



About Global Warming

Since the dawn of the industrial age, the global economy has become increasingly dependant on the use of fossil fuels to power our businesses and our way of life. The consensus among the majority of the world's climate scientists is that human activities have had the most significant effect on the level of greenhouse gas (GHG) emissions.

As scientists have gathered increasing levels of proof that climate change is occurring, and why, efforts to combat this problem have gained significant momentum.

Common greenhouse gases

Carbon dioxide (CO₂)

CO₂ accounts for almost 85 percent of greenhouse gases and is released during the burning of fossil fuels (coal, oil, gas).

Methane

Methane, which is essentially natural gas, is released during the decomposition of organic matter. Its heat trapping capacity is 21 times greater than CO₂.

How much do we emit?

About three-quarters of the CO₂ emissions caused by human activity during the past 20 years comes from burning fossil fuels. The rest is predominantly due to land-use change, especially deforestation.

In the United States:

- The average U.S. citizen emits roughly 6.6 tons of greenhouse gases each year
- More greenhouse gases are emitted per person than any other country, accounting for roughly 25 percent of global emissions, with only 4.6 of the world's population
- CO₂ emissions have grown more than 18 percent since 1990
- The Department of Energy projects CO₂ emissions will increase another 37 percent by 2030

A growing concern

Temperature increases

If greenhouse gas emission trends continue, current projections are for a global increase of 2.5°F to 10.4°F by 2100, with warming in the United States expected to be even higher. Rising air temperatures have already resulted in the retreat of

mountain glaciers, reduced snow-cover, earlier snow melt, rising sea level, and the movement north of some species habitat.

Rise in sea level

According to the EPA, a two-foot rise in sea level would eliminate 17-43 percent of U.S. wetlands. This estimate would eliminate approximately 10,000 square miles of land – an area equal to the combined size of Massachusetts and Delaware.

The role electricity generation plays

Electricity generation is responsible for 33 percent of greenhouse gas emissions and the demand for electricity is growing rapidly. The world will consume 75 percent more electricity in 2020 than it does today – and that demand will triple by 2050, according to the World Energy Council.

In the U.S., electricity generation is responsible for:

- 38% of the carbon dioxide (CO₂)
- 66% of the sulfur dioxide (SO₂)
- 40% of the mercury
- 25% of nitrogen oxides

The role transportation plays

CO₂ emissions from transportation also make a significant contribution to the greenhouse gas emissions released today.

According to recent data:

- Transportation accounts for 14 percent of the world's human activity related emissions
- The average passenger vehicle, driven 12,500 miles per year, emits about 11,450 pounds of CO₂ per year