing work of the International Panel on Climate Change (IPCC)<sup>1</sup>; the significance for the meat and dairy sector was investigated in the "Livestock's long shadow" report from the UN Food and Agriculture Organization (FAO)<sup>2</sup>. More recently, retailers have demonstrated a growing interest in GHG emissions e.g. through the use of concepts such as "food miles" and "carbon footprints." There is an expectation that consumers may demand products which emit fewer GHG emissions across their extended supply chains or 'life cycles'<sup>3</sup>. Initiatives such as the development of the BSi PAS2050<sup>4</sup> in the UK are emerging in an attempt to standardise methods for estimating these emissions.

### Objective

The SAI Platform's Dairy Working Group supports the desire to standardise 'carbon footprint' methods; however, such standardization should be internationally agreed and should accommodate goal and sector-specific considerations where appropriate. For this reason, the SAI Platform Dairy Working Group commissioned a review of existing GHG studies, including those undertaken by some of the member organizations, conducted in the dairy sector. The purpose was not to review the specific data and results, but rather to gain insight into the methodological approaches used in the absence of any standardized / sector approaches, specifically:

- The degree of commonality between the studies (methods, critical choices, scope and system boundaries etc.)
- The opportunity for harmonization of approaches.

This discussion paper reflects the views of dairy companies who are members of the SAI Platform's Working Group Dairy, also including experts of the International Dairy Federation (IDF) who have participated in the drafting process. The document is intended to stimulate discussion with other actors of the dairy chain and interested parties, with a view to encourage organizations within the sector to work together, sharing information to estimate and manage GHG emissions across the value chain in a harmonized way.

### Main Observations

1. SAI Platform 2008 identified 27 studies in the dairy sector that applied a life cycle-based approach to calculate the GHG emissions of dairy products e.g. milk, cheese, ice cream..... (see List on page 3 of Annex).
2. The studies were undertaken to address a variety of objectives, including:

- Identification of life cycle / supply chain activities which contribute most to GHG emissions (hotspot analysis) e.g. to inform GHG reduction activities
  - Comparison of products to inform new product innovation
  - Environmental benchmarking of products e.g. to inform target setting or year-on-year improvement
  - Support for external claims (e.g. carbon neutrality)
3. Depending on the purpose of the studies, different assumptions and choices have been made, particularly in the following areas:
- a. scope (e.g. sector vs brand portfolio vs product level assessments)
  - b. allocation of impacts between products and processes e.g. economic; biological (or physico-chemical) causality (protein); mass (solid matter); system based on age and life stages for meat versus milk (at farm level)
  - c. system boundaries e.g. Inclusion of fertilizer production, land use change emissions (e.g. deforestation from soy production), sequestration of emissions in soils and biomass
  - d. degree of data specificity e.g. industry average vs. farm specific

### **Recommendations / Next steps**

1. To review and consult as necessary on current and emerging initiatives to standardize carbon footprint approaches (i.e. WBCSD / WRI GHG Protocol; ISO standards)
2. To consult on the FAO activity aimed at reviewing the research behind the Livestock's long Shadow report, and breaking it down into different sub-categories. In particular: understanding the implications of critical choices for the sub-category results to help inform subsequent prioritization for GHG reduction strategies.
3. To research differences between dairy production systems – e.g. grass fed vs concentrate, indoor vs outdoor, organic vs non organic, hormone treated vs not etc – in order to identify ways to reduce GHG emissions, and to implement them.
4. To measure progress at various levels – company, country, region - towards the reduction of GHG emissions from dairy production.

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<sup>1</sup> IPCC Reports available at: <http://www.ipcc.ch/#>

<sup>2</sup> FAO (2006) Livestock's Long Shadow: Environmental issues and options

<sup>3</sup> Carbon Trust (2006) Consumers want businesses to act on climate change. Press release, 6 Nov 2006.

<sup>4</sup> BSI PAS2050 (2008) Specification for the assessment of the life cycle greenhouse gas emissions of goods and services