

## Carbon and the Carbon Cycle



Carbon is the building block of life. It is found in all living things: humans, trees, animals, soil, and algae, to name a few. It is also in the food we eat and the fossil fuels we burn to do things like drive cars and heat our homes.

When carbon combines with oxygen, it creates carbon dioxide (CO<sub>2</sub>). It is released into the air as a gas and returns to the Earth as oceans and plants absorb it.

Carbon gets into the air in many ways. It happens naturally, like when a volcano erupts or as plants and animals breathe. It also happens because of how we power our homes, cars and factories.

## The Greenhouse Effect and Greenhouse Gases (GHGs)



Sunlight reaching the Earth can heat the land, ocean, and the atmosphere. Some of that sunlight is reflected back to space by the Earth's surface, clouds, or ice. GHGs like carbon dioxide trap heat in the air. This is called the *Greenhouse Effect*. It helps keep the Earth at comfortable temperatures for humans, animals, and plants to live.

Human activities are changing the natural greenhouse effect. Things like powering factories, cutting down forests, and burning fossil fuels all increase the amount of GHGs in the air<sup>1</sup>. The more GHGs in the air, the more heat is trapped, and the planet warms.

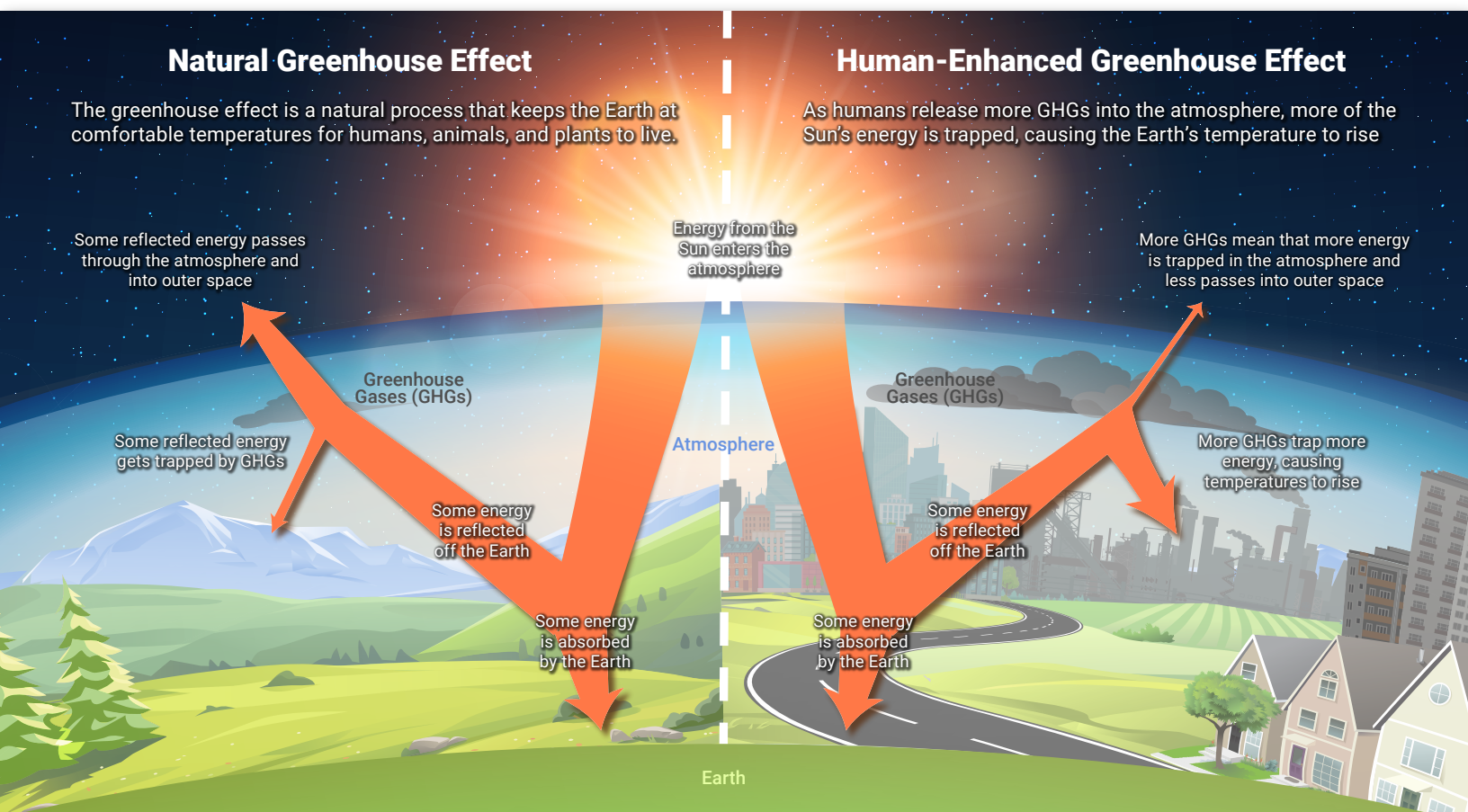
## The Impacts of a Warming Climate



Climate change is already affecting the world in many ways. If we don't take action, the impacts of climate change will get worse for humans, animals, and ecosystems.

Some climate impacts are causing:

- Changes to land and water ecosystems (i.e., melting ice and ocean warming).
- More dangerous weather events (i.e., forest fires, heavy rainfall, hurricanes, and heatwaves).
- More impacts on where people live (i.e., flooding of towns and cities).



### Sources:

<sup>1</sup> [Summary for Policymakers report](#), The Intergovernmental Panel on Climate Change.