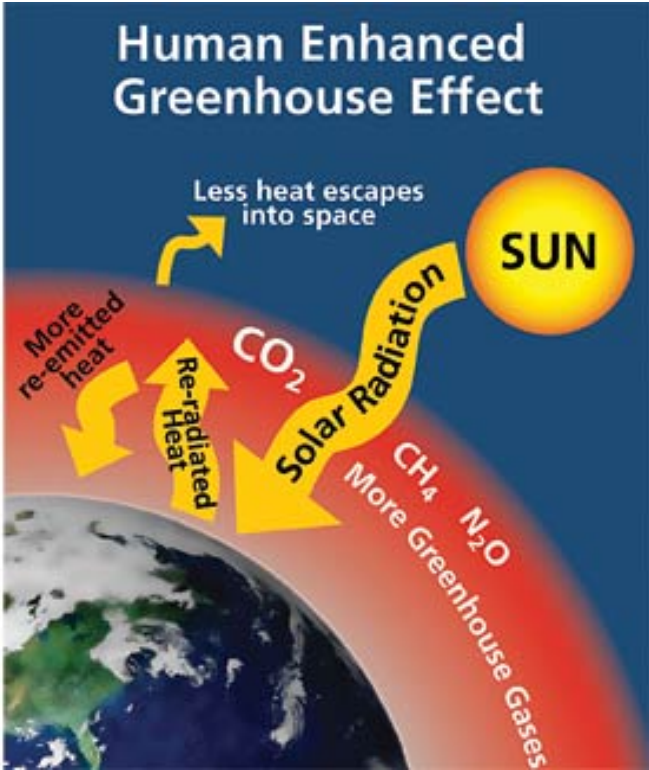
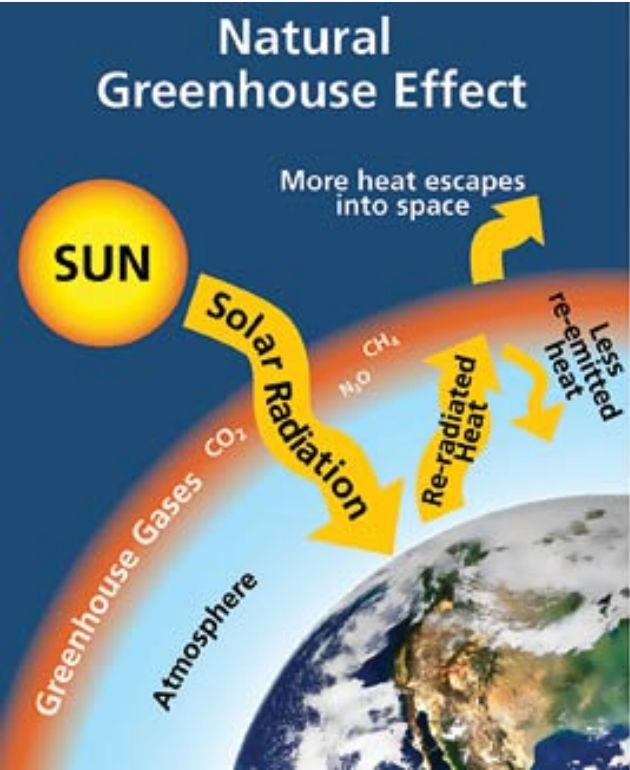


GLOBAL CLIMATE CHANGE

Greenhouse effect is a **natural** process that warms the earth's lower troposphere and surface. Greenhouse gases warm the earth's surface by absorbing heat radiated by the earth's surface.

ENHANCED Greenhouse effect is the impact on the climate from the additional heat retained due to the increased amounts of greenhouse gases that humans have released into the earth's atmosphere since the industrial revolution. (Mid to late 1700s)

