



Limited  
Assurance  
Report on  
Bunge's 2021  
GHG  
Statement

# 1. Introduction

## Purpose of assessment, key assumptions and limitations, restriction of use and distribution:

This report, including its conclusion about Bunge's GHG 2021 Statement, has been prepared for the Board of Directors and Management of BUNGE to assist them in reporting on the Company's performance activities.

Bunge has sole responsibility for preparation of the data and external report of the GHG Statement. The assurance report, however, represents Control Union's independent opinion and is intended to inform all stakeholders including Bunge.

We permit the disclosure of this report within the accompanying GHG statement for the year ending December 31, 2021, to enable Management to demonstrate that they have discharged their governance responsibilities by commissioning an independent assurance report on the selected information contained in the GHG Statement. To fullest extent permitted by law, we do not accept or assume responsibility to anyone other than Bunge for our work or this report, save where terms are expressly agreed and with our prior consent in writing.



**Robert Demianew**

Vice President

Control Union Certifications (N.A.) LLC.



## 2. Scope of Work

### Description:

- Control Union (CU) was commissioned by Bunge to complete an independent assurance of standard procedures, which Bunge follows to collect and report the information on Scope 1 and 2 greenhouse gas emissions.
- CU has conducted a comprehensive review of Bunge's standard procedures, documents, relevant records, reports and data from the individual and regional sites. This assessment was conducted by a multidisciplinary team including assurance practitioners and individuals with environmental experience. The assessment was carried out remotely.
- The inventory boundaries were the production facilities that there were operating under Bunge's operational control during 2021.

### Bunge's 2021 GHG Statement

- The GHG assertions from Bunge are as follows:
  - Total emissions are **3.192.592** metric tonnes of CO<sub>2</sub>e;
  - **1.789.793** metric tonnes of CO<sub>2</sub>e for Scope 1.
  - **1.402.799** metric tonnes of CO<sub>2</sub>e for Scope 2.
  - Scope 3 emissions were not included.



## Notes to Bunge GHG emissions statement 2021

### Note 1: Greenhouse Gas calculation criteria

- The GHG calculation carried out by Bunge is based on the criteria described in the calculation guide for sustainability KPIs. These guidelines were reviewed during 2021.
- This new version introduces a much more detailed description of some critical criteria followed in Bunge for the sustainability KPIs calculation. It is pretty much aligned with the GHG protocol standard but introducing at the same time some criteria specifically defined internally in Bunge for changes in our footprint and methodologies for rebaseline actions.

### Note 2: Industrial Scope 2021.

- The emissions aggregated in the Bunge sustainability program framework are considering scope 1 and scope 2 GHG emissions produced from our production sites.
- The main changes in the industrial footprint for the 2021 Sustainability Program were:
- The bottling plant in Korfez (Turkey), the refining plant in Tema (Ghana), millings plants of Muleshoe and Red Oak (USA), and Merida (Mexico) were included in our emissions accounting system for the 2021 footprint. The milling plant in Brasilia (Brazil), which has been on shutdown since 2018, resumed its activity in July 2021 and started to report since then.
- Margarine plants in Brazil were sold out to a third company at the end of 2020, so these units were removed from our global accounting system.

### Note 3: GHG Emission Sources

- The main source of scope 1 emissions in Bunge is the consumption of natural gas linked with our production.
- Other fuels used with a much smaller weight during our heat generation are light oil and heavy oil.
- The use of diesel is not material, as used mainly for forklifts and firefighting pumps.
- Emissions from use of sustainable biomass as fuel is considered non-material.
- Scope 2 emissions from electricity are material for almost all our facilities. Indirect emissions linked with steam purchased to third parties are only material in some geographies, as China or Europe.

### Note 4: Emission Factors

- The emission factors linked with energy purchases from the electrical grids have been updated for this 2021 Bunge GHG emission calculations.

- The source of EF has been determined by a specialist consultant company (Green Domus) which reviewed and suggested new market-based emission factors for almost all the Bunge facilities. Bunge always will use, as a first choice, market-based emission factors when they could be available as per our guidelines and to be aligned with the Science Based Targets standards.
- Bunge also updated the Steam emission factors for all the Chinese plants to be aligned with the new Chinese National Code.
- Change on emission factor in the crushing plant in Dongguan (China), for the exchange of fossil fuel, which went from burning coal to buying steam from a third-party company in 2021.

