

# Causes and Effects of Global Warming

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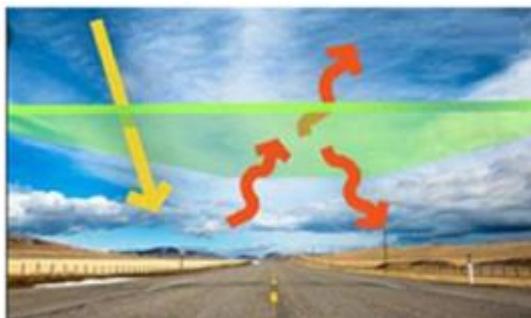
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***Abstract: Many scientists, engineers and ecologists are raising profound concerns about changes in the world's standard climate. There is continuous use of fossil fuels as a source of energy. When combusted, gasses such as carbon dioxide, methane and nitrogen oxides are emitted that cause global warming. Deforestation also contributes to hotter temperatures. The threat of global warming is always causing the Earth's climate the greatest harm. Nonetheless, most people do not know about climate change and do not remember that it will be a major trouble in coming years. What the majority do not recognize is that worldwide warming is presently occurring, and we're already experiencing some of its Withering effects. It is and could critically affect ecosystems and disturb ecological balance. Because of the treacherous results of worldwide warming, a few solutions ought to be devised. The paper introduces global warming, elaborates its causes and dangers and provides a few answers to clear up this hot problem. The majority do not know that global warming is taking place now, but some of its weeding results already are happening. Ecosystems are and could be influenced critically and ecological equilibrium could be disrupted. A few solutions should be created because of the dangerous effects of global warming. The article presents global warming, details its causes and hazards, and gives some answers to the hot issue. Chance strength assets (sun, wind, hydro, geothermal, biomass) in particular, would like to be followed significantly. One strategy for mitigating the increasing global warming progress is the location and use of renewable energy sources.***

***Keywords: Alternative Fossil Fuel, Causes, Climate, Effects, Global Warming Solutions,***

## **1. INTRODUCTION:**

Once sunlight hits the Planet, global warming begins. Clouds, atmospheric particles, reflective surfaces and ocean surfaces then return approximately 30 percent of sunlight to the space, whereas the rest of the air, oceans and land absorb it. As a result, the earth and the atmosphere are heated up to allow life to happen [1]. When the Earth warms up, thermal radiation and Infrared rays radiate this solar energy, which travels out into space and cools the Earth. However, some outgoing radiation is re-absorbed into the atmosphere and radiated back to the face of the earth through carbon dioxide, water vapor, ozone, methane and other gasses. Their heat trapping capacity is commonly referred to as Greenhouse Gasses [2].

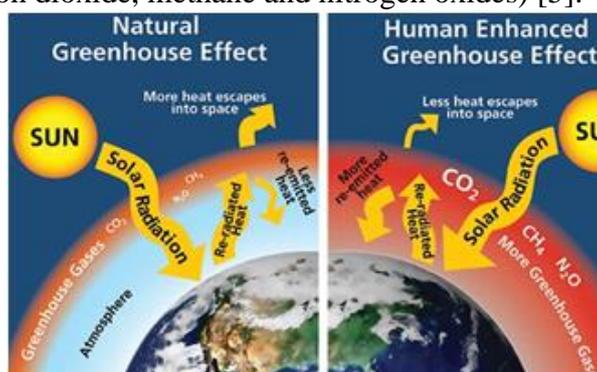


**Fig. 1: Global Warming**

Recent global warming findings have reinforced the hypothesis that the earth is increasingly heating up through a human induced greenhouse effect. Over the past 100 years, the planet has seen the greatest rise in surface temperature. The average surface temperature of the Earth increased from  $0.6^{\circ}\text{C}$  to  $0.9^{\circ}\text{C}$  per year between 1906 and 2006. Through landfills and agricultural decomposition of biomass and animal manure millions of pounds of methane gas are produced. Various nitrogen-based fertilizers, including urea, ammonium phosphate and other land management uses, release nitrous oxide into the atmosphere [3]. Fig. 1, shows how the impact between the nature and environment when interact with each other.

1. Effects of Greenhouse:

While other planets are either roasting heat or bitterly cold in the Earth's solar systems, the Earth's surface is relatively mild and constant. The atmosphere, the thin layer of gases covering and shielding the earth, is the source of these temperatures [4]. Yet 97 percent of climate researchers accept that in recent two centuries humans have dramatically changed the Earth's atmosphere, which has contributed to global warming. The greenhouse effect needs to be first understood in order to understand global warming. As shown in fig.2, the natural greenhouse effect usually absorbs a certain portion of heat so that our world is protected from freezing, while the enhanced impact of the artificial greenhouse contributes to global warming. It is because of fossilized fuels that increase the amount of greenhouse gases found in the atmosphere (carbon dioxide, methane and nitrogen oxides) [5].



