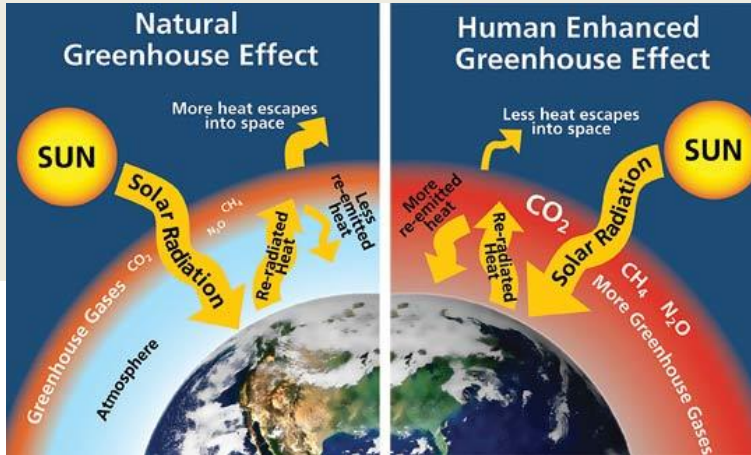




# MODULE: SUSTAINABLE DEVELOPMENT AND SUSTAINABLE COMMUNITIES (THE ROLE IN SOCIAL ENTREPRENEURSHIP)

## CLIMATE CHANGES – THE GREENHOUSE EFFECT



<https://climatechange.lta.org/get-started/learn/co2-methane-greenhouse-effect/>

Greater concentrations of greenhouse gases mean more solar radiation is trapped within the Earth's atmosphere, making temperatures rise. Source: [W. Elder, NPS](#).



<http://geologylearn.blogspot.com/2015/07/what-cause-global-warming-effect.html> Consequences of global warming

## HOW DOES THE GREENHOUSE EFFECT WORKS?

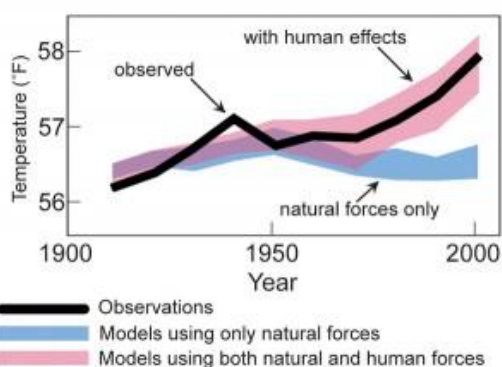
THE GREENHOUSE EFFECT IS A NATURAL PROCESS WHERE ATMOSPHERIC GASES TRAP HEAT – A PHENOMENON THAT ALLOWS THE EARTH TO RETAIN ENOUGH SOLAR HEAT TO BE LIVABLE. WITHOUT THE GREENHOUSE EFFECT, THE EARTH WOULD NOT SUPPORT MOST FORMS OF LIFE.

ALTHOUGH THE PROCESS IS COMPLEX, THE GREENHOUSE EFFECT CAN BE DESCRIBED FAIRLY SIMPLY:

Sunlight passes through the atmosphere. Clouds, ice caps, and other light-colored surfaces reflect some light into space, but most of the incoming energy reaches the planet's surface. The Earth radiates heat back toward space. Greenhouse gases in the atmosphere absorb that heat, bouncing some back to the Earth's surface and releasing some into the atmosphere.

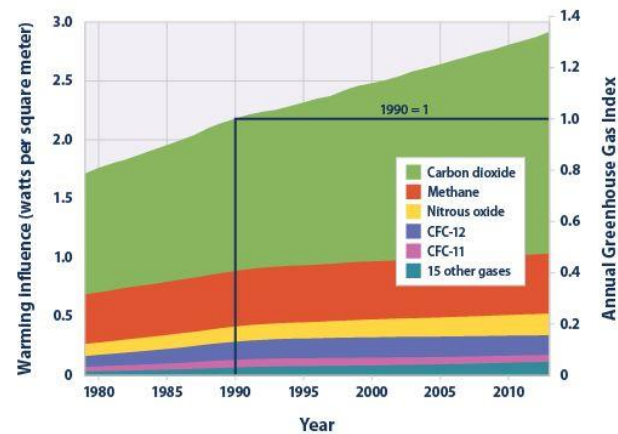
IF THE GREENHOUSE EFFECT IS NATURAL, THEN WHAT'S THE PROBLEM WITH GREENHOUSE GASES?

Modern climate change is caused by an excess of greenhouse gases. This, in turn, over-insulates the planet. As a result, temperatures rise. Imagine wearing a winter parka in the tropics. The effect is similar — too much insulation causes the planet to overheat, which has already begun to change the climate. [Learn more about the impacts of climate change](#). Since the Industrial Era began, humans have had an increasing effect on climate, particularly by adding billions of tons of heat-trapping greenhouse gases to the atmosphere (<https://climatechange.lta.org/get-started/learn/co2-methane-greenhouse-effect/>).



## WHAT ARE GREENHOUSE GASES?

Greenhouse gases include carbon dioxide, methane, nitrous oxide, and other gases that accumulate in the atmosphere and create the heat-reflective layer that keeps the Earth at a liveable temperature. These gases form the insulation that keeps the planet warm enough to support life. Greenhouse gases include carbon dioxide, methane, nitrous oxide, and other gases that accumulate in the atmosphere and create the heat-reflective layer that keeps the Earth at a liveable temperature. These gases form the insulation that keeps the planet warm enough to support life (<https://climatechange.lta.org/get-started/learn/co2-methane-greenhouse-effect/>).



Of the twenty greenhouse gases, carbon dioxide accounts for by far the largest share of radiative forcing since 1990, and its contribution continues to grow at a steady rate. Source: [US EPA](#).

The greenhouse gases (GHG) pillar of our Unilever Sustainable Living Plan (USLP) contributes to a number of the [UN Sustainable Development Goals \(SDGs\)](#), primarily: Affordable and Clean Energy (SDG 7); Climate Action (SDG 13), and Life on Land (SDG 15).

### MORE READING ABOUT GREENHOUSE GASES, GLOBAL WARMING, SUSTAINABILITY:

- <http://geologylearn.blogspot.com/2015/07/what-cause-global-warming-effect.html>
- [http://www.soest.hawaii.edu/mguidry/Unnamed\\_Site\\_2/Chapter%202/Chapter2B2.html](http://www.soest.hawaii.edu/mguidry/Unnamed_Site_2/Chapter%202/Chapter2B2.html)
- <https://www.unilever.com/sustainable-living/reducing-environmental-impact/greenhouse-gases/>