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The United Nations Environment Programme

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Committee: The United Nations Environment Programme (UNEP)
Topic B: The implementation of green energy technologies in polluted regions
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I. Committee Background

The United Nations Environment Programme (UNEP) has the mission to lead and embolden partnerships that care about the environment by encouraging and advocating for its preservation and to improve our quality of life without compromising future generations (UNEP, 2017). UNEP was founded on June 5th, 1972 and its headquarters are located in Nairobi, Kenya. Currently, Erik Solheim is the committee's Executive Director and Ibrahim Thiaw is the Deputy Executive Director. The organization has had many accomplishments related to improving the environment and limiting climate change. For example, in August 2015, UNEP created its Environmental Policy and established the Environmental Management System (EMS), the Environmental Management System's main objective is to reduce humanity's environmental footprint with a comprehensive set of steps. Before starting the EMS action plan, in 2008, UNEP started measuring the earth's annual greenhouse gas (GHG) emissions. Doing this helped UNEP to create strategies and reduction efforts for greenhouse gases. In 2015, the organization's World Environment Day theme was "Seven Billion Dreams. One Planet. Consume with Care." This then led the UNEP's annual Green Week which promotes education about climate change and responsible consumption. At the moment, UNEP is currently focusing on the prevention or the reduction of climate change, pollution, natural disasters, exposure to fatal chemicals, as well as environmental governance, resource efficiency and ecosystem management (About UN Environment, UN Environment, 2018).

II. Topic information

A) History of Topic

Green technology, also known as clean technology, refers to technology that constantly evolves to make the process of different products, mostly energy, non-toxic, and eco-friendly, reducing the amount of pollution that enters the atmosphere. It is a substitute to fossil fuels such as coal, oil or gas (Investopedia, 2017). The overuse of fossil fuels has released large amounts of carbon dioxide and other greenhouse gases into the air. This has created great harm to the environment through something called climate change. Climate change (also referred to as global warming) is the rise in the average surface temperatures on Earth (Take Part, 2018).

Polluted regions can be found all over the world. They are usually areas that contain many harmful gases or when dust or smoke enters into the atmosphere. Pollution can best be described as a physical, biological or chemical alteration to the air in the atmosphere (Conserve Energy Future, 2018). Humans have been polluting the Earth for a long time. Once humans began using wood-burning fires air pollution began. While it was never a major issue until the past three centuries, scientists have been able to trace pollution caused by ancient cultures. In fact, lead pollution from smelters during the Roman period can be traced all across Europe. Pollution began as a major problem during the Industrial Revolution in the 1700s and 1800s. However, since 1945, many developing countries started to become industrialized and to produce a lot of canned products and plastic items, which are near non-decomposable. The process in which factories produce these items requires coal or gasoline, which produce a lot of smoke that dirties the air around the factory (Pollution Issues, 2018).

Heavily polluted areas pose great risk to human, animal and environmental health. Examples of these risks include neurological damage, heart attacks, cancer, premature death, among other issues. When pollution is absorbed into the atmosphere it can cause nitrogen oxides and sulphur oxides to be released back to the Earth as acid rain. It usually causes the weathering of buildings, the corrosion of metals and the peeling of paints on surfaces, however, it can also damage crops and plants. It makes plants vulnerable to disease and harms the soil, making it more difficult for the plants to obtain the nutrients needed to grow. Moreover, pollution can cause eutrophication, which is a harmful process that impacts the world's oceans. Sometimes deposits of nitrogen due to pollution build up on the sea's surface and turns into algae, this as a result harms fish, plants and animal species (Air Pollution, Conserve Energy Future, 2018).

The use of green energy technologies can reduce the risks presented by pollution. Green energy technologies include solar, wind, water and geothermal. Solar energy comes from the sun. It works by using solar panels to absorb the sun's energy and transfer it into electricity. Solar energy is sustainable and does not look to runout anytime soon. It also does not give off an harmful pollutants. In fact, scientists believe that it will the most used source by 2050 (Solar Panels, Conserve Energy Future, 2018). Wind power is harnessed through the use of wind turbines. According to the website Conserve Energy Future, wind energy is the "cleanest and most reliable way to generate electricity. Wind power neither produces any toxic emissions nor any heat-trapping emissions that contribute to global warming" (Wind Energy, Conserve Energy Future, 2018). Water energy or hydropower is created by flowing water. While it can be created through the natural flow of rivers and streams, many countries harness it through large dams. It is a form of green energy, but due to the dams and the reversal of how rivers naturally flow, it can be detrimental to the environment (Renewable Energy World, 2018). Finally, there is geothermal energy which can be used to heat and

cool items. It is produced by collecting energy that rises up from the Earth's core (Geothermal Energy, Conserve Energy Future, 2018).

Right now, more and more countries are turning to green energy technologies in order to decrease pollution and climate change. According to ZME Science, "roughly a fifth of the world's electrical power production now comes from renewable sources" (Puiu, ZME Science, 2016). However, this is not enough. In the academic journal Joule, a team of researchers from Stanford University stated that the world's transition to green energy technologies must take place much more quickly. The further stated that "each year, four to seven million people die prematurely and hundreds of millions more become ill from air pollution, causing a massive amount of pain and suffering that can nearly be eliminated by a zero-emission energy system." So, while many countries are experimenting with green energy technologies more money, time and trust needs to be invested in them by governments and organizations around the world. If not, pollution created by current sources of energy such as coal, gasoline and oil will continue to adversely impact the environment and human health and well-being (Johnston, *The Independent*, 2017).