**Fig. 2: Types of Green house**

2. Causes: Greenhouse:

Greenhouse gases are the main cause of global warming. These include carbon dioxide, phosphorus, oxides of nitrogen, and, in certain cases, compounds of chlorine and bromine. The accumulation of these gasses in the atmosphere changes the atmospheric radioactive balance. The overall effect is to warm the surface of the earth and the lower atmosphere as greenhouse gasses capture and refract some of the outbound radiation from the sun to the air

[6]. The second biggest cause of global warming is ozone depletion. This is due in particular to the chlorine in which the source gasses are contained. Such gases disassociate the release of chlorine atoms when ultraviolet light is present and thus catalyze the degradation of ozone. Global warming also results in aerosols found in the atmosphere as climate changes in two ways. First, they spread and absorb solar and infrared radiation, and second, they can alter clouds' microphysical and chemical properties and possibly influence the duration and extent of their life [7].

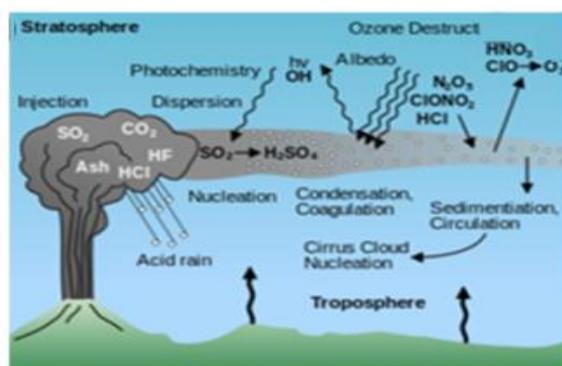
Solar radiation spreads to refresh the planet, while solar radiation absorption by aerosols warms up the air directly rather than allowing sunlight to be absorbed by the earth's surface. There are various types of human exposure to the aerosol content in the atmosphere. In addition, exhaust emissions from various types of transport contain a rich mixture of pollutants, either from the beginning aerosols or converted into aerosols through chemical reactions in the atmosphere [8].

### 3. Effects due to Global Warming:

Global warming has many negative effects that are listed here. When the weather warms up, both land and sea evaporation continues. This leads to drought in areas that are not compensated by increased precipitation by increased evaporation. This will lead, in some regions of the world, particularly where the temperatures are already high, to crop failure and famine. As extra rain causes the flux, the extra water vapor in the atmosphere will drop again [9]. Drought and water shortages may be encountered in cities and villages that are reliant on melting water in snowy mountains. It is because the glaciers worldwide decrease very rapidly and the loss of ice seems to be higher than previously expected. The warmer weather would probably cause more heat waves, more severe precipitation and more severe storms and weather. The rise in sea levels is the most dangerous effect of the global climate, as ice and glaciers melt quickly due to the increase in temperature. This will lead to an increase in sea, river and lake water levels, which can lead to flood devastation [10].

### 4. Living Beings Affected by Global Warming:

The health of living beings may be severely affected by global warming. Excess heat can contribute to stress and heart disease. Excess heat can cause stress. Crop failures and famines directly related to earth heating can cause a decrease in human body resistance to viruses and infections. Global warming could also shift diseases from regions at higher temperatures to areas with comparatively low temperatures to other regions. Warmer seas and other water surfaces can lead to serious outbreaks of cholera and dangerous infections in certain forms of sea food. Dry wind and soil will hold the virus spores [11]. It is expected that hotter and drier climates will increase the dusting in this disease. Increases in mosquito-borne disease including dengue and malaria were reported by researchers due to warmer and longer summers. Maybe West Nile Virus has already had its most famous mosquito outbreak, with annual growth rising rapidly.



