UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP)

Topic A: Banning Coal Usage
Introduction

The United Nations Environmental Programme dedicates its work to providing “leadership and [encouraging] partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations.” Through its work, UNEP strives to provide its 193 member nations with the tools and techniques necessary to allocate natural resources efficiently and sustainably.²

As Earth’s most plentiful fossil fuel, coal plays an integral role in the international arena.³ Although its first use dates to the Paleolithic Era, coal was first popularized by the British in the 18th century when they discovered that coal burned hotter and cleaner in comparison to wood charcoal, a commonly used source of fuel. During the Industrial Revolution, coal’s widespread use and availability led to vital technological advances in transportation, including railroad systems and steamships.⁴ Currently, coal usage continues to encourage economic development and technological advancement by powering global industry. However, coal burning releases significant amounts of carbon dioxide and harmful chemicals, such as mercury, into the atmosphere.⁵

Through the discussion of cleaner methods to use coal, alternative energy sources, and the effects of pollution on global health, this committee strives to develop a plan to reduce the widespread and persistent use of coal. While delegates may encounter challenges due to nations’ limited sources of energy and various levels of economic development, this committee hopes that

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⁴ Ibid.
through the reassessment of current initiatives and the integration of new techniques regarding coal use, delegates can create a comprehensive resolution to this issue.
Background

A Very Brief History

Coal is one of the oldest sources of fossil fuel energy used today. The U.S. Department of Energy speculates the usage of coal predates human civilization, used alongside charcoal “since the caveman,” though common historical evidence dates the use of coal back to the second and third century Roman Empire.⁶

In modern times, the use and possession of coal reserves carries with it great geopolitical significance. Central to the First Industrial Revolution, coal enabled Great Britain to undergo a tremendous technological transformation; that is, the abundance of coal in England quite literally fueled industrialization. Whoever harnessed fossil fuel energy during the age of industrialization achieved astronomic economic heights, completely changing the nature of human civilization. This energy divergence corresponds with a divergence in wealth between continents and countries, and is therefore extremely important in understanding how countries interact with each other and how certain countries attained their coveted positions of power.⁷ Therefore, any international agreement to limit the use of coal potential presents repercussions for the international balance of power, and delegates should expect some nations to strongly oppose any such agreement. China, for example, is currently the largest producer of coal by far, producing 3561Mt in 2013 according to the World Coal Association.⁸ It is followed by the United States, with 904Mt, and by India, with 613Mt.⁹ Coal is used to generate 30.1% of the world’s energy.¹⁰

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⁹ Ibid.
¹⁰ Ibid.
Why Coal is Contentious  As far back as industrial England, coal was noted to produce a great deal of particulate matter that negatively impacted human health. Coal is rarely completely pure, and often mercury, lead, and sulfur are mixed naturally in coal reserves. Burning coal releases these toxins into the air, where they can be inhaled, mixed with water vapor in clouds to produce acid rain, or mixed with oxygen atoms in the air to produce smog. Imperfect burning of coal results in the formation of nitrous oxides, carbon monoxide, and ground-level ozone. All of these byproducts have an immediate impact on human health and well-being. Coal irritates the lungs, resulting in increased incidences of asthma, tuberculosis, and lung cancer. Today, 700,000 people die annually in

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China from particulate matter and critical pollutants produced by burning fossil fuels, and coal is the primary culprit.¹²

*Figure 2: Effects of Excess Carbon Dioxide Emissions on the Environment*¹³

Carbon dioxide, produced through successful burning of coal, is recently coming under more intense scrutiny as climate change becomes a more and more pressing issue. While carbon dioxide does not pose an immediate threat to human health in the same way other byproducts of coal burning do, its role as a greenhouse gas is contributing greatly to a shift in the Earth’s energy equilibrium. When sunlight enters the atmosphere, some passes through, some hits the Earth and bounces back into space, and some is absorbed. Carbon dioxide and other greenhouse gases trap...

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sunlight that would otherwise radiate into space, resulting in a warming of the average Earth temperature and erratic or unusual weather at local levels and resulting in a rise in sea levels around the world.
Current Situation

In the United States, coal is the most abundant source of energy available.\(^\text{14}\) However, the burning of coal releases sulfur and nitrogen into the atmosphere, which combines with water and oxygen to produce acid rain. Coal combustion also releases toxic mercury into the atmosphere, where it seeps into bodies of water and increases the mercury levels in fish, which causes brain damage in young children.\(^\text{15}\) In an attempt to limit sulfur, nitrogen, and mercury emissions, the United States Government launched the Clean Coal Technology Program in the late 1980s. This program created a partnership between the federal government, several states, and private corporations to test methods to make coal usage cleaner. Under the Clean Coal Technology Program, energy corporations have created Coal Preparation Plants, which wash coal prior to its combustion to remove the sulfur from it. Additionally, they have also developed Flue Gas Desulphurization Units, also called “Scrubbers,” which use limestone to remove sulfur from combusted coal as the smoke travels up a smokestack. Through the use of a “Staged Combustion” system, where coal is burned multiple times with limited amounts of oxygen present, American energy companies have limited the release of nitrogen into the atmosphere while utilizing all of coal’s energy.\(^\text{16}\)

