



The Effects & Causes of Global Warming in Environment

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Global warming is a very danger and critical problem at a global level issue but it starts from human beings activities & other industrial things. The effects of global warming includes glacial retreat, worlds rise in sea level, changes in rainfall pattern & extreme weather condition etc. Global warming means average increase in temperature of near surface of earth's i.e. Troposphere and oceans. The temp. increasing is mainly due to concentrations of increased of greenhouse gases. The gas which is responsible for this is mainly CO_2 & other gases are Methane, Nitrous oxide, etc. heat trapping capacity of CO_2 is much less than that of this Methane & Nitrous oxide. Their concentrations much lower than CO_2 none of them can warm the atmosphere as much as CO_2 does. From all human activities Fossil fuel burning has produced most of the increase in CO_2 .

Global warming is resulted in economic & political debate. No agreement among the all nation about reduction in emission of CO_2 & other gases. The developed countries in the world are largest per capita emitters of CO_2 compared to developing countries such as India & China.

For CO_2 emissions A carbon credit is a value assigned to its reduction. The main objective is to allow market mechanisms to drive industrial & commercial processes in the direction of low emissions when there is no cost to emitting CO_2 There are two major effects of global warming i.e. 1) rise of sea levels by atleast 25 meters (82 feet) & 2) Increase of temp. on the earth by about 30 to 50⁰c

Key -words :- Carbon credit - per capita-emissions, troposphere- GHGS- Emissions : National, Climate Change.

Introduction :- Today's big challenging problem in front of the world is, "Global warming". Therefore, for more awareness about this, UNO has declared on 5th June 1989 as a "International environmental Day" and due to this every year scientists, Researchers, environmentalists, well aware citizens of diff. countries & academicians & climatologists, they are gathered together at State, National, International levels through such conferences, seminars etc. to discuss today's current burning problem/issue of the whole world i.e. the "Global warming" through diff. Views & thinking about environment & Global Warming in the central place.

The conclusion made by the study of environment & climate change studied by the Board of "Intergovernmental panel on climate change" (IPCC) i.e. an average global temp. increasing from 1.50C to 5.50 C such so much increase in temp. causes the highest recording of temp. in human history in 2050 & due to this the H_2O level of the sea may increase very fastly and it will affect human settlements along the sea-shores & they will be drowned. "Global Warming" is a very danger problem as a Global level issue But "Global warming" starts from human activities.

Definitions :-

The following are the definitions of "Environment & Global warming"

1) Environment :-

Environment is the study of interrelationship between atmosphere (air) water, soil & forests".

1) "Global Warming" Definition :-

Global warming is the increase in the average temperature of Earth's near surface air and oceans since the mid 20th century and its projected continuation" Global surface temp. increased 0.74 + 0.180 C (1.33 + 0.320F) between the start and the end of the 20th century.



- 2) The increase of green house gas concentrations (mainly CO_2) led to a substantial warming of the earth and the sea called global warming.

Discussion :-

Intergovernmental panel on climate change (IPCC) concludes that most of the observed temperature increase since the middle of the 20th century was very likely caused by increasing concentrations of greenhouse gases resulting from human activity such as fossil fuel burning & deforestation. The IPCC also concludes that variations in natural phenomena such as solar radiation and volcanic eruptions had a small cooling effect after 1950. These basic conclusions have been endorsed by more than 40 scientific societies and academies of science. Including all of the national academies of science of the major industrialized countries.

Climate model projections summerised in the latest IPCC report indicate that the global surface temperature is likely to rise a further 1.1 to 6.40C (2.0 to 11.50 F) during the 21st century. The uncertainty in this estimate arises from the use of model with differing sensitivity to greenhouse gas concentrations and the use of differing estimates of future greenhouse gas emissions. Most studies focus on the period leading upto the year 2100.

However, warming is expected to continue beyond 2100 even if imissions stop, because of the large heat capacity of the oceans and the long life time of Carbon dioxide in the atmosphere.

An increase in global temperature will cause sea levels to rise and will change the amount and pattern of precipitation, probably including expansion of sub-tropi-cal deserts. Warming is expected to be strong in the arctic and would be associated with continuing retreat of glaciers, permafrost and sea-ice- other likely effects in- clude changes in the frequency and intensity of extreme weather events, species extinctions, and changes in agricultural yields. warming and related changes will vary from region to region around the globe, though the nature of these regional variations are uncertain.

