Salahaddin University - Erbil College of Agricultural Engineering Sciences FIELD CROPS and Medical plants Department

## **Carbon Footprint**

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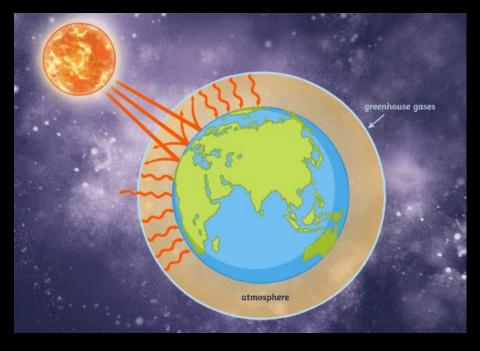
#### WHAT IS CARBON FOOTPRINT?

The total amount of greenhouse gases produced to directly and indirectly support human activities, usually expressed in equivalent tons of carbon dioxide  $(CO_2)$ .

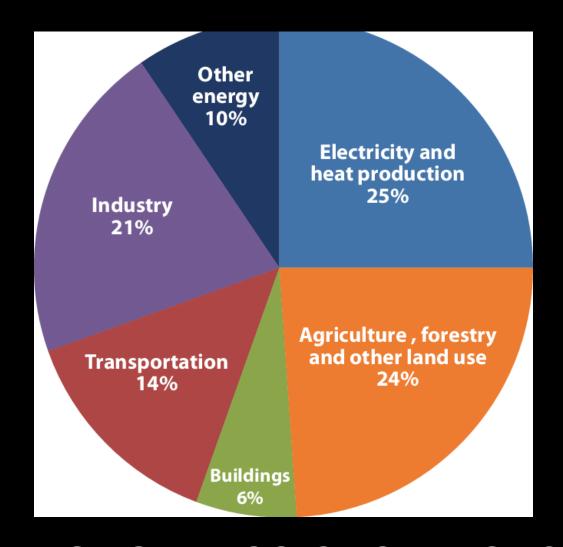


#### MAJOR GREENHOUSE GASES (GHGS)

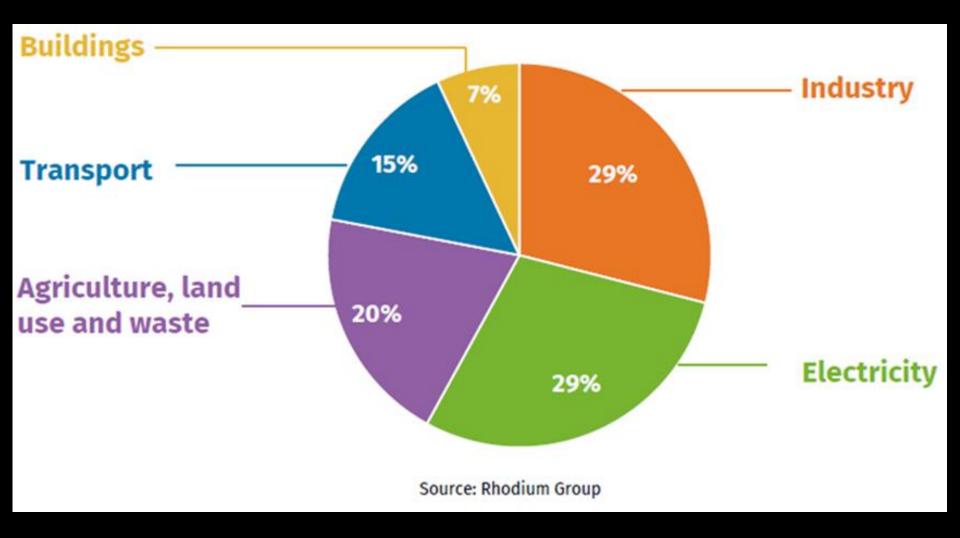
Major greenhouse gases include carbon dioxide, methane, nitrous oxide, and various synthetic chemicals (hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride).



CO<sub>2</sub> is widely reported as the greatest portion of the warming associated with human activities.



# **GLOBAL GHG EMISSIONS BY SECTOR** 2018



# NET GLOBAL GHG EMISSIONS BY SECTOR IN 2021

## SOME PRACTICES TO REDUCE AGRICULTURE CARBON FOOTPRINT

- Implement crop rotations to improve soil health
- Implement a 4Rs approach for nutrient management (right time, right rate, right source, and right place.)
- Decrease bare fallow
- Manage tillage To minimize soil disturbance
- Cover crops
- Manage manure amounts and application timing
- Adequate use of fertilizers

## SOME WAYS TO REDUCE YOUR CARBON FOOTPRINT

- > Develop in Energy-Efficient Equipment
- Utilize Natural Light (installing skylights and solar tubes)
- Reduce waste: set up bins for recyclable materials and composting food scraps.
- ➤ Use Renewable Energy Sources: Solar panels or wind turbines
- Get rid of Disposable Products: ( cups spoons, knives.. etc.









#### CARBON FOOTPRINT CALCULATOR

Estimate your personal or household greenhouse gas emissions and explore the impact of different techniques to lower those emissions:

- U.S. Environmental Protection Agency: www3.epa.gov/carbon-footprint-calculator/
- The Nature Conservancy: www.nature.org/greenliving/carboncalculator/
- Global Footprint Network: https://www.footprintcalculator.org/

### CARBON FOOTPRINT CALCULATOR



How many peop	ole are in you	ur household? 1	•
Electricity:	3	kWh	Ŧ
Natural gas:	4	kWh	•
Heating oil:	1	litres	•
Coal:	6	metric tons	•
LPG:	3	litres	•
Propane:	4	litres	•
Wooden pellets:	4	metric tons	•

Calculate Household Footprint

#### References

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- 5. Weber, C. and H. Matthews (2008) "Food miles and the Relative Climate Impacts of Food Choices in the United States." Environmental Science & Technology, 42(10): 3508-3513.
- 6. U.S. Environmental Protection Agency (EPA) (2023) Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990 2021.
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# Thanks for your attention