

**Committee:** Environmental Committee

**Topic:**

Reducing the major health risks to children caused by smog in urban environments.

**Student Officers:** Annika Julien



**Children and Youth: Fostering Peace  
and Security for Future Generations**

# **Table of Contents**

**I. Introduction**

**II. Definition of Key Terms**

**III. General Overview**

**IV. Major Parties Involved and their Views**

**V. Relevant United Nations Documents**

**VI. Questions to Consider**

**VII. Conclusion**

**VIII. Bibliography**

## I. Introduction

The term “smog” was coined in the early 20th century. It is a combination of the two words smoke and fog. Smog has been a growing issue worldwide and particularly in urban environments as these areas are often more polluted. Air pollution has negative impacts on the environment, citizens’ health, nations’ economies, and even infrastructure. According to a report published in May of 2016 by the World Health Organization (WHO), more than 80% of urban areas have unhealthy levels of air pollution. When it comes to low and middle income countries (LMICs), that statistic rises to 98% suggesting the severity of this issue.

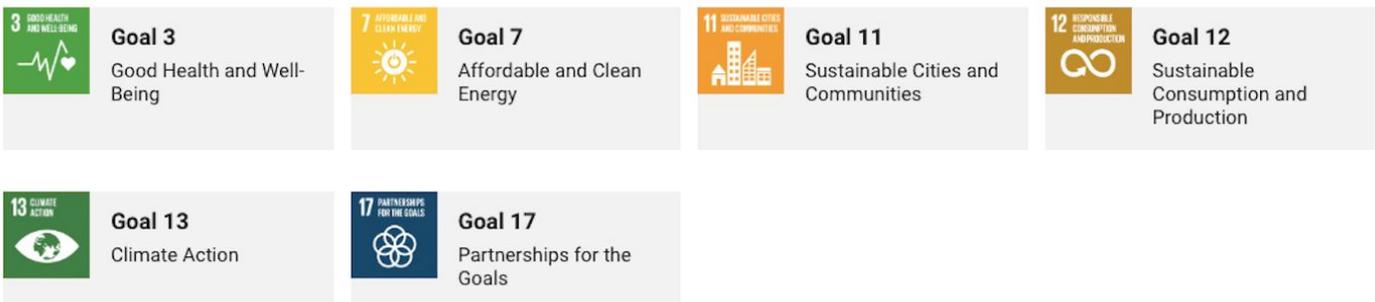
Regarding the environmental effects of polluted air, event such as eutrophication, acid rain, ozone depletion, forest damage, and harm to wildlife may occur. These event would completely devastate the quality of life on and the condition of our planet as it would interfere with the climate, agriculture, and other environmental systems. This environmental emergency is often overlooked despite being one of the most pressing issues human kind is currently facing.

While the environmental issues that emerge from smog are of great importance, it is important to consider the issues concerning health as well. Air pollution has the potential to kill people. In fact, statistics show it is very capable. Approximately 4.2 million premature deaths occurred in 2016 due to hazardous air quality. 90% of these deaths took place in LMICs.

This statement and the information previously addressed suggest that this problem also has significant relevance to low and middle income countries (LMICs) as the issue of smog and air pollution are prevalent in these nations.

Connecting to the topic that will be debated in the Environmental Committee, children are at the highest risks from exposure to smog. A part of the reason this is the case is due to the fact that they are more susceptible to asthma, chronic obstructive pulmonary disease (COPD), bronchitis, pneumonia, and other respiratory ailments. However, children in health condition in unhealthy environments will still and inevitably face the consequences. According to WHO, 93% of the world’s children (1.8 billion children under the age of 15) breathe air that threatens their health. Furthermore, WHO estimated that 600,000 of those children died due to poor air quality in 2016.

To achieve the goals below that the United Nations have set, this issue must be overcome. Actively read this study guide to guarantee rich and fruitful debate.