As the United States develops cleaner coal technology, development in renewable energy has made solar and wind power more cost effective than traditional sources of fuel in some domestic markets. In some regions of the United States, particularly the Midwest, the cost of solar energy is as low as 5.6 cents a kilowatt-hour, with wind costing as low as 1.4 cents a kilowatt-hour. In

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comparison, natural gas costs as low as 6.1 cents a kilowatt-hour, and coal costs as low as 6.6 cents a kilowatt-hour.\textsuperscript{17}

As the world’s largest coal emitter, China uses more coal than the rest of the world combined. Due to its coal use, cities in China are among the most polluted in the world with toxic smog lingering above major cities. However, public outcry over health issues and environmental concerns have caused the Chinese government to take efforts to reduce its coal use. In a plan developed by President Xi Jinping of China and President Obama, China pledged to have its coal usage reach a peak in 2020, with carbon emissions peaking by 2030. The Chinese government plans to cap coal consumption at 4.2 billion tons in 2020, with coal making up no more than 62% of China’s primary sources of energy. Additionally, by 2020, alternative energy will make up 20% of China’s energy usage.\textsuperscript{18}

While China looks to limit its coal usage, India hopes to expand its coal production. Although the Indian government recognizes the detrimental effects of coal usage on the environment, officials believe that India’s potential for economic development outweighs the costs of excessive coal use. In comparison to the average American, an average Indian citizen uses just 7% of the energy used by an American. Due to the country’s plentiful coal resources, coal is both an available and cost-effective energy source. As a part of efforts to expand India’s coal production and use, Power Minister Piyush Goyal promised to double India’s coal usage from 565 million tons to over one billion tons by 2019. Although India has a plentiful supply of coal, India’s coal comes from strip mines opposed to underground mines, which are more environmentally costly. Similarly,

India’s coal is poor quality and two times more polluting than coal from the West, which has caused Delhi’s air to be three times more toxic than Beijing’s, resulting in poor health amongst Indians.\(^\text{19}\)

In contrast to India, the European Union has made dramatic efforts to curb coal usage and encourage the production of alternative energy sources. Coal accounts for one-third of Europe’s energy sources, with 753.2 million tons of coal used in 2011, an increase from 712.8 million tons used in 2010. In comparison to India and China, who import most of their coal, 73% of Europe’s coal is produced domestically. The European Union (EU) has pledged to reduce greenhouse gas emissions by 80% by 2050, with a 40% reduction in carbon emissions by 2030. To reduce emissions dramatically, the European Union has developed Carbon Capture and Storage Operations (CCS) to capture carbon dioxide from carbon-producing industries and store it underground. The EU

currently has two successful CCS programs operating in Norway for demonstration, and hopes to make the programs commercially viable by 2020.²⁰

Figure 4: Atmospheric Carbon Additions from 1850 to 2012

The United Nations Intergovernmental Panel on Climate Change in recent years has deemed coal burning a significant contributor to global warming,²¹ with one ton of coal producing 2.86 tons

of carbon dioxide.\textsuperscript{22} As of now, UNEP works mainly to reduce the amount of mercury released from coal, citing efforts to reduce mercury releases by up to 95% following a comprehensive report.\textsuperscript{23} However as a whole, while UNEP and the UN as a whole recognize the harmful effects to the environment and communities, which use coal-driven energy, coal usage for energy is key in many industrializing countries as a source of energy. This is exemplified by reports describing $1 billion in funds designated for action against climate change were instead used to create three coal-fired power plants. Christiana Figueres, the UN climate chief was unaware of this misuse of funds until the Associate Press broke the news, highlighting oversight by the UN committees as well as a lack of responsibility on the Japanese companies that misused the funds to build plants in Indonesia, labeled as “thermal power plants.”\textsuperscript{24} News like this generates an interesting conflict in particular because it leaves room for delegates to either argue about more accountability within the UN itself or argue the ethical concerns for companies and governments to limit the use of coal and ultimately try to reduce it.

