

Climate Change and the Global Risk Landscape: A Growing Threat

This presentation explores the escalating risks posed by climate change, drawing insights from the World Economic Forum's Global Risks Report 2024. We will delve into the critical challenges, the interconnected nature of global risks, and the urgent need for international collaboration to mitigate these threats.

 **by OJAANK IAS**



India's Greenhouse Gas Emissions: A Mixed Picture

Energy Sector Dominance

The energy sector accounted for 92% of India's CO₂ emissions in 2020, with energy industries contributing the most.

Agriculture's Role

Animal husbandry and crop production in the agriculture sector are major sources of methane and nitrous oxide emissions.

India's Climate Goals: Progress and Challenges

1 Decoupling Economic Growth

India has successfully decoupled its economic growth from GHG emissions, but absolute decoupling remains a challenge.

2 Renewable Energy Progress

Renewable energy sources make up 45.52% of India's installed electricity generation capacity, but coal still dominates.

3 Forest Cover Increase

India has created an additional carbon sink through increased forest and tree cover, but biodiversity-rich forests are declining.

Extreme Weather Events: A Growing Risk

1

Global Risk Ranking

Extreme weather events have been ranked the top long-term global risk for two consecutive years, highlighting their escalating impact.

2

Increased Frequency and Cost

Extreme weather events are not only becoming more frequent but also costlier, with expenses rising by nearly 77% over the past five decades.

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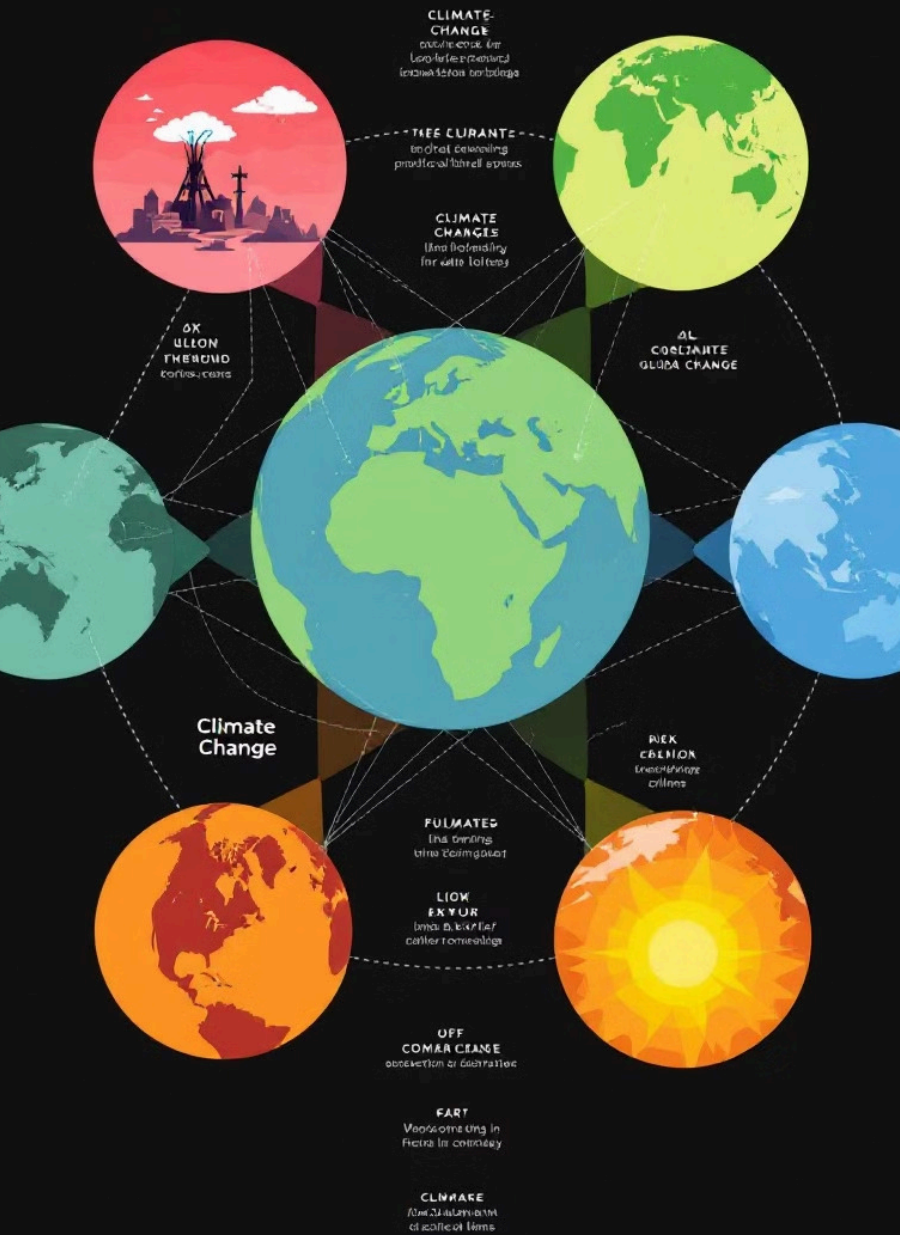
Short-Term Risk