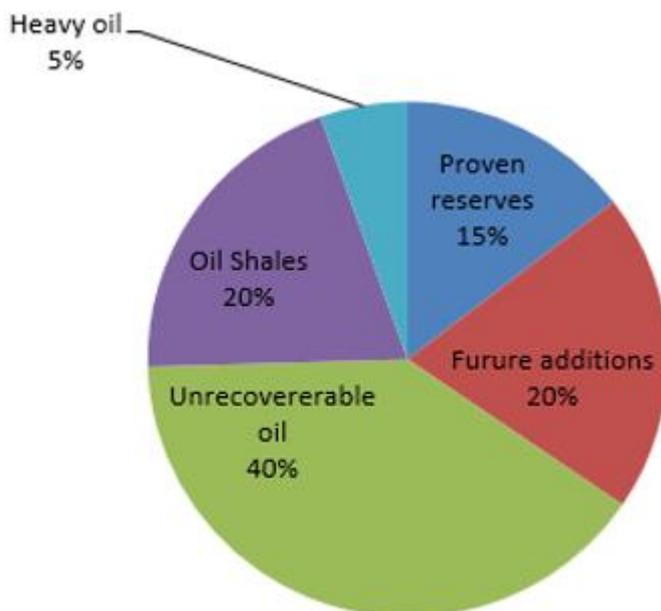
**Fig. 3: Cycle of Global Warming**

Animals also suffer from global warming. To live, they must travel to cooler areas. In the Alps, mountainous Queensland across Australia and the misty forests of Costa Rica this cycle has been found in different places, for example. The effect on the ecosystem is visible in such a way that its migration can be used as a warning of a warming world. Fish in North Sea have been recorded to migrate towards the north too. In these heavily burned forests, bush fires more often occur, further fragmenting the habitat range of the orangutans, as global warming continues to increase the length and severity of droughts [12]. Across Africa, too, elephants face a number of challenges including raising living spaces that cause them to diverge more frequently. Fig. 3, shows how cycle of global warming where, Greenhouse gas emissions effect by heating all the atmosphere, including the lowest few kilometers (the troposphere) and the layer above (the stratosphere).

##### 5. Sources of Energy: Alternative

It should be immediately stopped using fossil fuels. The most effective way to end the tragedy is to use alternative sources of energy. Wind, solar, organic mass and geothermal as well as hydroelectric need to be clean for the nature as these sources is the most remarkable point. There is no waste or toxic gas that could lead to global warming. They are eco-friendly and do not threaten the ecological balance [13]. Nonetheless, their high cost of installation and maintenance can lead energy companies to get away at first, but they will certainly benefit everyone in the long run.

More importantly, one day, the depletion of fossil fuels and sooner or later, we need to use renewable energy for the production of energy. Thus it is the alternative energy source that can eventually be used to end global warming. The effect of using fossil fuels should also be demonstrated to you [14]. Most developed countries already use renewable energy to produce huge amounts of power. Those countries will help developing countries to actively fight the evil of global warming.



**Fig. 4: Fossil Fuel Consumptions**

As shown in fig.4, shows the fuel consumption worldwide. The three non-renewable energy sources (oil, coal, and gaseous petrol) command, enveloping between 80 to 90 percent of vitality utilization all through the period. Oil gives the biggest extent of vitality, yet relatively has lost ground to coal and particularly gaseous petrol. Coal has had an upsurge in the 21st century, particularly after 2005, and may turn into the main petroleum product later on as oil supplies drop and interest for vitality increments in spots, for example, China and India, with monstrous coal holds however little oil and flammable gas. Biomass and hydroelectric force grew a bit. Methane is an essential part of flammable gas, with some radiated to the environment during petroleum gas creation, preparation, capacity, transmission, and conveyance. It is evaluated that around 8 percent of all-out overall flammable gas creation is lost every year to venting, spillage and flaring, bringing about significant monetary and ecological expenses. Likewise, with coal, the geographical development of oil can likewise make enormous methane stores that are discharged during boring and extraction. The creation, refinement, transportation, and capacity of oil are likewise wellsprings of methane emanations, as is the inadequate burning of petroleum derivatives. No, the burning procedure is superbly proficient, so when petroleum products are utilized to create power, warmth or force vehicles, they all contribute as wellsprings of methane discharges.

6. Global Warming: Solutions:

As previously explained, toxic emissions are a major cause of global warming; limiting the use of vehicles creating them will be the likely solution to minimize harmful emissions. This hasn't been effective because many people refuse to say the use of vehicles. Indeed, some people have begun to use bicycles and public transport, while others tend to walk, but these are relatively small. Fuel saving and pollution levels should be noted as the key factors in the car range. The efficiency and the emission rates of hybrid car are higher.

People should share the journey with friends or collaborators in order to reduce the total number of road cars. Printing and social media can play a role in addressing the problem effectively. It should use the concept of car ads to encourage drivers for energy efficiency and emission reduction [15]. It's a very interesting way to show that global warming is not good for the world. Recycling is also an excellent way of reducing global warming. Instead of

disposable batteries, people should use rechargeable batteries. Quality products with a long life should be purchased. Shopping from local markets that reduce transport should take place. Even small efforts such as the winter reduction of thermostats or the use of compact fluorescent lamps can help address global warming. A significant number of trees must be started through reforestation schemes. Degradation of forests and deforestation at government level must be discouraged.

## 2. CONCLUSION

In terms of the bitter reality of global warming and the participation of human forces, the scientific and environmental community is on the same page. The paper discussed here has only dented the surface of an extremely complex field of research in science and engineering. Global warming is a major threat and effective action must be taken to resolve this serious problem. Not only human beings but animals and plants suffer from this problem. Polar ice caps melt can lead to flooding everywhere that can lead to failure. Increasing sea levels are going to devastate farming and fishing. Some corrections, including but not limited to the use of renewable energies and the stopping of deforestation should be taken in order to address these problems in due course. This threat should be brought to an end once and for all with innovative solutions.

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