The UN has already released statements regarding coal companies and their responsibility to hold production enough to not exacerbate global warming above a 2 degree Celsius rise a year, as mandated by a 2010 climate treaty. This seems to apply to countries such as Poland as well, which relies on coal for more than 88% of its electricity and Japan, which had to rely on more coal since the failure of the Fukushima power plant.\textsuperscript{25} On the other hand, leaders such as Tony Abbott, Prime


\textsuperscript{23} “Reducing mercury emissions from coal combustion in the energy,” United Nations Environment Programme, February 2011, \url{http://bit.ly/1Eeh3mG}.

\textsuperscript{24} Zoë Schlanger, “Oopsie! $1 Billion in UN Funds to Fight Climate Change Built Coal Power Plants Instead,” \textit{Newsweek}, 2 December 2014, accessible online from \url{http://bit.ly/1vm4WlJ}.

\textsuperscript{25} David Jolly, “Top U.N. Official Warns of Coal Risks,” \textit{the New York Times}, 18 November 2013, accessible online from \url{http://nyti.ms/1z5EHuY}. Malloy
Minister of Australia, have been firm on their stance that “Coal is the foundation of the way we live because you can’t have a modern lifestyle without energy,” despite the IPCC’s synthesis report findings that switching to clean energy is much less costly than the future effects of climate change.\(^{26}\) The main goal for this discussion is to blend scientific findings, evidence, and your country’s specific stance on coal to reach a solution that best fits the overall interests. This creates potential conflicts, such as problems between a country’s need to expand economically and its ethical responsibility to abide by environmental laws.

In addition, delegates should be considering whether or not their specific country exports coal, and whether or not that creates an ethical dilemma. Countries such as Indonesia and Australia may not consume as much coal as countries such as China, but when they are providing access to coal across the world and to companies, then in part they contribute to the problems associated with global warming. Thus when examining this issue, make sure to look at all the sides of the issue, including the motives of countries who may like coal consumption simply because their economy relies on the exportation of coal. And while this conversation may seem as if its limited to the top producers, consumers, and exporters of coal, smaller countries may be involved simply because of their reliance on coal or their inability to use alternative clean energy. Countries such as South Africa, Turkey, Kazakhstan, and Bulgaria are heavily reliant on coal, despite being dwarfed in coal usage by giants such as China, the US, India, and Japan.\(^{27}\) In this case, a major issue is whether these smaller countries have an obligation to reduce coal usage as well because although their percentage use is high, their overall impact on the environment is marginally smaller than some other countries.

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Additionally, the last nuance of this issue is the role that alternative energy/clean energy plays in the debate. Delegates should advocate for clean energy if their country is a large producer or advocate for more sustainable practices, such as the increase in shale gas production in the US or the large investments into renewable energy that China has spent in the past few years.28

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Bloc Positions

*Coal Producing Nations*  Countries that invest heavily and rely on the economic benefits of producing coal should work with similar countries. These countries should generally be opposed to action due to the effects of coal on either their respective economies or ability to produce energy. For example, a country like China accounts for 46% of the world’s production and 49% of the world’s consumption. Coal contributes to China’s gross domestic product (GDP) as it grew 7.7% in 2012, following an average GDP growth rate of 10% per year from 2000 to 2011. The other top ten producers of coal along with China produce 90% of the world’s coal. However, delegates should be wary of their country’s dependence on coal in relation to how much energy they derive from coal and the country’s availability of alternative energy such as nuclear and solar plants. Also, keep in mind the degrees to which countries export and import coal with the following figures.

<table>
<thead>
<tr>
<th>Top Coal Exporters</th>
<th>Total</th>
<th>Steam</th>
<th>Coking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>426Mt</td>
<td>423Mt</td>
<td>3Mt</td>
</tr>
<tr>
<td>Australia</td>
<td>336Mt</td>
<td>182Mt</td>
<td>154Mt</td>
</tr>
<tr>
<td>Russia</td>
<td>141Mt</td>
<td>118Mt</td>
<td>22Mt</td>
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<tr>
<td>USA</td>
<td>107Mt</td>
<td>47Mt</td>
<td>60Mt</td>
</tr>
<tr>
<td>Colombia</td>
<td>74Mt</td>
<td>73Mt</td>
<td>1Mt</td>
</tr>
<tr>
<td>South Africa</td>
<td>72Mt</td>
<td>72Mt</td>
<td>0Mt</td>
</tr>
<tr>
<td>Canada</td>
<td>37Mt</td>
<td>4Mt</td>
<td>33Mt</td>
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</tbody>
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<tr>
<td>PR China</td>
<td>327Mt</td>
<td>250Mt</td>
<td>77Mt</td>
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<tr>
<td>Japan</td>
<td>196Mt</td>
<td>142Mt</td>
<td>54Mt</td>
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<tr>
<td>India</td>
<td>180Mt</td>
<td>142Mt</td>
<td>38Mt</td>
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<td>South Korea</td>
<td>126Mt</td>
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<td>Chinese Tapei</td>
<td>68Mt</td>
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<td>Germany</td>
<td>51Mt</td>
<td>43Mt</td>
<td>8Mt</td>
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<tr>
<td>UK</td>
<td>50Mt</td>
<td>44Mt</td>
<td>6Mt</td>
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</tbody>
</table>