Extreme weather events are the second most severe short-term global risk, impacting populations worldwide.



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Climate Change Impacts: A Web of Interconnected Risks

Involuntary Migration

Climate change is driving involuntary migration and displacement, with populations facing increasing pressures from climate-related disasters.

Biodiversity Loss

Biodiversity loss and ecosystem collapse are interconnected with climate change, threatening the planet's ability to support life.

Natural Resource Scarcity

Climate change is exacerbating natural resource scarcity, impacting access to clean water, food, and energy.

Pollution: A Silent Killer



Air Pollution

Air pollution is impacting human health, leading to cardiovascular diseases, respiratory issues, and cancers.



Water Pollution

Water pollution weakens ecosystems and threatens access to clean water for human consumption and agriculture.



Land Pollution

Land pollution degrades soil quality, impacting food production and biodiversity.





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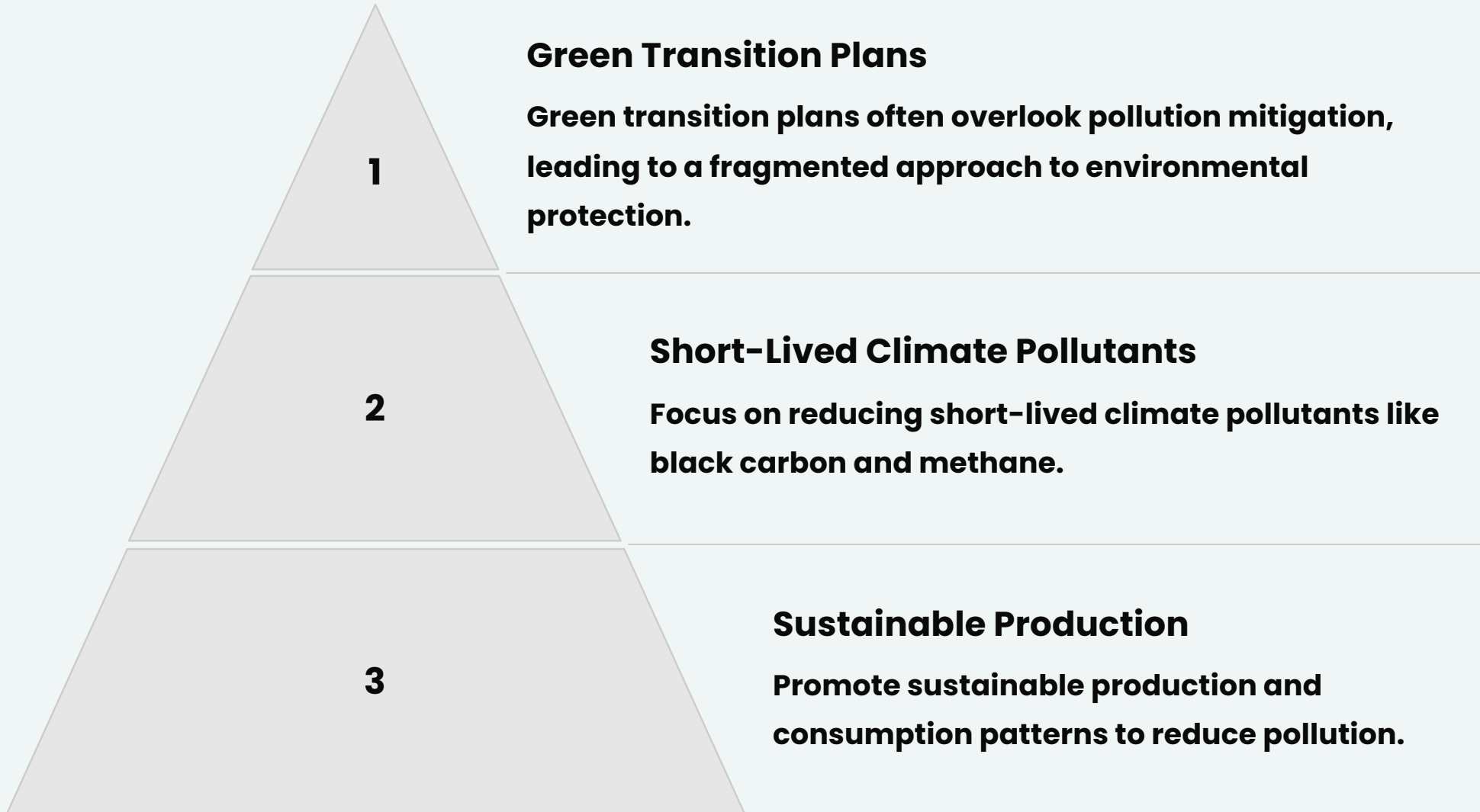
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Addressing Pollution: An Urgent Need



