

## The Climate and Global Warming Responses to the Changing Greenhouse Gas Concentration in the Atmosphere

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### ABSTRACT

Increase of the World temperature throughout the Earth is called Global warming. Studies have shown that Temperature of the earth have risen, if do not stopped on time, it will rise further. The reason of this global warming are Greenhouse gases like, Nitrous Oxide, Carbon Dioxide, Methane, Sulphurehexafluoride, Nitrogen Trifluoride, Hydrofluorocarbon, Perfluorocarbon. Global warming of the Nitrous oxide is 265 and can stay up to 121 years in the atmosphere. It has 298 times more potential in the warming up of the glob than Carbon dioxide, which are being produced by human's industrial activities. Therefore Carbon dioxide is being produced with the burning of the fossil fuels and the ability of the Carbon dioxide in global warming 1. Methane is a gas which is being produced by the burning of the organic materials. Sulphur Hexafluoride is also a strong gas of the greenhouse gases and is unburnable and is able to wipe out the infrared waves. It keeps the earth warm for a long time. Nitrogen trichloride is a gas which causes skin and eye's disease. Therefore, every molecule of the Hydrofluorocarbon is much stronger as compare to the Carbon dioxide. It prevents the distraction of the Ozone layer. On the other side, perfluorocarbon is a gas which has the ability to wipe out the Ozone Layer. Greenhouse is a place which protects Plants from direct sunlight. Greenhouse gases cause many problems which can cause climate change, like melting of the glacier, rise in the sea water and Increase in storms. In the reduction of the greenhouse gases, a number of processes have been started like using renewable energy, using Bicycle, Using local transportations, protecting forests and using air filters.

**Keywords:** Increase, Global Warming, Climate Change, Concentration Green House Gases

### INTRODUCTION

Greenhouse gases act like the walls of the mirrors. Without the effect of the greenhouse gases, global warming will decrease -18 °C which can cause much cool temperature and will be very challenging to survive lives, but from the Industrial Revolution, humans have produced a large number of greenhouse gases which have caused Global warming and Climate change. Temperature of the Earth in these days have risen. Greenhouse gases are those gases in the atmosphere which increases the temperature of the Earth. Greenhouse gases absorb waves of the sunlight to produce greenhouse effects. It means Greenhouse gases hide a bit of temperature, in the end Sun waves warms the surface of the Earth (Jeffry et al., 2021).

Global Warming from the previous two decades, the increase of the air near the Surface of the Earth is called Global Warming. The amount of the energy produced by the sun, half of the energy is being reflected back to the atmosphere and half is being absorbed in the earth, after sometime the amount of absorbed energy in the Earth will go back to the atmosphere and this energy connects with some other gases in the atmosphere in the form of clouds. In the end, these gases cause the warming of the Glob. Studies have shown that the Global temperature have risen, if did not prevented, it will rise further. Many scientists of the Climate change say, if two centigrade temperature rises further in the global warming, will cause many social, economic and Ecological problems. Many animal's and plant's generations will be wiped out. (Trenberth & Fasullo, 2013) Greenhouse is a closed mirror type building of the air, which is being used widely by the experts for the better growth of plants and vegetable. Without Greenhouse, living things will not live in the cold climate. Greenhouse buildings are being used in countries which have cold temperature.

Advantages of the Greenhouse: Light in the greenhouse can be transferred nicely for the plants to grow. Greenhouses have the ability to convert the direction of the sun waves, so, light is being reached nicely to the surface of the greenhouses and prevents the plants from direct sunlight which can be dangerous for the life of plants. Greenhouse gases (GHG) are like the following: CH<sub>4</sub> (11.5%), CO<sub>2</sub> (79.4%), N<sub>2</sub>O (6.2%), HFCs, PFCs, SF<sub>6</sub>, and NF<sub>3</sub> (3.0%) (Shah, 2020).

### ***Methane (CH<sub>4</sub>)***

It is the original part of the Natural gas and is a strong gas of the greenhouse gases. This gas absorbs the hot temperature and decreases the flow of the hot temperature. Although methane decreases the temperature of the planets, but in the hundred years' time, methane has 28 times more ability to keep the earth warmer as compare to Carbon dioxide. As like methane goes to the atmosphere and produce dangerous reactions. Methane, against the oxygen of the air can be oxidized, produces Carbon dioxide and water evaporations. Therefore, by producing Carbon dioxide, it helps in the rising of the global warming. Therefore, methane reacts with the OH groups and act like a soup and wipe out these radicals. Therefore, methane helps in the building process of the ozone layer. It pollutes the air. It causes early death in humans and reduces income of the products. High methane can reduce oxygen in the air, which causes site problems, mental problems, heart burning and headache. Methane's value in the global warming is 25%. It can stay in the atmosphere for 12 years. Methane is being produced from fossils. Methane can be found in large wells. Local gas which is sold in local cities is 98% methane (Ulyatt et al., 2002).

### ***Carbon dioxide (CO<sub>2</sub>)***

Carbon dioxide is a colorless and unburnable gas which can be produced by burning fossil materials like, Coal, natural gas and oils, burning of forest, Volcanoes and also can be produced by the carbonized drinks. Animals form most part of the Natural resources of the Carbon dioxide, which exhales Carbon dioxide as an environmental extra gas. Burning of fossil materials produce 73% Carbon dioxide, Carbon dioxide can also be produced by smoking cigarettes. When CO<sub>2</sub> reaches 280 (PPM) forests start burning. IPCC (Intergovernmental Panel on Climate Change) organization wrote in their Reports that, in the 18th century Carbon dioxide presence was 280 (PPM) in the atmosphere, but in 2014 it has risen to 400 (PPM) in the atmosphere. Global warming of the Carbon dioxide is 1 and can stay up to 100 years in the atmosphere. Carbon dioxide can also be produced by the burning of the organic materials in the presence of the oxygen (Olivier et al., 2017).

