# Greenhouse Gas (GHG) Emissions Report – Summary

## ::: COMPANY POSITIONING

CJ Selecta uses renewable energy sources in its boilers and produces its own clean energy through turbogenerators.

## ::: GHG MONITORING

Since 2019, CJ Selecta has been measuring and monitoring its GHG emissions, always seeking solutions to reduce environmental impacts. In 2023, the company revisited its analyses of production processes and updated previously considered assumptions to consolidate the annual results, all based on the GHG Protocol methodology.

## ::: WHICH COUNTRIES EMIT THE MOST GHG?

According to the Greenhouse Gas Emissions and Removals Estimation System (SEEG, in Portuguese), an initiative of the Climate Observatory, Brazil ranks 5th among the largest GHG emitters, behind only China, the USA, Russia, and India.

## ::: WHAT ARE GREENHOUSE GASES (GHG)?

Greenhouse gases (GHG) are atmospheric substances that contribute to global warming and climate change. Human activities directly increase the concentration of these gases in the atmosphere.

## ::: MAIN GASES AND EFFECTS OF GHG

Carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O) are the main GHGs. CO2 persists in the atmosphere for up to a thousand years, methane for about a decade, and nitrous oxide for approximately 120 years

**Direct sources:**
stationary, mobile, and fugitive sources.
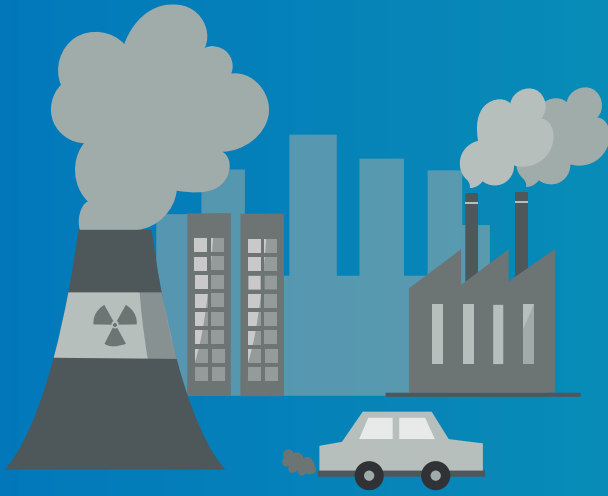
**Indirect sources:**
employee transportation, air travel, outsourced transportation, and the use of sold fertilizers.

## ::: EMISSIONS BY GAS TYPE

This inventory identified emissions from four classes of gases: CO2 (carbon dioxide), CH4 (methane), N2O (nitrous oxide), and HFCs (hydrofluorocarbons). These gases were then converted to CO2e (carbon dioxide equivalent) based on their global warming potentials (GWP). The table shows the contribution of each gas and their conversions to tCO2e.

| GAS | GHG (mt) | $tCO_2e$ |
|---|---|---|
| $CO_2$ | 47,172.67 | 47,172.67 |
| $CH_4$ | 348.50 | 9,758.03 |
| $N_2O$ | 16.97 | 4,497.58 |
| HFC | 0.05 | 103.70 |

## ::: CJ SELECTA's GHG HIGHLIGHTS 2023

**STATIONARY COMBUSTION**

11,269.37

8,115.98

2022

2023

**4%** reduction in emissions from stationary sources

Reduction of
**3,153.39 tCO2**
from stationary sources

# ::: CJ SELECTA's GHG HIGHLIGHTS 2023

**TOTAL tCO$_2$e**

51,018.10

2022

49,339.31

2023

**4%** reduction in tCO2e emissions

## ::: WHAT CAN WE DO TO COMBAT GLOBAL WARMING?

- Eliminate deforestation

- Invest in reforestation and conservation of natural areas

- Encourage the use of non-conventional renewable energies (solar, wind, and biomass)

- Prefer biofuels (ethanol and biodiesel) over fossil fuels (gasoline and diesel), invest in reducing energy consumption and improving energy efficiency

- Reduce, reuse, and recycle materials; invest in low-carbon technologies; and improve public transportation with low GHG emissions.
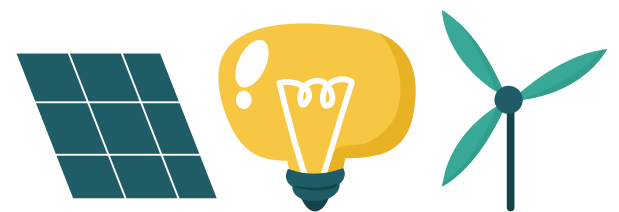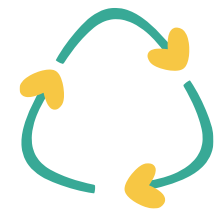
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CJ Selecta