

# Greenhouse gases and global warming research paper examples

[Technology](#), [Development](#)



## **The Human Factor**

The Human Factor

### **Introduction**

According to a report, the smallmouth bass are dying in the Susquehanna River. Also, there are indications that robins migrate farther north now and butterflies head out on distance migration 24 days earlier than usual (Lancaster Online, 2013). In one way or other, biologist Ed Perry is blaming global warming for climatic changes which are adversely affecting the wildlife. No one, be it a biologist or student in middle school, is unacquainted with the term ' global warming' which is a result of excessive accumulation of greenhouse gases in Earth's atmosphere. It is one of the most crucial issues which demand our concern and immediate measures. It might be rise in temperature and gradual melting of polar ice for now which defines global warming. But eventually, it will be furious transformation in global climate which would lead to unfavourable conditions for life on earth. As a matter of fact, the role of human in bringing the planet to this stage is supreme. This essay aims at illuminating this crucial issue of greenhouse gases and global warming along with explaining how man affected the balance of nature and can help to save it further.

### **Greenhouse Gases**

A greenhouse gas is a gas is one which absorbs and emits radiation within the thermal infrared radiation (IPCC, 2007). As explained by IPCC in Climate Change 2007, the

sun radiates energy at very short wavelengths; one-third of which reaches the top of Earth's atmosphere is reflected directly back to space and the remaining is absorbed by the earth's surface and atmosphere (Solomon, Qin, Manning, Chen, Marquis, Averyt, Tignor and Miller, ' Climate Change 2007'). To counterbalance the absorbed incoming energy, the Earth radiates the same amount of energy back to space but in longer wavelengths. What happens is that a considerable fraction of this thermal radiation emitted by earth is absorbed by the atmosphere, resulting in rise in temperature. This is greenhouse effect. The major gases which are best at absorbing the heat in atmosphere, called green house gases are Carbon dioxide, Methane and Water vapor. Other than these, Nitrous oxide, Hydrofluorocarbons, Perfluorocarbons and Sulfur hexafluoride also cause greenhouse effect.

## **Global warming**

The Greenhouse gases discussed in above paragraph are required in specific amount in atmosphere to keep the earth warm. But as the concentration of these gases have increased in atmosphere due to increased carbon emission, there has been a gradual rise in global temperature since the late 19th century and is still in continuation which has led to a rise in Earth's mean surface temperature by about 0.8 °C; this is called global warming (America's Climate Choices, 2011).

## **The Threatening Global Warming**

There are several effects of Global Warming which can be life-threatening when left unaddressed for next few years or decades. We have noticed a change in temperature but that is not the only effect. According to Lesley

Hughes from the Department of Biological Sciences and Key Centre for Biodiversity and Bioresources, Macquarie University, the current climatic and atmospheric trends are already affecting species physiology, distribution and phenology in an adverse manner (Biological consequences of global warming: is the signal already apparent, 2007). As explained by the Intergovernmental Panel of Climatic Change, the following effects shall be observed and might get amplified in near future (IPCC, 2007):

- Drastic change in temperatures in almost all places over the globe leading to melting of polar ice and hence, a rise in sea level.
- Disturbed cycle of weathers and seasons.
- Mixing of freshwater in seawater due to melting of ice which affects the flow of convectional winds across the oceans
- Negative repercussions on wildlife- both flora and fauna.
- The prediction of Big Freeze (science. discovery. com, 2013) which will lead to a dip in temperature eventually affecting life on Earth.

#### The Human Factor

Deforestation, overuse of forests, extreme industrialisation which emits dangerous gases and pollutants into air, water and on land, widespread use of chemicals and carbon-emitting technologies, combustion of fossil fuels and woods on a large scale and releasing excessive greenhouse gases into atmosphere- all these are being done by human beings for last several centuries. Gradually earth's atmosphere started to show the signs of negative repercussions in form of global warming. And the industrialisation,

manufacture of goods and transportation are still emitting carbon in atmosphere on a large scale.

### **Measures to be taken**

Limiting carbon emission into atmosphere: With the production of most of consumer goods, with the burning of fossil fuels and use of not so eco-friendly products, there is carbon emission into the atmosphere (Carbon Trust, 2008). So, it is wise to use only those goods and products which we need urgently. Planting trees on a large scale can be a major step. Trees help use carbon dioxide and purify the atmosphere (Stefan, 'Green Living'). Water conservation is another indispensable part of the measure. Minimising the use of fossil fuels and using alternative sources of energy like solar, water, wind or geothermal power can help decrease carbon emission to atmosphere (Stefan, 'Green living'). Using eco-friendly vehicles, refrigerators and machines will help stop effusing CFC and other harmful chemicals in air. It should be made mandatory not to use the plastic and other non-biodegradable products which clog the earth and lead to infertility of land in the long run. On a personal level, people can use carpools, public transport and cycles for transportation rather than private vehicle.

### **Measures to be taken by Nations**

According to output power, a U. S. M1 main battle tank's carbon emissions are equivalent to those of 10 ordinary Mercedes-Benz cars (Liu Jianguo, 2011). It is very important for nations to stop indulging in wars so that useless emission of harmful gases into the atmosphere due to explosives

and warfare. They should also make a pact to minimise the use of carbon-emitting products.

## **Change in personal approach**

The whole analysis of this issue has inspired me to bring many changes in the way I live and handle 'Earth'. I will minimise the use of electronic products as much as possible though I am not vowing to make impossible changes in the way I use machines. I will try to plant trees once every few months. But two of the changes which I would bring with greatest effort are saving water and purchasing only those goods which I need urgently. If the manufacture of each good leads to carbon emission and hence, clogs atmosphere, I would minimise the purchases to make a move to save the planet. Above all, I will do my best to spread awareness as well.

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