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disasters and extreme weather patterns. Any further delay to address this issue will miss a fast closing door to redeem a survivable future.

Body Paragraphs:

The burning of fossil fuels is one of the primary causes of climate change. Fossil fuels such as coal, oil and natural gas are widely used for production of energy, transportation and industrial activities. When these fuels are burned, they release large amounts of greenhouse gases, including carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). According to the Intergovernmental Panel on Climate Change (IPCC), fossil fuels combustion accounts for nearly 75% of global greenhouse gas emissions, with CO_2 being the most significant contributor. These gases accumulate in the Earth's atmosphere and trap heat, leading to a rise in global temperatures. NASA reports that Earth's average temperature has increased by $1.2^\circ C$ ($2.2^\circ F$), since the late 19th C, largely due to human activities. This process, known as greenhouse effect, disrupts the natural balance of the climate system. Human dependence on fossil fuels for electricity,

heating, and manufacturing continues to increase greenhouse gas emissions, making climate change a growing global concern. Scientific Studies confirm that fossil fuel combustion is the leading factor driving modern climate change, with countries like China, the United States, and India being the largest CO_2 emitters.

(178 words)

Deforestation is also one of the main causes of climate change. It refers to the purposeful clearing or thinning of trees and forests - when deforestation occurs, much of the carbon stored by trees is released into the atmosphere as carbon dioxide, contributing to climate change. Deforestation also reduces the ability of forests to absorb greenhouse gases, weakening the planet's capacity to combat climate change. Forests act as carbon sinks, absorbing about 2.6 billion tons of carbon dioxide each year. However, when trees are cut down and burned or left to decay, they release this stored carbon back into the atmosphere. The Amazon rainforest, often called the "lungs of the Earth", is one of the largest carbon sinks, but deforestation has significantly reduced its capacity to absorb carbon dioxide. Studies estimate that deforestation contributes to nearly 10% of global greenhouse gas emissions.

In addition to releasing carbon, deforestation also disturbs the soil, which contains large amounts of stored carbon. When the land is cleared, this carbon is also released, further increasing greenhouse gas levels. Additionally, industrial activities like logging and agriculture that drive deforestation produce further emissions, worsening climate change.

(182 words)

Another cause of climate change is **rapid industrialization** - Industries release large amounts of gases that affect Earth's average temperature, causing climate change. The burning of fossil fuels such as coal, oil and natural gas in factories releases carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) all of which are greenhouse gases that trap heat in the atmosphere.

Since the industrial Revolution, CO_2 levels have increased by over 40%, leading to a rise in global temperatures. Manufacturing processes also produce particulate matter and aerosols, which alter atmospheric composition and contribute to climate change - Power plants, steel mills, and chemical factories emit sulphur dioxide (SO_2) and nitrogen oxides (NO_x), which contribute to air pollution and increase the atmospheric retention of heat. Additionally, industries that rely on cement production release large quantities of

carbon dioxide during the chemical process of calcination, further elevating greenhouse gas levels. Industrial transportation, including cargo ships, trucks and trains, adds to emissions through the combustion of fossil fuels. The continued expansion of industrial activities worldwide has led to higher greenhouse gas concentrations, making industrialization a major drive of climate change. (106 words)

Transportation significantly contributes to climate change. The fuels burned in automobiles release gases that contribute to climate change. Nowadays, people prefer private cars over public transport, which increases pollution and further accelerates climate change. Additionally, the smoke emitted by vehicles adds to air pollution, worsening environmental conditions. Moreover, the transportation sector is one of the largest sources of greenhouse gas emissions, accounting for about 25% of global CO_2 emissions. Most vehicles run on petrol and diesel, which release carbon dioxide, methane and nitrous oxide, all of which trap heat in the atmosphere. Air travel alone contributes nearly 2.5% of global CO_2 emissions, with airplanes burning fossil fuels at high altitudes, intensifying their impact. Large cargo ships transporting goods also produce significant emissions due to the

heavy use of bunker fuel, which is high in carbon content. Additionally, road transport, including cars, buses, and trucks, generates over 70% of transportation-related CO₂ emissions. As the number of vehicles on the road continues to grow, the demand for fossil fuels rises, leading to even higher greenhouse gas emissions. The increase in transportation-related emissions is a major driver of climate change. (193 words)

Agriculture is also a significant contributor to climate change due to the emissions of greenhouse gases from various farming activities. The sector is responsible for nearly 20-25% of global greenhouse gas emissions. One of the main sources of emissions is methane, which is released from livestock during digestion through a process called enteric fermentation. Cattle, sheep, and goats produce large amounts of methane, a gas that is 25 times more potent than carbon dioxide in trapping heat. Another major contributor is nitrous oxide, which is released from synthetic fertilizers and manure applied to crops. Nitrous oxide has a global warming potential nearly 300 times that of carbon dioxide. Additionally, agricultural practices such as rice cultivation generate methane due to decomposition of organic matter in flooded paddy fields. The widespread use of heavy machinery in modern farming also

burns fossil fuels, adding to CO_2 emissions. Deforestation for agricultural expansion further increases carbon levels in the atmosphere by removing trees that would otherwise absorb CO_2 . As global food production continues to rise, agriculture remains a major factor driving climate change. (192 words)

Transitioning Paragraph

Understanding the causes of climate change is crucial, but it is equally important to recognize the serious consequences it brings. These consequences are becoming more severe, impacting weather patterns, ecosystems and global stability. (33 words)