Political and public debate continuers regarding global warming, and what ac-tions to take in response. The available options are mitigation to reduce further emissions; adaptation to reduce the damage caused by warming, & more specula-tively, geoengineering to reverse global warming. Most national governments have signed and ratified the kyoto protocol aimed at reducing greenhouse gas emissions.

1) Green house gases :-

The major green house gases are water vapor, which causes about 36-70% of the green house effect; carbon dioxide (CO_2) which causes 9-26%, Methane (CH_4), which causes 4-9% and ozone (O_3), which causes 3-7% Clouds also affect the radiation balance, but they are composed of liquid water or ice and so are consid-ered separately from water vapor and other gases.

The greenhouse gas effect is the process by which absorption and emission of infrared radiation by gases in the atmosphere warm a planet's lower atmosphere and surface. How the strength of the greenhouse effect changes when human activ-ity increases the concen trations of greenhouse gases in the atmosphere.

Human activity since the Industrial revolution has increased the amount of green house gasses in the atmosphere, leading to increased radiative forcing from CO_2 , methane tropospheric, Ozone, GFCs and nitrous oxide. The concentrations of CO_2 and methane have increased by 36% and 148% respectively since 1750. In-crease in CO_2 from human activity over the past 20 years. Most of the rest is due to land-use change, particularly deforestation.

Ozone in the troposphere (the lowest part of the Earth's atmosphere) does contribute to surface warming.

The effects of the products of Fossil Fuel combustion CO_2 and aerosols have largely offset one another in recent decades, so that net warming has been driven mainly by non- CO_2 greenhouse gases. The effects of green house gases are dominant in the extratropics and southern hemisphere.



United states, historically the world's largest emitter of greenhouse gases. Then China, India, England, Australia, Africa etc. It is alleged that developing countries like India & China are also the major producers of greenhouse gases. However, it should be noted that the per capita emissions of Greenhouse gases in countries like India & China are much lower than that of developed countries like United states (U.S.A.) of America. Then, this difference between the gross national emissions and the per capita emissions has been highlighted at the Copenhagen summit. In the light of the above India has officially agreed to sign on the non-binding Copenhagen climate accord. This decision implies that India stands by the accord.

The green house effect:- These green house gases act like a mirror and reflect back to the Earth some of the heat energy which would otherwise be lost to space. The reflecting back of heat energy by the atmosphere is called the "Greenhouse effect".

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Sources of emissions of Green house gases :-

The largest contributing source of greenhouse gas is the burning of fossil fuels (oil, gas, petrol, kerosene) leading to the emission of Carbon dioxide. Man-made emission of greenhouse gases is the cause for global warming.

Cause and effect for Global Warming :-

Cause of global warming :-

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Almost 100% of the observed temperature increase over the last 50 years has been due to the increase in the atmosphere of green house gas contractions like water vapour, CO₂, methane & Ozone. Green house gases are those gases that contribute to the green house effect.

Global Warming Causes by green house effect :-

Green house gases in the atmosphere act like a mirror and reflect back to the Earth a part of the heat radiation, which would otherwise be lost to space. The higher concentrations of greenhouse gases like carbon dioxide in the atmosphere, the more heat energy is being reflected back to the Earth. The emission of carbon dioxide into the environment mainly from burning of fossil fuels (oil, gas, petrol, kerosene etc.) has been increased dramatically over the past 50 years.

Effect of Global Warming :-

There are two major effects of global warming

1. Increase of temperature on the earth by about 30 to 50 C. (5.40 to 90 Fahrenheit) by the year 2100.

2. Rise of sea levels by at least 25 metres (82 feet) by the year 2100

Political & Economic aspects of global Warming :-

Global warming has resulted in political & Economic debate. The exemption of developing countries from Kyoto protocol restrictions has been used to justify non-ratification by the U.S. and a previous Australian government. Another point of contention is the degree to which emerging economies such as India & China should be expected to constrain their emissions. The U.S. contends that if it must bear the cost of reducing emissions, then China should do the same. Since China's gross national CO₂



emissions now exceed those of the U.S. China has contended that it is less obligated to reduce emissions since its per capita responsibility and per capita emissions are less than the U.S. India, also exempt, has made similar contentions.

