

CO2 and Water Impacts of Food Production



Greenhouse Gases both Absorb and Emit Radiation

- They are a group of compounds which trap heat inside the Earth's atmosphere.
- A fundamental cause of the greenhouse effect, they increase the temperature of the Earth's surface, create global warming, and cause climate change.

Carbon Dioxide [CO₂]

Emitted by the Burning of:

- Fossil Fuels - Coal, Oil, Natural Gas
- Solid Waste
- Trees
- Wood Products

Result of Chemical Reactions, such as:

- Cement Manufacturing

Removed from the Atmosphere through Absorption by Plants



Methane [CH₄]

Emitted by:

- Production and Transportation of Coal, Oil, and Natural Gas
- Agricultural Practices
- Livestock
- Organic Waste Decay in Solid Waste Landfills



Nitrous Oxide [N₂O]

Emitted by:

- Agricultural Practices
- Industrial Activities
- Fossil Fuel Combustion
- Solid Waste Combustion



MORE THAN JUST FOOD

THE U.S. WASTES TONS OF RESOURCES WHEN WE WASTE FOOD

1,250 CALORIES PER PERSON PER DAY
THAT IS HALF OF THE RECOMMENDED DAILY INTAKE FOR ADULTS

19%
OF ALL
U.S.
CROPLANDS
THAT IS MORE
LAND THAN ALL
OF NEW MEXICO

21% OF U.S. LANDFILL
CONTENT

THE NO. 1 CONTRIBUTOR BY WEIGHT

18%
OF ALL
FARMING
FERTILIZER
WHICH CONTAINS
3.9 BILLION POUNDS
OF NUTRIENTS

\$218,000,000,000

WHICH IS EQUAL TO 1.3% OF THE U.S. GROSS DOMESTIC PRODUCT (GDP)

2.6% OF ALL U.S. GREENHOUSE
GAS EMISSIONS ANNUALLY



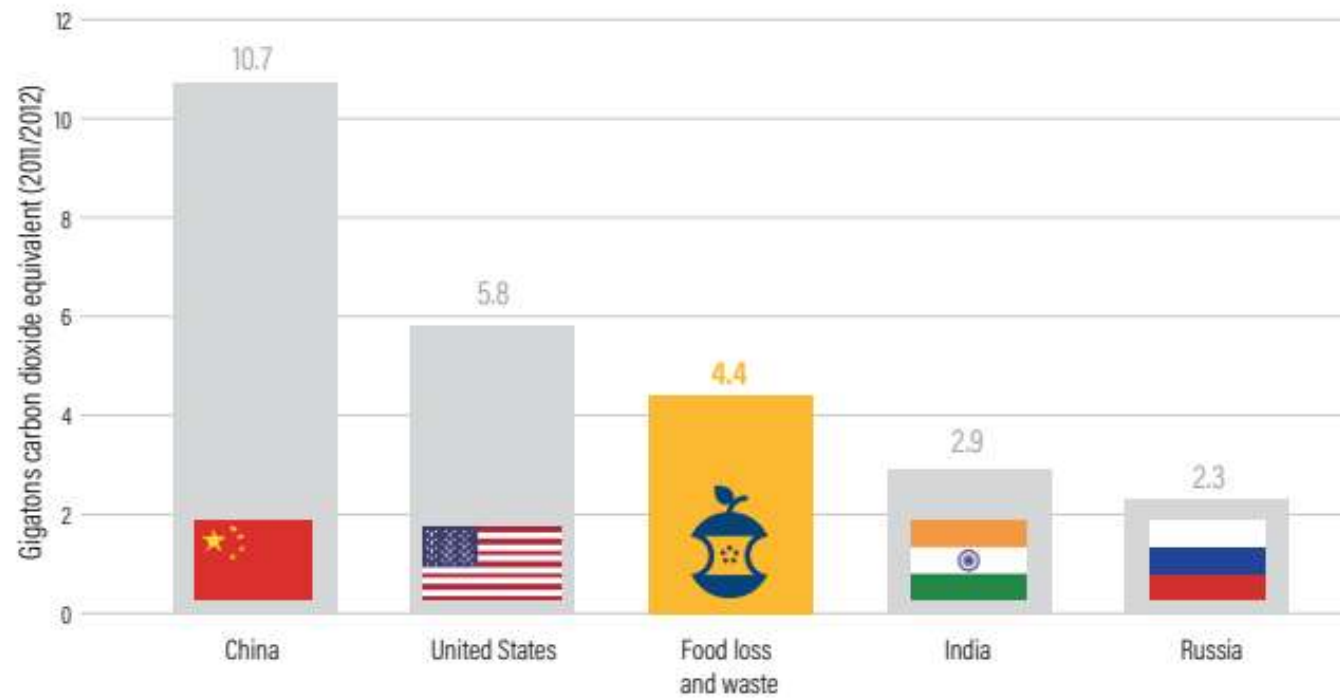
37 MILLION PASSENGER VEHICLES' WORTH

21% OF THE U.S. AGRICULTURAL
WATER USAGE



MORE THAN: TEXAS • CALIFORNIA • OHIO

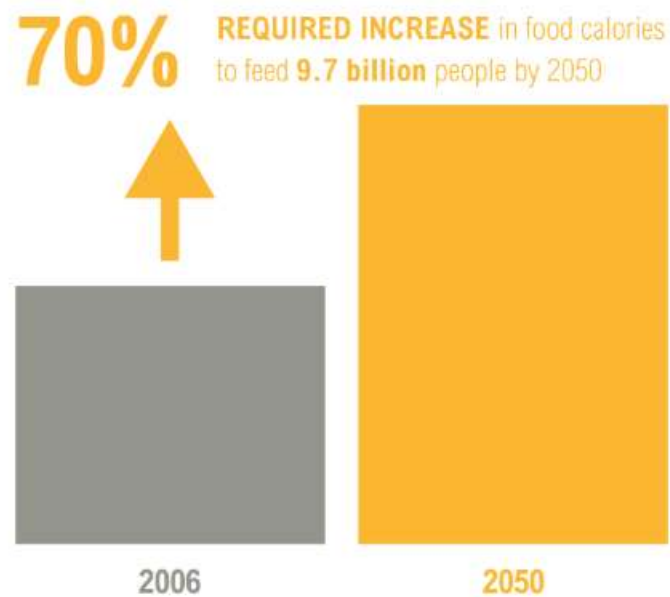
Figure 5-2 | If food loss and waste were a country, it would be the third-largest greenhouse gas emitter in the world



Note: Figures reflect all six anthropogenic GHG emissions, including those from land use, land-use change, and forestry (LULUCF). Country data are for 2012, while the food loss and waste data are for 2011 (the most recent data available). To avoid double counting, the food loss and waste emissions figure should not be added to the country figures.
Sources: CAIT (2017); FAO (2015a).

The world needs to close a 70 percent “food gap” between the crop calories available in 2006 and the expected calorie demand in 2050. This gap stems primarily from population growth and changing diets. Global population is projected to grow to nearly 10 billion by 2050, with two-thirds of people living in urban areas.

The World Needs to Close a 70% Food Gap



WHAT'S YOUR WATER FOOTPRINT?



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