#### **Note 5: Re-baselining**

- As several changes on emission factors and changes on Bunge industrial footprint were performed during 2021, and following the standards of the Science Based Targets, Bunge had to rebase our 2020 emissions footprint. Re-baselining, refers to the process of adjusting (upward or downward) the base-year and/or subsequent year's GHG emissions calculations as a result of such process.
- The main changes for 2020 Rebaseline were:
  - Electricity Purchased emission factors updated in several regions;
  - Steam purchased emission factors updated in Chinese plants;
  - Removal of the Margarine Plants (Jaguaré, Suape and Gaspar) and Tomato Plant (Araçatuba) from the BSA region, and Queretaro in BNA region. All these plants were sold out in 2020.
  - Addition of Muleshoe and Red Oak (BNA Milling plants -USA) and the bottling facility Korfez (Turkey) in the 2020 footprint.

#### **Note 6: Incidents**

- Novaol (Italy): The gas meter of the gas supplier company broke, so the data reported for this plant was based on our internal meter, since the amounts billed by the company came far below normal consumption. Therefore, Bunge chose to be more conservative and use the amounts recorded internally.

#### **Note 7: Improvements**

- Revision and verifications with markets/regions to control consumption, errors, updates, and improvements on the reporting system.

# 3. Project Description

## Assurance Assessment:

- Control Union has undertaken an assurance assessment of BUNGE’s GHG Statement for the year of 2021, observing the process of data collection, the correct classification between scope 1 and 2 and the methodology used to collect data, against the methodology described in BUNGE’s own “Guideline for Sust KPIs Calculation\_2022\_v3”. We have also reviewed Bunge’s procedures against best practices and applicable worldwide. As observations were assimilated in a remote-manner, assessment of completeness of the reported data considered only information provided by BUNGE during the assurance assessment period.
- Bunge’s Statement Scope & Boundaries:
  - The GHG reported data is from the period January 1, 2021 to December 31, 2021.
  - The operational boundaries for the GHG Statement were **97** sites operating under Bunge’s operational control in North America (37), South America (21), Europe (27), Asia (10) and Africa (1). The activities covered in Bunge’s Sustainability Program are all the operations located at Bunge industrial sites, except for the sites where Bunge only has silos (oil seeds/beans/grain storage) or port activities (shipping). Silos and ports are not material contributors to any of the 5 sustainability KPIs. They have completely different production metrics that are difficult to integrate with the industrial manufacturing KPIs.

Sites where Bunge did not have operational and/or management control to direct the activities of the location were excluded from the scope.

  - The report relates to direct (Scope 1) GHG emissions and energy indirect (Scope 2) GHG emissions.
- Control Union used a risk-based approach throughout the assessment, concentrating on the areas that we believe are most material for both Bunge and its stakeholders.
- We have examined the process and the methodology, including a review of their procedures, the correct classification between scope 1 and 2 of greenhouse gas emissions, and also the completeness of the reported data.
- The following methods were applied during the assessment of Bunge’s GHG emissions and management procedures that support the company’s GHG inventory including the statement presented:
  - Review of data, records and sources from each plant relating to the corporate GHG emission statement.
  - Verification of the information necessary to perform the sampling.

# 3. Project Description

- Assessment of environmental information systems and controls, including:
  - Selection and management of all relevant environmental data and information.
  - Processes for collecting, processing, consolidating, and reporting the environmental data and information.
  - Systems and processes that ensure the accuracy of the environmental data and information.
  - Design and maintenance of the environmental information system.
  - Systems and processes that support the environmental information system.
  - Review of emission sources and their classification according to scopes 1 and 2.
  - Analysis of data related to the type of activity conducted by the plant.
  - Check the associated parameters and the emission factors used.
  - Evaluation of the consistency and uncertainty involved.
- Review of the quantification methodologies, processes and tools used to collect, calculate and report the GHG emission metrics.
- Interview of executives, managers and data users representing relevant functions for supporting the GHG inventory management process at corporate level.
- Examination of the production data and information about the energy and fuel consumptions used.
- Performed sample-based audits of the processes for generating, gathering and managing the quantitative and qualitative data.
- Evaluation of whether the evidence and data are sufficient and support Bunge's GHG statement.
- The GHG reported data were assessed for the period is January 1 2021 to December 31, 2021.
- The boundaries for the GHG data report are 97 sites operating under Bunge's operational control in North America, South America, Europe, Asia and Africa.
- Verification of the Direct GHG emissions (Scope 1) Reported.
- Verification of the Indirect GHG emissions (Scope 2) Reported from electricity and steam consumptions.