GLOBAL CLIMATE CHANGE



In-depth diagram

Diagram



GLOBAL CLIMATE CHANGE

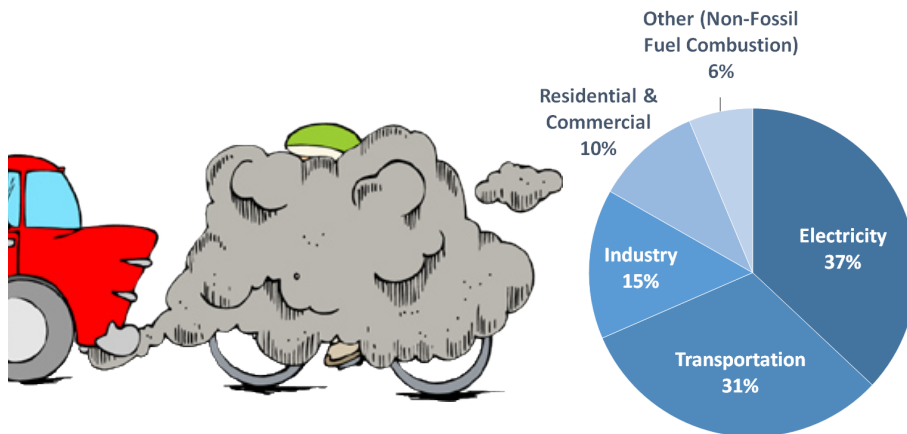
Increasing CO₂ emissions

- Electricity generation
- Transportation - burning fossil fuels
- Industry - cement, production of metals/chemicals
- Deforestation



Bleep at 0:47, 1:07.

U.S. Carbon Dioxide Emissions, By Source



GLOBAL CLIMATE CHANGE

Production and release of CH₄ (methane)



- Energy systems (fracking, coal mining)
- Agriculture - manure management
- Landfill venting

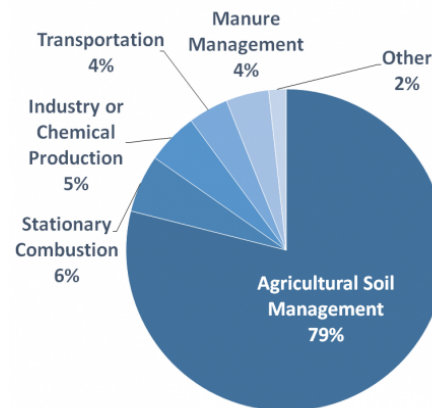


GLOBAL CLIMATE CHANGE

Release of N_2O (nitrous oxide).

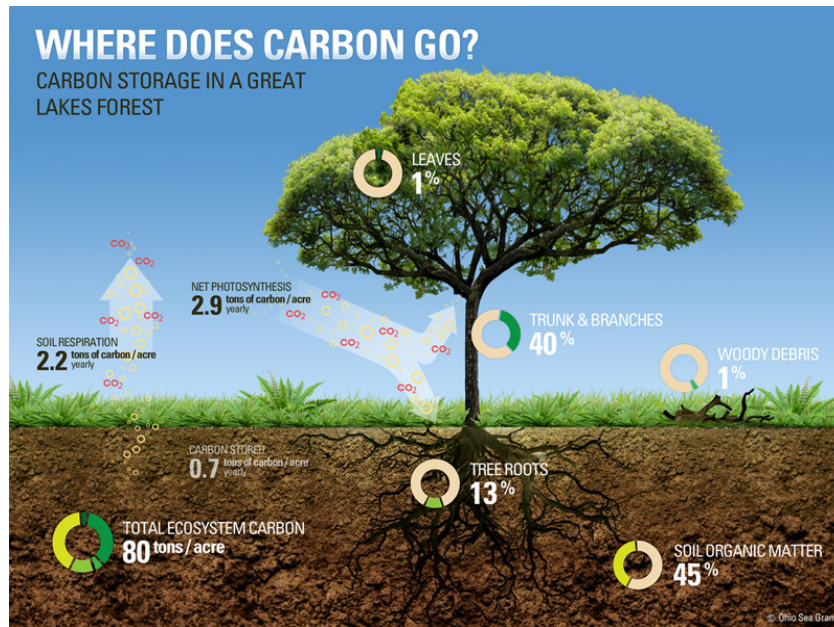
- Agriculture: using synthetic fertilizers rich in nitrogen and breakdown of animal waste
- Transportation: burning of fossil fuels
- Industry: byproduct of making fibers like nylon

U.S. Nitrous Oxide Emissions, By Source



A **carbon sink** is a reservoir that builds up and stores some carbon for a period of time. The main natural sinks are:

- **Oceans:** Absorption of CO₂ by the oceans
- **Plants:** Photosynthesis by plants and algae
- **Soils:** Plant litter and biomass accumulation



SO WHAT?

Consequences for Canada and the world:

- Sea-levels will rise causing coastal areas to flood
- Changes in precipitation patterns
- Increase risk of droughts
- Threats to biodiversity
- A number of challenges for human health such as tropical diseases moving to more northerly and southerly latitudes.
- An ever increasing number of ecological refugees