**Environmentally concerned/Alternative Energy Advocate Bloc**

Countries can also align themselves based on their country’s stance on the environment and efforts to move past coal dependency. For example, in 2014 countries like Germany have plans in mind to shift their energy usage, such as moving towards 80-95% reduction in greenhouse gases by 2050. However, despite such plans, Germany still has a high consumption and use of coal, with it accounting for 45% of their energy generation. The example of Germany illustrates that a country may be in both blocs, and could possibly opt for a more moderate plan that favors phasing out coal more slowly. Other countries such as Denmark have been favoring more environmentally friendly energy methods since the 1980’s and might have an easier time cutting coal use out.  

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31 Paul Hockenos, „Brave little Denmark leads war against coal, Al Jazeera America, 17 November 2014, [http://alj.am/12GiFqv](http://alj.am/12GiFqv)
already committed to reducing coal consumption as well as to actively reduce carbon emissions.

According to Yale’s Environmental Performance Index:

“Despite high economic expansion averaging greater than 10 percent annual growth in GDP, China reported a 20-percent decrease in carbon intensity between 2005 and 2010. At the 2009 UN Copenhagen Climate Summit, China committed to reduce carbon intensity an additional 40 to 45 percent of 2005 levels by 2020. Trends in carbon intensity reduction from the past decade demonstrate China’s policy achievements.”

China has clearly shown a commitment to improving the environment, yet may not have reduced coal usage and production yet, showing that countries may not have to reduce their coal usage and yet may improve the environment in a way that is more beneficial for their own growth. Delegates should check on their country’s performance, and standards for climate change and energy and set positions accordingly.

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Questions to Consider

This list of questions is to help you get started on your research. These are not the only questions that you should consider when researching and this list is merely a method to get you started in thinking about the topic from your country’s perspective, which is one of the main goals of Model UN. Keep in mind that in answering these questions, you should be coming up with more questions and hopefully have a much deeper understanding of how your country interacts with coal and how changes in international law regarding coal would impact your country.

1. How much coal does your country produce? How much coal does your country import and/or export?

2. What percentage of total energy consumption in your country is provided by coal? What percentage is provided by renewable energy sources, oil, etc.?

3. What treaties or international agreements regarding coal (or related issues that would impact coal consumption, such as climate change) has your country signed?

4. What internal legislation has your country produced regarding coal, and other sources of energy? Does your country have a strategic plan for energy use in the future?

5. Are there considerations regarding foreign policies that are related to your country’s coal consumption or other countries’ coal consumption?

6. Is there disagreement about coal policy between political groups, leaders, or parties within your country? How would that affect your country’s ability to ratify agreements or complicate participation in discussions regarding coal?

7. Do you have the resources to commit to building or rehabilitating infrastructure to accommodate movement away from coal?
Recommended Sources

Article about the growing popularity and accessibility of alternative energy in the United States. There are a lot more articles where this one came from, so use this as inspiration as you are getting started. Some scientists and planners have come up with radical ideas to switch entirely to “SWW” sources of energy (solar, wind, and water). Those plans may gain traction as the price of oil or coal rises; the current glut in the market is driving down prices for 2015, but with a finite supply that will not last forever. Consider what will happen next, and what type of plan your nation will benefit from.

This database discusses Europe’s current efforts to reduce coal usage. This is a good place to start, even if you are not representing a European nation, to get a good idea of what some countries are already doing.

This is an interesting article about India’s coal policy. While not a database like many of our other recommended sources, this will hopefully help to expand your perspective on the pros and cons of coal usage. There is no clear-cut answer to any problem; every “solution” has trade-offs and winners and losers. Think about how you can propose an idea to bridge the gap while also serving the interests of your country. If that is not done, and soon, climate change will be unstoppable.

This great source for current developments regarding coal. The New York Times offers “Topics” pages for a variety of issues. Not only do these pages include an archive of articles from the Times relating to the specific topic, but they also include links to government documents, investigations, published research, etc. If you are not sure where to start your research, this is a great place. Also check out the topics pages to see if there is one on your country, climate change, and other areas that might help expand your knowledge for this topic.

This is an excellent article for an overview of China’s coal policy. When you are doing your research, regardless of the member nation you represent, it is essential to consider the interests of the major players in order to propose realistic papers and resolutions.