## II. Definition of Key Terms

a) **Smog** is a term for a particular kind of fog that is caused by severe and health threatening cases smoke and pollution. This word may refer to smoky haze, its opacity, as well as its odor.

b) **Urban environments** is a human settlement with a high population density as well as functioning and developed infrastructure.

c) **Air pollution** refers to the mixture of particles and gases that have the potential to become harmful concentrations.

d) **Secondary pollutants** are not directly emitted rather formed when other pollutants react with one another in the atmosphere.

e) **The Ozone layer** is a part of Earth's stratosphere and it absorbs ultraviolet radiation from the sun. It contains high concentration of ozone when compared to other parts of the atmosphere. It consists of three oxygen atoms in its molecule (O<sub>3</sub>).

f) **Solid fuel** refers to solid materials that are burnt for the purpose of releasing energy therefore providing heat and light.

g) **Biomass** is matter from an organism that is used for fuel.

h) **Indoor pollution** refers to poor air quality indoors.

i) **Outdoor pollution** refers to poor air quality outdoors.

## III. General Overview

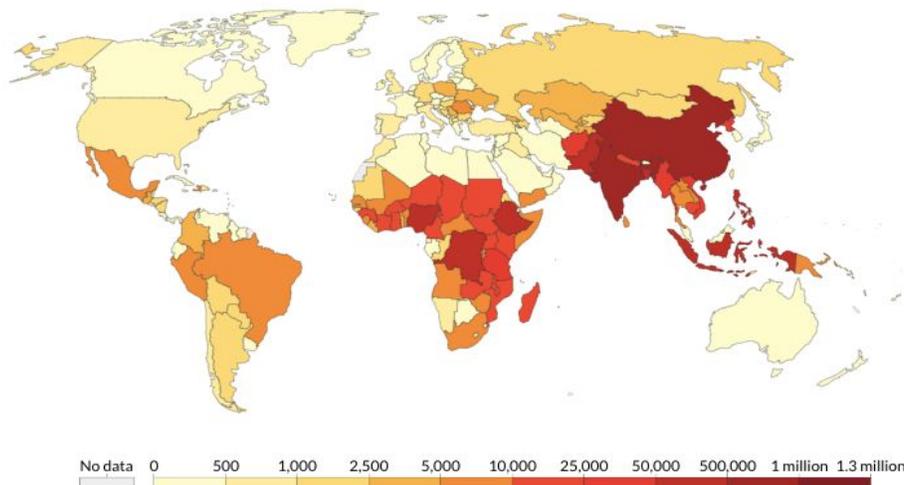
Smog is, without a shadow of a doubt, a momentous issue. To go over the issue as a whole, it is important to consider multiple things to ensure your success as a delegate in this conference. Those things include but are not limited to how smog occurs as well as the severity of the issue of smog in urban areas. Each of these points should come up in the debate. Furthermore, they help us develop an understanding of why this issue occurred in the first place and where it is hitting the hardest despite the fact that smog is a growing matter in all nations. Make connections to your delegation and the points that are addressed.

1) **How smog occurs:** The primary occurrences of smog include the following.

- a) **Indoor pollution:** Indoor air pollution refers to poor air quality indoors. It has been stated that this form of pollution is the most dangerous form as it is more harmful to human health. Household pollution may cause pneumonia, strokes, ischaemic heart disease, lung cancer, and other health related complications. According to statistics gathered by the Institute for Health Metrics and Evaluation (IHME), 2.6 million have died prematurely in 2016 due to illness caused by indoor air pollution. This issue is mainly caused by burning solid fuels which then creates an indoor smog. This explains the reason that LMICs suffer harsh consequences as their populations do not have access to modern energy sources that would prevent these issues from arising.

**Absolute number of deaths from household air pollution, 2016**

Annual number of premature deaths attributed to illness as a result of household air pollution from the use of solid fuels for cooking and heating.



- b) **Outdoor pollution:** When it comes to outdoor air pollution, weather conditions play a large factor in the concentration of pollutants in the atmosphere. For example:
- i) wind, which has the ability to clear smog and dissipate pollutants,
  - ii) and temperature, which affects the rate at which the chemicals of the pollutants react with one another and then transform into secondary pollutants.

This form of pollution has a more direct impact on the environment and is therefore, just as much of a threat as indoor pollution.