### ***Hydro Floro Carbon (HFCs)***

It is an Artificial Gas which is used to reduce the temperature. It can stay in the atmosphere for up to 15 years as an atmospheric pollutant. It temporarily helps in the warming of temperature. Every molecule of the HFC is stronger as compare to Carbon dioxide. HFC prevents the destruction of the Ozone layer. It has gas form in the room temperature. This gas is being produced by the hydrocarbons. Hydrogens of Methane and Ethane are replacing with Fluorine. Global warming value of the HFC is 12400 and can stay for up to 222 years in the atmosphere.

### ***Perfor Carbon (PFCs)***

It is a colorless, smell less inactive hydrocarbon chemical. All atoms of hydrogen are converted into fluorine like Octa Decane and Floro-Octane these are strong greenhouse's gases which hides temperature in the atmosphere and helps global warming. These gases are being used in firefighting activities and in the filtration of the industrial polluted water. PFC are used to wipe out ozone molecules.

Ozone wholes are located in stratosphere above the Antarctica where Chlorofloro Carbons destroy the ozone molecules. Whole in the ozone layer means that some heat can flow from it to the atmosphere. PFC are used in fridges and coolers as a temperature reducing material. Nowadays, many countries have banned the use of PFC. Global warming value of the PFC is 10200 and can stay in the atmosphere for up to 100 years.

### ***Sulphurhexafloride (SF<sub>6</sub>)***

It's an artificial and smells less gas which is used in Electrical industries. It's a stable and unburnable gas, it means that it cannot create more compounds. It has the ability to destroy Infrared waves. It can maintain the Earth's atmosphere for a long time. Sulphurhexafloride is used 80% around the world. Global warming ability of Sulphurhexafloride is 23500 and it can stay up to 3200 years in the atmosphere. It means that one tone of this gas can produce 23500 tone heats in the form of Carbon dioxide (Tonka 2005).

### ***Nitrous oxide (N<sub>2</sub>O)***

Nitrous oxide's global warming value is 265 and can stay up to 121 years in the atmosphere. One molecule of Nitrous oxide has 298 times more potential to keep the glob warm as compare to Carbon dioxide. In year 2020, Nitrous oxide created 7% atmospheric gases as compare to other gases, which were produced by human

activities. Human activities like, farming, burning fossils and industrial water were the main causes of the creation of Nitrous oxides. From 1960, farmers are using more chemically created Nitrogen in their farms which help in Green Revolution (Lamely & Grail, 1995).

### ***Nitrogen Trifloride (NF<sub>3</sub>)***

It's an inorganic, colorless and poisoning gas and it can stay up to 500 years in the atmosphere. Use of the Nitrogen trifloride might cause skin and eye diseases. It causes headache and laziness in humans. Global warming value of Nitrogen trifloride is 16100 (Tsai, 2008).

### ***Advantages of the Greenhouse gases***

Greenhouse effect helps in maintaining the heat for living things, protects all living things from the dangerous and poisonous waves of the sunlight, Greenhouse effect maintains the heat taken from earth and sunlight (Mitchell. 1989).

### ***Disadvantages of the Greenhouse and Climate change***

Melting of Glaciers: A good example of melting glacier is melting of Ice bergs in the parts of the world, waves from the surface of the sea: Floods create lots of problems for the people living near the sea, Creation of the deserts: With the rising of the heat, fertile farming can be converted into deserts., Creation of the Strong and repeated waves of the Storms: Storm waves can cause tiredness, thirst and other health challenging diseases. Greenhouse can cause diseases like Malaria, Death from Famine and unhealthy food, Increase in the migration Increase in the poisonous rain: Expensive stones and other matters in mountain and rivers can be destroyed by the poisonous rain (Duarte-Galvan et al., 2012).

## **DISCUSSION**

Many scientists of the Climate change says, if two centigrade temperature rises further in the global warming, will cause many social, economic and Ecological problems. Many animal's and plant's generations will be wiped out (Trenberth & Fasullo, 2013). The amount of the energy produced by the sun, half of the energy is being reflected back to the atmosphere and half is being absorbed in the earth, now some steps helps to reduce greenhouses poisoning are following: Using renewable energy, Bicycle, Local Transportation, Electric vehicles, Heating water in front of sunlight without using electric heaters, protecting forest, keeping parks and rivers clean and educating people about the effects of global warming (Mahanti et al., 2017).

## **CONCLUSION**

From this study I think that, increase in the world's temperature throughout the earth is called Global warming. Global warming is being created by increasing in the density of the greenhouse gases. Greenhouse gases include Carbon dioxide, Nitrous oxide, Methane, Sulphur hex fluoride, Nitrogen tri-fluoride, Hydrofluoric Carbon and Per-floro Carbon, which causes the climate change. To reduce the Climate change, a number of steps should be taken like using electric vehicles, reduction in the cost of the Petroleum substances, keeping environment clean. If we don't take these steps on time, generations of many animals might vanish

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