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Whether global warming is actually occurring whether human activity has contributed significantly to the warming, and the magnitude of the threat posed by global warming. These are some of the doubts raised by skeptics

Review of Recommendations of some international environmental conferences :-

1) **Basal Conventions :-**

There should be a ban on Harmful garbage & for degradation of it the countries of the world to stop antinational elements on the Border of the adjacent countries agreement takes place on 22nd March 1989.

But implementation of this starts from 5th May 1992. 170 countries have signed the agreement.

2) **Kartejina Protocol :-**

For preservation of Biodiversity in January 2000 this agreement But implementation of this starts from September, 2003. 145 Countries have signed the agreement.

3) **Chemical Weapons conventions :-**

This includes transfer of chemical weapons, storage & use of such weapons was recommended in 1997 & implementation has started & 184 countries have signed the agreement.

4) **Sites :-**

To preserve the endangered species of plants & animals, use & trading commercially of these species & preserve wild life species this agreement took place in 1975. A present this being implemented. 173 countries have signed the agreement, 33000 species of plants & animals have been listed for protection.

5) **Montriyal Protocol :-**

The harmful gases coming out causes damage to ozone layer from a electronic machines & equipments damage the ozone layer. Therefore, their use should be banned. This agreement come into effect in 16th Sept 1987 & implemented from 1989.

6) **Roterdam convention :-**

To ban the trade of harmful chemicals & insecticides. This agreement was made in 1998 & implemented from 2004.

7) **Stock home convention :-**

The agreement to ban Biopollutants from 2004 & 157 countries have signed the agreement.

8) **Kyoto protocol :-**

The developed countries should reduce the emissions of Co2 by 5.2% during 2008 to 2012.



Bali Conference :-

This conference took place in Bali city of Indonesia. Just like climatic changes the life style should also change. At the same time poor countries should be given aid. for this the developed countries should provide green technology for this purpose.

Copenhagan Conference :-

The 2009 united nations climate change conference met in Copenhagen in December 2009 to agree on a framework for climate change mitigation. No binding agreement was made in this conference.

Effects of Global Warming :-

The planet is warming, from North Pole to South Pole, and everywhere in between. Globally, the mercury is already up more than 1 degree Fahrenheit (0.8 degree Celsius), and even more in sensitive polar regions. And the effects of rising temperatures aren't waiting for some far-flung future. They're happening right now.

Signs are appearing all over, and some of them are surprising. The heat is not only melting glaciers and sea ice, it's also shifting precipitation patterns and setting animals on the move.

Some impacts from increasing temperatures are already happening :-

- Ice is melting worldwide, especially at the Earth's poles. This includes mountain glaciers, ice sheets covering West Antarctica and Greenland, and Arctic sea ice.

Researcher Bill Fraser has tracked the decline of the Adélie penguins on Antarctica, where their numbers have fallen from 32,000 breeding pairs to 11,000 in 30 years.

- Sea level rise became faster over the last century.
- Some butterflies, foxes, and alpine plants have moved farther north or to higher, cooler areas.
- Precipitation (rain and snowfall) has increased across the globe, on average.
- Spruce bark beetles have boomed in Alaska thanks to 20 years of warm summers. The insects have chewed up 4 million acres of spruce trees.

Other effects could happen later this century, if warming continues.

- Sea levels are expected to rise between 7 and 23 inches (18 and 59 centimeters) by the end of the century, and continued melting at the poles could add between 4 and 8 inches (10 to 20 centimeters).

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- Sea levels are expected to rise between 7 and 23 inches (18 and 59 centimeters) by the end of the century, and continued melting at the poles could add between 4 and 8 inches (10 to 20 centimeters).
- Hurricanes and other storms are likely to become stronger.
- Species that depend on one another may become out of sync. For example, plants could bloom earlier than their pollinating insects become active.
- Floods and droughts will become more common. Rainfall in Ethiopia, where droughts are already common, could decline by 10 percent over the next 50 years.

Less fresh water will be available. If the Quelccaya ice cap in Peru continues to melt at its current rate, it will be gone by 2100, leaving thousands of people who rely on it for drinking water and electricity without a source of either.

Some diseases will spread, such as malaria carried by mosquitoes.

Ecosystems will change—some species will move farther north or become more successful; others won't be able to move and could become extinct. Wildlife research scientist Martyn Obbard has found that since the mid-1980s, with less ice on which to live and fish for food, polar bears have gotten considerably skinnier. Polar bear biologist Ian Stirling has found a similar pattern in Hudson Bay. He fears that if sea ice disappears, the polar bears will as well.

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