India's Record-Breaking Heatwave

1

Hottest Year

2024 was India's hottest year ever, with average land surface air temperature exceeding the long-term average by +0.65 degrees Celsius.

2

Monthly Temperature Anomalies

All months except March had above-normal average temperatures, with October recording the highest monthly anomaly ever.

3

Impact on Minimum Temperatures

The highest average monthly minimum temperatures were recorded during July, August, September, and October, indicating significant heat.

Cyclonic Storms and Extreme Weather Events

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Cyclonic Storms

Four cyclonic storms formed over the northern Indian Ocean in 2024, including two severe cyclonic storms.

3

Arabian Sea Origin

Three of the cyclones originated in the Arabian Sea.

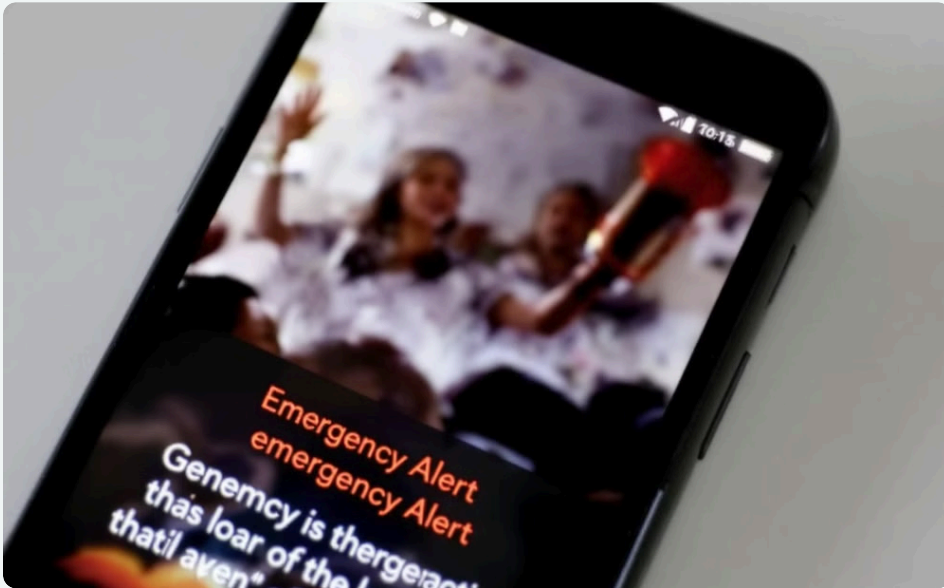
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Extreme Weather

India experienced other extreme weather events, including heavy rainfall, floods, landslides, and droughts.



