

Essay outline:

Climate Change: Causes and Solutions

1 Introduction:

Climate change has drastic impact; however it can be tailed by certain measures if can be implemented properly.

2 Causes of climate change:

2.1 Green house gases emissions:

- Green house gases are increasing the global temperature 1.1°C since 1900, Intergovernmental policy on climate change.

2.2 Fossil fuel combustion:

- Globally, fossil fuel contributes to 76.1% of carbon emissions, International Energy Agency.

2.3 Deforestation:

- Earth lose 120 million hectares of forest annually, Food and Agriculture Authority.

2.4 Emission of Methane from livestock:

- Emission of methane is 80% across the globe, which is trapping more heat, United Nation Environment protection.

2.5 Industrial emissions:

- Globally, industrial emissions are contributing 21% of carbon in the atmosphere. (Intergovernmental Panel on climate change)

2.6 Transport emissions:

- The transport sector contributes 24% of carbon emissions annually (Intergovernmental panel on climate change).

2.7 Energy inefficiency and loss:

- The outdated transmission lines of electricity causes further loss and increase heat. (International energy Agency)

2.8 Agricultural sector:

- Agricultural sector contributes to approximately 18% of carbon emissions annually. (Food and Agriculture Organization)

3 Impacts of climate change:

3.1 Rising Temperature:

- Green house gases are rising temperature annually across the globe. (Intergovernmental panel on climate change).

3.2 Heatwaves and Droughts:

- The temperature of Asia and Africa has raised to 50°C during 2023-2024. (World Meteorological organization)

3.3 Biodiversity loss:

- deforestation is causing species at risk around 1 million. (Research on Biodiversity around globe)

3.4 Extreme weather events:

- Climate change has lost \$120 billion and caused huge impact on the lives. (The Guardian)

3.5 Industrial pollution is causing health damages:

- Air pollution kills 7 million peoples annually. (World Health organization)

3.6 Urban flooding and smog:

- Cities like Delhi, Lahore has experienced $\text{PM}_{2.5}$ levels above safe limits. (Swiss air quality technology)

3.7 Energy crisis and Higher costs:

- The loss of Energy is causing 30-40% increase in demand and prices. (International Energy Agency)

3.8 food Insecurity:

- Climate change could reduce crop yield by 10-20% by 2050. (Food and Agriculture Organization)

4 solutions to mitigate climate change:

4.1 Reduce Green House gases emissions:

- Set net zero targets, adopt carbon taxes. (Intergovernmental panel on climate change)

4.2 Shift to Renewable Energy sources:

- Shift to clean energy processes can cut 75% of carbon emissions. (International Energy Agency)

4.3 Reforestation and forest protection:

- Restoring forests could absorb up to 200 billion tons of carbon (Food and Agriculture Organization)

4.4 Methane Reduction Program:

- Proper livestock management can reduce methane 30% globally (World Health Organization)

4.5 Clean Industrial technology:

- Green hydrogen and carbon capture reduce industrial emissions sharply. (Intergovernmental panel on Climate Change)

4.6 Sustainable urban planning:

- Promote green transport, mass transit and low emission zones.

4.7 Improve Energy Efficiency:

- Energy efficient systems can cut emissions by 15-20%. (International Energy Agency)

4.8 Climate Smart Agriculture:

- Drought resistant crops, and smart irrigation practices could reduce emissions and increase crop yield. (Food and Agriculture Organization)

5 Conclusion: