

Term Paper on the Topic: "Global Warming: Causes, Consequences, and Possible Measures"

Introduction

Global warming is the process of increasing the Earth's average temperature, caused by human activities, particularly the emission of greenhouse gases into the atmosphere. This phenomenon has attracted the attention of scientists, environmentalists, and policymakers worldwide, as it can have serious consequences for ecosystems, economies, and human life. In recent decades, global warming has become a global issue and one of the most discussed topics at international forums.

The purpose of this term paper is to explore the causes and consequences of global warming, as well as to analyze possible measures that could be taken to mitigate this process.

1. Causes of Global Warming

Global warming results from the enhanced greenhouse effect, where greenhouse gases such as carbon dioxide (CO₂), methane (CH₄), nitrous oxides (NO_x), and others trap heat in the Earth's atmosphere. These gases create a kind of "blanket" around the planet, allowing sunlight to enter but preventing heat from escaping. Here are the main causes of global warming:

1. **Greenhouse gas emissions.** The primary cause of global warming is human activity, particularly the emission of carbon dioxide and other greenhouse gases into the atmosphere, mainly from the burning of fossil fuels such as coal, oil, and natural gas.
 2. **Deforestation.** Forests play a crucial role in absorbing carbon dioxide from the atmosphere. Massive deforestation, especially in tropical regions, leads to a reduction in forested areas, which contributes to the accumulation of CO₂ in the atmosphere.
 3. **Agriculture.** Intensive agriculture also contributes to global warming, as livestock farming produces methane, another potent greenhouse gas.
 4. **Industrial production and transportation.** Air pollution from industrial activities and vehicle exhaust emissions play a significant role in the accumulation of greenhouse gases in the atmosphere.
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2. Consequences of Global Warming

Global warming significantly impacts the climate and ecosystems of the planet. Here are some of the key consequences:

1. **Climate change.** Global warming causes an increase in temperature in different regions of the world, leading to changes in climatic conditions. Some regions become warmer and drier, while others become wetter, disrupting regular rainfall patterns.

2. **Rising sea levels.** The melting of glaciers and ice sheets, as well as the expansion of water as it warms, results in rising sea levels. This can lead to the flooding of low-lying coastal areas and have severe consequences for millions of people living in coastal regions.
 3. **Extreme weather events.** Global warming leads to more frequent and intense extreme weather events, such as hurricanes, floods, droughts, and wildfires. These events damage ecosystems, agriculture, and infrastructure.
 4. **Threats to biodiversity.** Climate change affects flora and fauna. Many animal and plant species may not adapt to new climate conditions, which could lead to the extinction of some of them.
 5. **Impact on human health.** Rising temperatures can lead to an increase in heat-related illnesses, such as heat strokes, and contribute to the spread of infectious diseases like malaria and dengue fever due to changes in the habitats of disease-carrying organisms.
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3. Measures to Combat Global Warming

To slow down or stop global warming, decisive actions are needed at the international, national, and local levels. Here are some of the measures:

1. **Reducing greenhouse gas emissions.** The main measure to combat global warming is reducing the emissions of carbon dioxide and other greenhouse gases. This can be achieved by transitioning to renewable energy sources (solar, wind, hydro energy), improving energy efficiency, and developing carbon capture technologies.
 2. **Developing green technologies.** The implementation of environmentally friendly technologies, such as electric vehicles, waste recycling systems, and energy-efficient buildings and infrastructure, can help reduce the burden on the atmosphere.
 3. **Conserving forests and restoring ecosystems.** It is essential to protect forests from deforestation and restore damaged ecosystems. Reforestation and forest regeneration contribute to carbon dioxide absorption and increase green spaces.
 4. **International cooperation.** Solving the problem of global warming requires coordinated actions from all the world's countries. An example of international agreement is the Paris Agreement, signed in 2015, in which countries committed to measures to limit global warming to 1.5–2 degrees Celsius.
 5. **Education and awareness-raising.** It is important to raise public awareness about climate change and global warming. Educational programs and campaigns can encourage people to adopt sustainable consumption practices and protect the environment.
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Conclusion

Global warming presents a serious threat to humanity. Its causes are rooted in human activities, particularly the emission of greenhouse gases. The consequences of global warming can be

catastrophic for ecosystems, human health, and the economy. However, addressing this issue is possible if all the countries of the world unite to combat climate change, transition to renewable energy sources, and take measures to protect nature. It is crucial not only to develop strategies to combat global warming but also to educate the population on the principles of sustainable development and environmental protection.

References

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