B) Current Issues

South Korea: In December 2017, South Korea pledged to increase its use of green energy technologies over the next two decades. Right now, the majority of the country's energy comes from nuclear power plants. However, it is trying to move away from this type and instead focus on green energy technologies such as solar power. South Korea plans on increasing its solar generated power by five times the current amounts by 2030. Moreover, the nation plans to provide a fifth of the country's total amount of electricity from renewable energy by 2030. This plan has been made possible through government budgeting, special tax breaks for individuals and

businesses that utilize green energy and collaborations with companies and organizations focus on implementing green energy (Reuters, 2017).

Canada: In Canada, the use of green energy technologies is increasing. By 2030, the country plans to replace almost all of its coal power plants with wind and solar power. As of December 2017, only about 20% of Canada's electricity comes from fossil fuels such as coal, while 15% is produced by nuclear energy. The rest comes from green energy with the most popular being hydro power, which accounts for 60% of the country's electricity. In the province of Ontario, the government has been heavily investing in solar energy. It has installed small installations across the province and has promoted it as a sound business investment with tax breaks for companies and individuals that use it. However, outside of Ontario solar energy installations are quite infrequent (Rabson, CBC News, 2017).

Germany: The German government has been very supportive of green energy technologies. So much so that in July 2017, the country announced that it had broke a green technology record by generating 35% of its electricity from green energy. In addition, it plans to shut down two of its nuclear energy plants within the next decade, boosting the use of green energy. This type of energy has become popular in the country due to the Renewable Energy Act (EEG), which made it cheap for companies and individuals to invest in its use. Germany uses a mixture of solar, wind and hydro power which allows it to take advantage of different weather patterns depending on the season. By 2050, the nation aims to lower its greenhouse gas emissions by 40% (Wacket and Kirschbaum, *The Independent*, 2017).

France: In 2016, France announced that it planned to expand its use of green energy technologies. However, very little action was taken by the government to make this plan a reality. According to Renewable Energy World, France is far behind other countries in Europe when it comes to the expansion and use of green energy. Only 6%

of its electricity is produced by green energy, while the rest is covered by nuclear power plants. These in themselves do not produce pollution or greenhouse gases, however, concerns about safety have been raised by scientists and activists within the country. Green energy is very difficult to get approval for in France. It takes around six to eight years to get approval for wind farms, which means that many companies are not willing to invest in them as they are too time consuming. The government has promised to change this but like its previous pledges, action has not been taken thus far (Hirtenstein, De Beaupuy and Andresen, Renewable Energy World, 2017).

Iran: Iran is trying to move away from oil as a source of electricity toward green energy technologies. In order to attract investment in its green energy projects, the government of Iran runs a program where it offers tax exemptions for companies that produce or use green energy. Recently, investment from Swedish and Norwegian based companies have enabled the nation to further expands its use of green energy technologies. As of 2017, Iran is estimated to have a capacity to produce 10,606 MW of renewable energy, which is the largest in the Middle East. Most of its green energy comes from hydro power, although it would like to expand more into solar and wind energy in the near future. Iran also plans to help inform other surrounding nations about the benefits of green energy technologies in order to decrease pollution and greenhouse gas emissions (Dudley, *Forbes*, 2017).

Pakistan: In January 2018, the government of Pakistan made changes to laws that enabled companies to easily produce and sell electricity produced by green energy technologies. Paperwork, wait times and fees now make using green energy technologies unattractive and expensive. According to the *Daily Times*, this change in policy was heavily influenced by the coal and oil companies operating in Pakistan who are often the largest donors to political campaigns. Only 1% of all electricity is currently produced by green energy. Due to the reliance on fossil fuels, Pakistan has major issues

with pollution, especially in large cities such as Karachi. This has had an impact on human health and can directly be linked to a variety of respiratory illnesses and cancer (Janjua, *Daily Times*, 2018).

C) UN Action

The United Nations understands the importance of using green energy technologies in polluted regions in order to improve environmental health and well-being. The committees that mainly work on this issue are UNEP and the United Nations Development Fund (UNDP). Both of these UN committees offer monetary, research and implementation assistance to countries interested in moving forward with or expanding the use of green energy technologies. Moreover, decreasing pollution is also tied to the UN's Sustainable Development Goals (SDGs), a set of global goal aimed at tackling some of the world's most pressing issues. Goal 7, which is titled "Affordable and Clean Energy", aims to provide all individuals with access to green energy. The UN believes all people should have access to green energy because "it transforms lives, economies and the planet." The organization plans on achieving this goal by working with governments to plan, install and monitor forms of green energy such as solar, wind and hydro electricity. So far, it has had success in areas such as the Gaza Strip in Palestine, where the UN allocated 2.5 million United States dollars to install solar panels. These panels have help to alleviate the energy crisis in the territory and power life saving equipment in hospitals and clinics (SDGs, 2018).

III. Conclusion

Over the last two centuries, pollution has increased around the world due to the burning of fossil fuels such as coal, gas and oil. This has caused massive damage to the environment, as well as human and animal health. In order to reverse or alleviate the

impact pollution can have on regions, many countries are turning to green energy technologies. These technologies include solar, wind, water and geothermal energy. These types of energy producers do not pollute the environment and thus far have not posed a threat to human or animal health. Organizations such as the UN are promoting their use and expansion through campaigns, programs and loans. Due to all of their benefits, more countries need to begin using green energy technologies in order to help the environment and reverse years of pollution. If countries do not start now, the problem will only increase and bring more issues with it.

IV. Essential Questions

1. What causes pollution?
2. What is green energy?
3. What are some types of green energy technologies?
4. Does your nation suffer from high levels of pollution? If so, what impact has it had on your delegation's population?
5. Does your country use green energy technologies? If so, how?
6. What is the UN doing to promote the use of green energy technologies in polluted regions?
7. What are the Sustainable Development Goals (SDGs)? How are they related to the topic?
8. Are there any of international organizations working on this issue? If so, which ones? Is your country collaborating with any of them?

V. Resources

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