# 3. Project Description

- The procedures performed in a limited assurance assessment vary in nature and are less extensive than for a reasonable assurance assessment and consequently, the level of assurance obtained is substantially lower than the assurance that would have been obtained had a reasonable assurance assessment been performed.
- CU, being part of a global network of companies with presence in over 75 countries, has the capacity and the knowledge to deliver and carry out projects on a global scale. CU has a very practical approach in providing companies assistance and auditing their sustainability goals. The auditing areas that are currently covered by CU include: supply chain certification, sustainability standard development, supply chain logistics, resource assessments, environmental impact assessments, and collateral management services for the banking industry. A selection of the products and supply chains that CU has worked with include: agricultural products (e.g. sugar, vegetable oils, cacao, coffee), textile, agricultural processing industries, and biomass.
- Bunge is responsible for preparation of the GHG Statement and for such internal control as management determines necessary to enable the preparation of a GHG Statement that is free from material misstatement.

# 4. Sampling strategy:

- From the summary of the calculations initially sent by BUNGE, CU was able to evaluate the kind of activities and volume of GHG emissions from the factories in the different regions and also understood, from this information.
- **Control Union sampled 20% from the total number of facilities stipulated by BUNGE.** The number of facilities chosen per region were representative of the percentage total of that region and have been selected taking into account the complexity and importance of each one regarding their activity as well as the total volume of GHG emissions calculated by the organization. Also is important to consider that most of the selected facilities were sample from the ones that never received and assessment. Below is a list of sampled plants which were used to determine the correctness of calculations of reported emissions:



### Europe:

- ✓ Novaol
- ✓ Bruck
- ✓ Buzau
- ✓ Thrace
- ✓ Korfez
- ✓ Karczew
- ✓ Bunde

### Asia:

- ✓ Rajpura

### North America:

- ✓ Muleshoe
- ✓ Fort Worth
- ✓ Sandston
- ✓ Decatur, IN
- ✓ La Espiga

### South America:

- ✓ Luis Eduardo Magalhães
- ✓ Luziânia
- ✓ Uruçuí
- ✓ Brasilia
- ✓ Tatuí
- ✓ Tancacha
- ✓ San Jeronimo Sud

Total emissions covered in the sample: 1.184.643 metric tonnes of CO<sub>2</sub>e (32%)

# 5. Conclusions

## Conclusions

- Based on the processes and procedures conducted for a limited assurance, there is no evidence that the environmental claims and assertions listed above are not materially correct and are not a fair representation of environmental data and information and have not been prepared in accordance with the calculation method referenced.
- Aligned to the “Guideline for Sust KPIs Calculation\_2022\_v3” Control Union found that non-biogenic emissions (CH<sub>4</sub> and N<sub>2</sub>O) from biomass burning were not included in the emissions estimates and that the emission factors for the electricity grid used for Brazil was not for the year of 2021 but for the year of 2020. CU accepted because it represented less than 5% of Bunge’s total global GHG emissions.
- Continuous improvement of the guideline and process were observed during each verification performed. Each region was aligned with the “Guideline for Sust KPIs Calculation\_2022\_v3”.

## Reference Framework

- The GHG emission calculations were assessed in accordance with Bunge’s standard procedures “Guideline for Sust KPIs Calculation\_2022\_v3”.

## Data collection

- From the summary of the calculations initially sent by BUNGE, we were able to evaluate the kind of activities, the business units and the volume of GHG emissions from the factories in the different regions. With this information, we understood that operational and organizational limits determined by BUNGE include 97 facilities.
- Then it was possible to CU to evaluate the information of the sites selected for sampling. All the information was delivered and shared during the audits.
- Assessment dates from March 14, 2022 to March 31, 2022.



**Improvement opportunities:**

- Based on the “Guidelines for calculation of Sustainability KPIs in Bunge”, the following improvements were identified:
  - Separately report Biogenic CO2 emissions from biomass combustion.
  - Accurately reference the bibliographic references of the emission factors used in each country.
  - Organize evidence to facilitate traceability during the audit.
  - Review internal processes and evaluate the possibility to calculate the electricity emissions in February, to have the latest emission factor provided by local authorities.



# Thank you!

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