

# EDGAR-FOOD: A GLOBAL EMISSIONS DATABASE OF FOOD SYSTEMS

Monitoring the evolution of the food system in response to the growing world population from 1990 to 2023

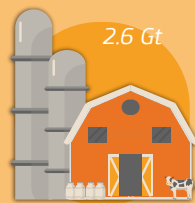
HOW HAS THE GLOBAL FOOD SYSTEM CHANGED IN THE LAST 3 DECADES?  
...and there are bigger regional disparities.

A lot has changed..

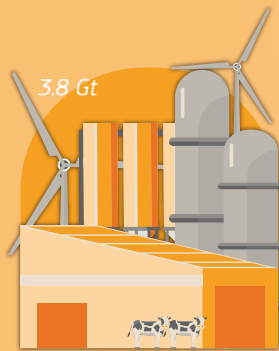


Diet Welfare Technology

...more energy is used...



1990



2023

The average person's food consumption caused the emission of **2.2 tonnes of CO<sub>2</sub> equivalent** in 2023

Lowest value region World average Highest value region

4 % F-gases (fluorinated gases)

11 % N<sub>2</sub>O (nitrous oxide)

35 % CH<sub>4</sub> (methane)

50 % CO<sub>2</sub> (carbon dioxide)



## WHY EDGAR-FOOD?

EDGAR-FOOD is the first comprehensive global emissions database of food-related greenhouse gas (GHG) emissions, covering the period 1990-2023, for all countries and sectors of the world's food systems, from farming to disposal.

The completeness of the EDGAR-FOOD database is an important asset for researchers monitoring global food system GHG emissions as part of integrated mitigation strategies, such as the European Commission's Farm to Fork strategy.

**1/3** of global GHG emissions come from the food system

# WHAT DOES EDGAR-FOOD TELL US?

EDGAR-FOOD covers all 6 stages of the food system:

- 1) LAND USE, Land-Use Change
- 2) PRODUCTION
- 3) PROCESSING
- 4) DISTRIBUTION (food distribution including packaging, transport and retail)
- 5) CONSUMPTION (food consumption including domestic food preparation activities)
- 6) END OF LIFE (waste)



## HOW CAN EDGAR-FOOD HELP?

To make our food systems more sustainable, we need policies based on detailed information about the environmental impact of the entire food cycle, including GHG emissions. This information should also be available to business and consumers.

Emissions from food systems are increasingly determined by energy use, industrial activities and waste management. Investments in the food system should therefore be focused on energy efficiency and decarbonisation technologies as well as land-based mitigation technologies inside and outside the farm gate.

Crippa, M., et al.: Food systems are responsible for a third of global anthropogenic GHG emissions, *Nature Food*, 2021, <https://doi.org/10.1038/s43016-021-00225-9>.

Crippa, M., et al.: Climate goals require food systems emission inventories. *Nature Food*, 2022, doi:10.1038/s43016-021-00450-2.

Crippa, M., et al.: Air pollutant emissions from global food systems are responsible for environmental impacts, crop losses and mortality, *Nature Food*, 2022, doi:10.1038/s43016-022-00615-7.

Data available at: [https://edgar.jrc.ec.europa.eu/edgar\\_food](https://edgar.jrc.ec.europa.eu/edgar_food)