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Inflation In Climate Change

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Abstract:

Humans, animals, and many other aspects of the world are experiencing climate issues in diverse ways. Climate change a variation in weather patterns throughout the year such as intense droughts, heavy rainfall, and other forms of natural disasters. Humans are one of the factors that cause climate change therefore we should be the ones to implement mitigation strategies. Burning of fossil fuels is a major cause to the release of harmful greenhouse gases to cause global warming. As global warming increases, temperature rises which are reflected in places like the Amazon rainforest with frequent fire breakouts. Global programmes such as the Paris agreement involve many countries to decrease global warming to a specific degree. COP28 is a conference that makes plans and apply strategies in guidelines with the Paris agreement. Prevention strategies introduced to lower global warming through the usage of renewable energy as well as promoting afforestation.

Climate change is defined as gradual variations within the weather pattern from normal expectations. Long-term changes of climate change can be observed locally, regionally, and globally. Geographical studies declared that human activities such as burning fossil fuels are one the major causes of weather fluctuations in the 20th century[10]. It has been announced as an inter-governmental issue that affects ecological, environmental, socio-political, and economic aspects. Precautions are initiated as early as possible to prevent the massive blocks of ice sheets found in the majority of Antarctica and Greenland from melting.

World Wildlife Fund research found that the Arctic is melting at the speed of 13% per decade. The Arctic and Antarctica are fundamental areas of the world with less human activity as most of the surroundings are covered in ice and snow[5]. Therefore, powerful actions should be undertaken to prevent ice from dissolving as it can have major effects globally. Many parts of the world may undergo severe heatwaves as less ice leads to a decreased amount of reflection. Therefore, this implies that if there are less ice found it suggests the earth is warming up, so temperature increases in the environment. This rise in temperature leads to hot and dry heatwaves as less precipitation occurs[5]. The sea level data gathered informs that from 1901 to 2018 it has increased by 20cm. Over time, this increment of water levels would lead to coastal flooding and erosion[6]. This could cause buildings to collapse near the coastal areas because of the force of water eroding the inner coastline. Scientists have estimated that one million habitats near the coastal area wall are to disappear because of natural disasters such as flooding [6]

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Global warming plays the largest part in contribution to climate change. It has vastly increased from the pre-industrial period through the burning of fossil fuels as well as unconventional products that generate greenhouse gases[10]. Quantitative data collected from different studies informs that the rates of carbon dioxide, nitrous oxide, and methane are huge greenhouse gas contributors from 1750, with an increase from 20% to 150%. Carbon dioxide has been emitted the most from 22.15 to 36.14 billion metric tons by 2014[7]. Cattle also aids the production of methane gases which are harmful for the environment. These processes cause the release of greenhouse gases therefore warms up the atmosphere. In reverse shown in the form of complex weather changes such as intense heat in some regions or through harsh winters[10].

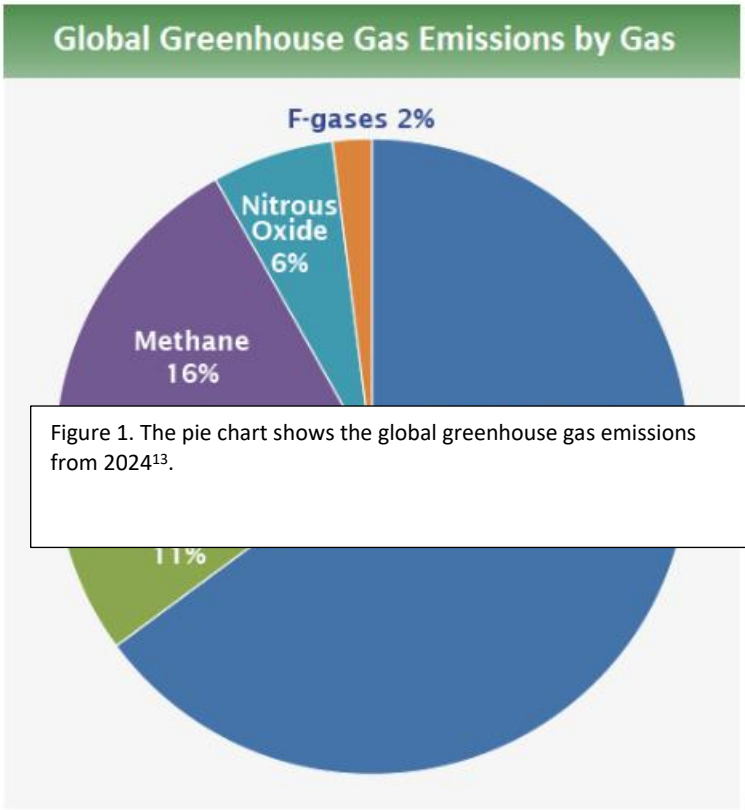

Figure 1. The pie chart shows the global greenhouse gas emissions from 2024[13].