The Los Angeles False Evacuation Alert: A Complex System Failure



False Alert

A false evacuation alert was sent out to 10 million Los Angeles County residents during a wildfire disaster.



Impact on Evacuation

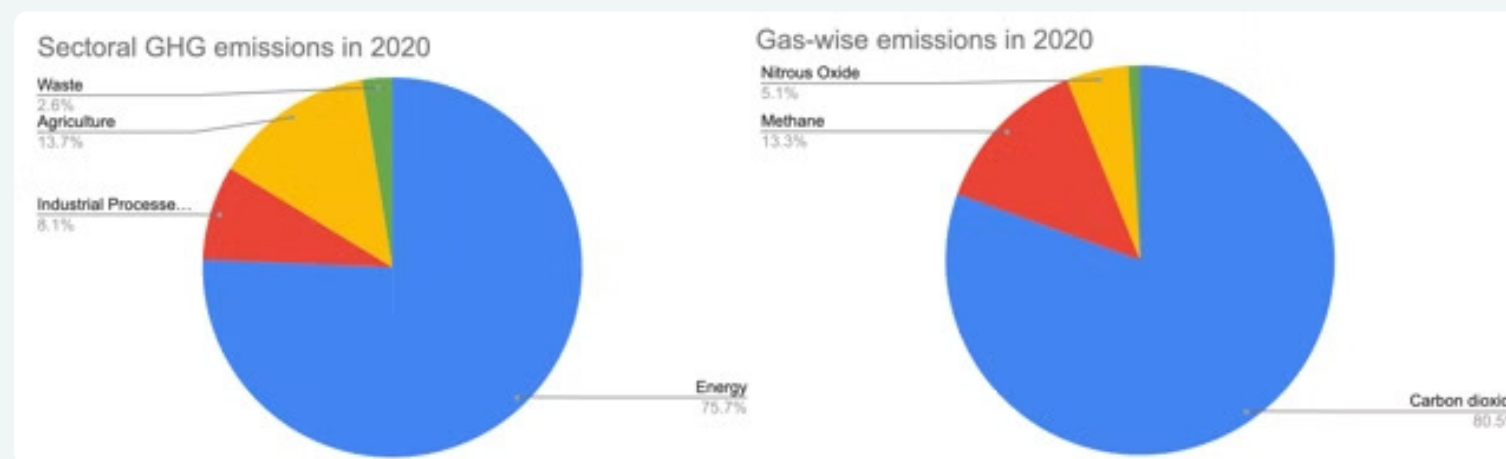
The false alert created confusion and panic, potentially hindering the effective evacuation of residents in active fire zones.

The Ontario False Emergency Alert: A Case Study

Unintended Consequences of Emergency Communication Systems

In a critical breakdown of emergency communication protocols, Ontario experienced a significant false alert that highlighted the vulnerabilities in modern warning systems.

The incident exposed serious gaps in emergency alert verification processes, raising important questions about the reliability and potential psychological impact of such system failures.



This case study underscores the urgent need for robust verification mechanisms and comprehensive review of emergency alert technologies to prevent future miscommunications.

Lessons Learned from False Alerts

1

Credibility Issues

False alerts erode public trust in emergency communication systems.

2

Reputational Harm

Alerting agencies face reputational damage from issuing false alerts.

3

Alert Fatigue

Overuse and false alerts can lead to public apathy towards legitimate alerts.



Moving Forward: Building Trust and Resilience

It is crucial for alerting agencies to have robust procedures in place to minimize the risk of false alerts. When such mistakes occur, corrective action should be taken swiftly to restore public trust. The global community must work together to address climate change, mitigate pollution, and build resilience to these growing threats.



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to climate change**

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