- 2) **The severity of the issue of smog:** Smog is a very prominent issue in all areas but primarily urban areas in LMIC to children.
- a) **Smog in LMICs:** As previously stated, LMICs seem to experience harsher impacts of smog and indoor air pollution as they often don't have immediate access to clean fuels. This, however, doesn't directly cause smog. During the debate, LMICs will play a large role when drafting resolutions to ensure this issue is also included as it is a severe danger to health, particularly in children, and it correlates to smog.
  - b) **Smog in urban environments:** Severe cases of smog in urban environment, such as in Delhi, are caused by stubble burning in neighboring agricultural areas. In addition, cities such as Los Angeles, Beijing, and Mexico City encounter worsening smog as pollution increases. According to WHO, more than 80% of urban areas have unhealthy levels of air pollution and that figure is increasing.
  - c) **How smog threatens children's' health:** Unfortunately, children are extremely susceptible to smog. A part of the reason this is the case is due to the fact that they are more susceptible to asthma, chronic obstructive pulmonary disease (COPD), bronchitis, pneumonia, and other respiratory ailments. WHO estimated that 600,000 of those children died due to poor air quality in 2016.

#### **IV. Major Parties Involved and their Views**

**a) Republic of India** - India is the world's most polluted country. The air quality is so poor that the smog in Delhi is turning the white marble walls of the Taj Mahal green. As more than 60% of India's population lives in the outside of cities, 80% of these households rely on biomass in order to cook and have indoor heating. These practices also cause indoor pollution which is particularly dangerous for children. India endured so much loss when it comes to these environmental issues although Kirk Smith (a professor at the University of California Berkeley who teaches global environmental health) has observed that despite implementing anti-pollution laws they haven't been enforced.

**b) People's Republic of China** - China's issue with coal was thought to be the reasoning behind their smog. Scientists from Harvard and two Chinese universities discovered emissions of formaldehyde has been a main contributor to smog in China. Formaldehyde comes from gas stoves, wood burning stoves, cigarette smoke, and other sources. Han Zheng, a Chinese politician, has stated that China's main priority at the moment is transitioning to clean energy.

Though in late 2017, China stated that they would work towards reducing coal burning as it was and remains one of the biggest sources of pollution in China. Rather than coal, they decided to put 3 million households running on natural gas.

**c) The United Kingdom** - Great Smog of London (also known as The Killer Fog of 1952) was an event that took place in the beginning of December in 1952. This event smog consisted of a mix of smoke and cold fog that covered London, England. 4,000 to 12,000 people, mostly children, died due to this event and many came down with respiratory illnesses. The Killer Fog of 1952 was caused by smoke from half a million domestic coal fires as well as unmonitored factory emissions. Since, the United Kingdom has made efforts to protect their populations from such events. In hopes of improving air quality, London homes switched to natural gas. Furthermore, the Clean Air Act was implemented in 1956 though it took time to fully enact.

**d) World Health Organization (WHO)** - The WHO is a specific tear of the United Nations that concerns itself with international public health. In the United Nation headquarters in Geneva, Switzerland, the WHO was erected on 7 April 1948. The WHO researches many things regarding public health, one of them being polluted air.



## V. Relevant United Nations Documents

### [Kyoto Protocol to the United Nations Framework Convention on Climate Change](#)

The Kyoto Protocol is an international treaty that is named after a Japanese city in which efforts were made to reduce the emission of gases that contribute to global warming. It adopted the protocol on the 11th of December, 1997 and entered into effect on the 16th of

February in 2005. This treaty calls for the reduction of the emission of six greenhouse gases. These include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), and sulfur hexafluoride (SF<sub>6</sub>). There are 41 countries in addition to the nations that consist of the European Union that have signed on to this treaty. It is a highly respected treaty and is considered to be the most significant environmental treaty to ever be negotiated.

## **VI. Questions to Consider**

- What is your delegation willing to sacrifice when it comes to preventing smog and improving air quality?
- What is the air quality like in your nation?
- Does your nation's economy rely on a source of energy that induces and increases air pollution and smog?
- Has your delegation previously made any efforts to tackle the issue of smog?
- Has your delegation signed the Kyoto Protocol?
- What resources does your delegation have that can help overcome this critical issue?

## **VII. Conclusion**

The reduction of major health risks to children caused by smog in urban environments is and has been in order since the early 20th century when air pollution started to become a crucial and hazardous issue. Unfortunately, there hasn't been improvement despite some efforts that have been made. In fact, the opposite has happened. WHO data suggests that outdoor pollution has risen 8% in just the past five years.

To ensure the health and safety of youth worldwide, to protect, maintain, and respect the planet which we live on, the delegates of the Environmental Committee must make efforts to work towards reducing the major health risks to children caused by smog in urban environments. Hopefully efficient and justifying solutions will be proposed during debate and in resolutions.

## VIII. Bibliography

"The Great Smog of London." *Britannica*, [www.britannica.com/event/Great-Smog-of-London](http://www.britannica.com/event/Great-Smog-of-London).

