

Carbon Dioxide:

Carbon dioxide is a colourless, odourless and non-toxic gas. It is necessary for plant life and photosynthesis.

It is necessary for humans too as without CO₂, the Earth would be too cold for life. This is how it heats up our planet. Carbon dioxide is completely transparent to sunlight and lets it pass through and strike the earth's surface. The sun's light and warmth are partly absorbed by Earth but partly reflected back as infrared energy that radiates back into the atmosphere. Carbon dioxide is not transparent to infrared energy and it traps the heat on the surface of the planet like a blanket. The other gases that trap this infrared energy and warm our planet are nitrous oxide, water vapour and methane. Together with Carbon dioxide these gases are known as the greenhouse gases.

So if carbon dioxide does so much for us, why is it considered bad? It isn't carbon dioxide that is bad. It is just the excess carbon dioxide that has been released into our air due to human activity.

For millions of years activities like respiration, dying and decomposing vegetation and burning wood have been some of the main sources of excess CO₂ in the air. And for millions of years living vegetation have provided the balance by mopping up the excess CO₂ during photosynthesis.

What has happened in recent years though, is that too much CO₂ has been produced within a very short period of time.

Take the cutting down of our forests for example. This has drastically reduced vegetation and as a result, there aren't enough plants to mop up the excess CO₂ from our air.

Also, we use a lot of fossil fuels like coal and oil which have been buried deep into the Earth for millions of years. In the last few hundred years our level of dependence on these fossil fuels has increased exponentially. We bring up these fossil fuels from deep inside the Earth and burn them for our factories, as petroleum for our automobiles, as oil or coal to heat up our homes and to cook. The carbon that is trapped inside these fossil fuels reacts with oxygen from the air to produce the heat. One of the by-products is carbon dioxide which is released into our air.

The number of people breathing our air has increased a million fold too due to increases in population.

Now the problem is obvious – for the above reasons, too much carbon dioxide is thrown into our atmosphere but not enough carbon dioxide is being removed. There is an excess of CO₂ in the atmosphere which disrupts our million year old carbon cycle

It also causes global warming. More and more infrared energy radiated back from our Earth is trapped under the increased level of carbon dioxide. This in turn causes changes in climate, currents, melting glaciers and ice caps. Over time, this excess heat causes the average temperature of the earth to increase. And, even just a degree or so change can have a great effect around the world.

If ice in a glacier goes from 32 degrees to 33 degrees, it will now melt. And, if enough ice melts, it could raise the sea level around the planet such that low-lying coastal areas become completely submerged.

It disrupts our ocean currents which are caused by warm and cold waters meeting and mixing. With glaciers heating up and melting due to excess CO₂ in the air, the difference between the cold and warm waters is greatly reduced.

Increased levels of CO₂ also directly increases the acidity of the oceans, which may interfere with the amount of oxygen that ocean life produces (the oceans are a far more important source of oxygen than all the plants on land).

The controversy and question mark over CO₂: Scientists are pretty much in agreement that the average temperature of the surface of the earth is gradually increasing. The debate is over why that's occurring. That is, is there some other cause for the temperature of the earth to be increasing? And, if so, would it be occurring if man did not exist at all? And, if it would be happening anyway, can man even do anything to reverse it?

No one really knows. It's puzzling and that's what all the controversy is about.

But everyone is in agreement that the normal amount of CO₂ in the air is 350 to 450 ppm (parts per million). According to information provided in Wiki, human activities like combustion of [fossil fuels](#) and [deforestation](#) have caused the atmospheric concentration of carbon dioxide to increase by about 35% since the beginning of the [age of industrialization](#).

Increased levels of CO₂ in the air causes nausea, dizziness, headaches, blurred vision, stiffness and a terrible odour. These reasons alone are worth human beings monitoring their activities to keep the level of CO₂ in the atmosphere at the normal of 350 to 450 ppm. Right now it is too much more.