The Amazon rainforest is one of the important pillars of the world that has been around for sixty-five million years. However, satellite reports have made alerts that global warming has made impacts from the 2000s onwards, but extreme disasters are rising such as droughts and fire breakouts[4]. Amazon rainforest houses various diverse animals and plants; there are 15,000 tresses and 99% of them are rare. Furthermore, dense forests would inhibit carbon dioxide release as data collected interprets that the forest stores 15-20 years of carbon dioxide[4]. This has limited global warming as the forest manages evapotranspiration, which is a process that supports the Earth's cooling by the uptake of water into the atmosphere through evaporation and transpiration[14]. Immediate actions are needed for conservation like reducing deforestation. Deforestation is currently happening at a significantly high rate in many parts of the forest for different purposes like farming. Through deforestation, less photosynthesis takes place, leading to less rainfall and more carbon released, contributing to global warming [4].

Species in the Arctic areas are adapted to freezing weather so the disappearance of snow can have negative effects on their physiology leading to challenged survival and extinction of species[10]. It can also make it challenging to understand the depth of species interconnections in the ecosystem[10].

An example of how global warming has made great impacts on ecosystems are polar bears. Many studies conducted by the World Wildlife Funds claimed to have recorded significantly lower numbers of polar bears compared to historical data. At present 22,000 polar bears are surviving the intense climate changes[15]. The BBC studies show that by 2100, most or all polar bears will go extinct. Polar bears would become extinct due to ice breaking and solidifying, meaning that the bears will be forced to travel to further areas[2]. They travel to maintain the temperatures of their body and to find food for themselves and their cubs. Prevention strategies are undergoing to maintain polar bears for a balanced ecosystem such as charity fundraising programs and conservation talks[2]. The polar bears are known to be the largest land-based carnivores whose existence is needed in the artic a for a healthy food chain as they are found to be the apex predators[2]. These animals are beneficial in research and aid the understanding of how the species are interconnected and their adaptation methods as the Arctic areas are less touched by human activities[15].

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Figure 2. The photograph represents the global warming impact on polar bears[2].

The Paris Agreement was a global decision undertaken to reduce climate change for future generations. The main goal of the agreement was to ensure all nations reduce or maintain with a maximum rise accepted to 1.5°c[1].The agreement came into effect on 4 November 2016 covering 196 countries on a five-year renewal plan to enhance the methods for future improvements[12]. Over the years, remarkable changes have been demonstrated. Most countries involved are executing plans for zero-carbon solutions with special emphasis on the power and transport sector[12]. They have introduced efficient ways to reduce greenhouse gases through electric solar power, geothermal energy, and many more sources[12]. The data regarding the solar panels' efficiency in mitigating greenhouse gases gave shocking revelations such as it can save 900kg of carbon dioxide per year. If more people install solar panels, it will decrease the greenhouse gases further down[9].

Mitigation strategies are also implemented through the COP28 which are held in Dubai, United Arab Emirates. It is estimated that 70,000 delegates attend the conference from various parts of the world to plan how to reduce climate change in reference to the Paris Agreement[11]. After debates and analysis of different perspectives, crucial decisions are taken to address the representative countries to reduce the immense amounts of greenhouse by 2030 to 43% compared to data from 2019[11].

Afforestation and reforestation are techniques introduced to capture and hold greenhouse gases for long-term storage. Forests tend to be destroyed by the removal of trees to use the land for repurposing. This leads to less reabsorption of greenhouse gases. Other benefits of afforestation are fruit trees grown which can be used to harvest productive items for daily life such as dietary products and supplements[3]. There is an emerging approach known as the direct carbon capture and storage method which is a form of collecting carbon dioxide from the air through a chemical process and storing it in geological reservoirs for later uses to make mineral carbonates and chemical substances[3].

Furthermore, one way most individuals and industries can make an impact in mitigating global warming is with renewable energy. Most household objects emit a lot of greenhouse gases in different ways[8]. Renewable technologies can substitute burning fossil fuels by using solar, wind, and geothermal energy. Tester et al in 2005 addressed the definition of sustainable energy as a dynamic harmony that can be maintained through the output of giving energy without disrupting the ecosystem of the world for the future[8]. Renewable energies are natural and there would be infinite production throughout a lifetime such as the light rays[8].

Direct solar intakes suns light energy that can be contributed for the common usage. The process involves the usage of photovoltaics to produce energy from solar irradiance that is converted for different purposes such as lighting and thermal[8]. Another renewable source is geothermal energy which involves the generation of energy from the earth's crust in the form of heat. Areas of the earth that contain geothermal

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reservoirs are drilled through wells under certain geothermal gradients. The energy collected on land is converted according to various temperatures to produce electricity[8].

In conclusion, the urgency of the climate change cannot be overstated. It is evident that global warming poses a significant threat to our planet and ecosystems, however, there is hope in collective action, technological innovation, and policy reform. By working together, we can minimise the effects of climate change and foster a sustainable environment for future generations.

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