Accessed 10 Feb. 2019.

Griffiths, James. "As Smog Season Begins, China Wary of Leaving Residents without Winter

Heat." *CNN*, 19 Oct. 2018,

[edition.cnn.com/2018/10/18/health/china-smog-winter-fuel-pollution-beijing-intl/index.ht](http://edition.cnn.com/2018/10/18/health/china-smog-winter-fuel-pollution-beijing-intl/index.html)

[ml](http://edition.cnn.com/2018/10/18/health/china-smog-winter-fuel-pollution-beijing-intl/index.html). Accessed 10 Feb. 2019.

Guidotti, Sylvie, and Marion Pithon. "Outdoor Air Pollution: Understanding to Inform and

Prevent." *Encyclopedia of the Environnement*, 7 Feb. 2019,

[www.encyclopedie-environnement.org/en/air-en/outdoor-air-pollution-understanding-to-i](http://www.encyclopedie-environnement.org/en/air-en/outdoor-air-pollution-understanding-to-i)

[nform-and-prevent/](http://www.encyclopedie-environnement.org/en/air-en/outdoor-air-pollution-understanding-to-i). Accessed 10 Feb. 2019.

Irfan, Umair. "Why India's Air Pollution Is so Horrendous." *Vox*, 31 Oct. 2018,

[www.vox.com/2018/5/8/17316978/india-pollution-levels-air-delhi-health](http://www.vox.com/2018/5/8/17316978/india-pollution-levels-air-delhi-health). Accessed 10

Feb. 2019.

"Kyoto Protocol." *Britannica*, 13 Feb. 2019, [www.britannica.com/event/Kyoto-Protocol](http://www.britannica.com/event/Kyoto-Protocol).

Accessed 3 Mar. 2019.

"More than 90% of the World's Children Breathe Toxic Air Every Day." *World Health*

*Organization*, 29 Oct. 2018,

[www.who.int/news-room/detail/29-10-2018-more-than-90-of-the-world%E2%80%99s-c](http://www.who.int/news-room/detail/29-10-2018-more-than-90-of-the-world%E2%80%99s-c)

[hildren-breathe-toxic-air-every-day](http://www.who.int/news-room/detail/29-10-2018-more-than-90-of-the-world%E2%80%99s-c). Accessed 10 Feb. 2019.

- Notman, Nina. "City Air." *Chemistry World*, 12 Jan. 2017,  
[www.chemistryworld.com/features/urban-air-pollution/2500224.article](http://www.chemistryworld.com/features/urban-air-pollution/2500224.article). Accessed 10  
Feb. 2019.
- Nunez, Christina. "Air Pollution, Explained." *National Geographic*, 4 Feb. 2019,  
[www.nationalgeographic.com/environment/global-warming/pollution/](http://www.nationalgeographic.com/environment/global-warming/pollution/). Accessed 10 Feb.  
2019.
- Ritchie, Hannah, and Max Roser. "Indoor Air Pollution." *Our World in Data*,  
[ourworldindata.org/indoor-air-pollution](http://ourworldindata.org/indoor-air-pollution). Accessed 10 Feb. 2019.
- "Smog." *Wikipedia*, [en.wikipedia.org/wiki/Smog](https://en.wikipedia.org/wiki/Smog). Accessed 10 Feb. 2019.
- Vidal, John. "Air Pollution Rising at an 'Alarming Rate' in World's Cities." *The Guardian*, 12  
May 2016,  
[www.theguardian.com/environment/2016/may/12/air-pollution-rising-at-an-alarming-rate  
-in-worlds-cities](http://www.theguardian.com/environment/2016/may/12/air-pollution-rising-at-an-alarming-rate-in-worlds-cities). Accessed 10 Feb. 2019.
- West, Larry. "The Causes and Effects of Smog." *Thought Co.*, 27 Mar. 2018,  
[www.thoughtco.com/what-is-smog-causes-and-effects-1204194](http://www.thoughtco.com/what-is-smog-causes-and-effects-1204194). Accessed 10 Feb. 2019.
- Williams, Matt. "What Causes Air Pollution?" *PHYS ORG*, 14 Apr. 2016,  
[phys.org/news/2016-04-air-pollution.html](http://phys.org/news/2016-04-air-pollution.html). Accessed 10 Feb. 2019.