

Carbon dioxide

[Environment](#), [Earth](#)



Carbon Dioxide is a colorless, odorless gas that occurs in small quantities in the earth's atmosphere naturally. The earth's ocean, soil, plants and animals release CO₂. The formula of Carbon Dioxide is CO₂. The CO₂ molecule contains 2 oxygen atoms that each share 2 electrons with a carbon atom to form 2 carbon - oxygen double bonds. The atoms are arranged as so (O=C=O). This is called a 'linear molecule'. Carbon dioxide is commonly found as a gas and is never a liquid. It sublimates to a solid known as 'dry ice' which is used as a substitute for normal ice as it is a lot colder and doesn't melt. Humans and animals breathe out Carbon Dioxide, often referred to as the greenhouse gas, as a waste product. Plants take in this CO₂ and use it to make food. This is called photosynthesis. During this process oxygen is released which is then breathed in by humans and animals. This procedure is repeated over and over and a natural balance is obtained. However this natural balance is disrupted by human activity. People of the world are putting more than 5.5 billion tons of CO₂ into the atmosphere every year. 75% of this is caused from the burning of fossil fuels. These fuels are burnt all the time to run factories, power plants and vehicles. The main sources of CO₂ emissions are electric utilities, residential buildings, industry and transportation. The other 25% is induced by the destruction of the world's forests. The reason for this is that there are less trees and plants to take in the CO₂ but there is just as many, if not more, humans and animals to breathe it out. The amount of CO₂ in a planet's atmosphere affects the temperature of the planet. As more and more CO₂ builds up in the atmosphere, less heat can escape and the planet gets hotter. The CO₂ traps radiation from the sun like a greenhouse. This is called global warming or the greenhouse effect. Global warming is becoming

a serious problem and CO₂ is the major cause. The earth is now warmer than it has been in 1000's of years. The amount of CO₂ deposited in the earth's atmosphere from human activities is expected to double by the year 2050. It could possible increase by four in the future with developing countries, such as China, anxious to improve their standard of living. Global warming is more serious in areas of Alaska, Canada and Northern Eurasia where temperatures have risen by as much as 10 degrees F over the last 35 years. Global warming causes many environmental problems. By raising the world's temperatures, sea levels rise, mountain glaciers recede and snow cover decreases. 1100 square miles of Antarctic ice shelves have broken up in the last year and the rest of the massive shelves are in full retreat. Spring has started to arrive earlier in Europe and autumn later. 1998 was the warmest year in recorded history in the USA. In the summer of 1998 over 130 people were killed by the extremely hot humid days. Many similar trends were reported around the world. Temperatures like these are predicted to become more frequent in the next 50 years. There are not many things that can be done to reduce the excess CO₂ being released into the atmosphere. Less dependence on the burning of fossil fuels for everyday living would be an effective option. Forests around the world are being replanted to try and accommodate the extra CO₂. However even replanting a considerable portion of the world's forests would only store 50 years of CO₂ output. Oceans are capable of soaking up about 85% of the worlds output of CO₂ over coming centuries. It is however a very slow process. It takes a century for water at the surface to cycle to the bottom and then start the process again.