

CERRITOS CONFERENCE 2021



UNDP

TOPIC:

INTRODUCTION OF SUSTAINABLE
ENERGIES INTO DEVELOPING
NATIONS

DIRECTOR: PATRICK JUN

October 9th, 2021

To Delegates of CHSMUN Novice 2021

Dear Delegates,
Welcome to CHSMUN Novice 2021!

It is our highest honor and pleasure to welcome you all to our 2021 novice conference here at Cerritos High School. On behalf of the Cerritos High School Model United Nations program, we are proud to host this conference, where you will become more knowledgeable on international issues, participate in intellectually stimulating discussions, and create new and everlasting friendships.

The CHSMUN program continues to compete around the world as a nationally ranked MUN program. Our delegates utilize diplomacy in order to create complex solutions towards multilateral issues in the global community. Our head chairs are selected from only the best seniors of our program, undergoing a rigorous training process to ensure the highest quality of moderating and grading of debate. Furthermore, all the topic synopses have been reviewed and edited numerous times. We strongly believe that by providing each and every delegate with the necessary tools and understanding, he or she will have everything they need to thrive in all aspects of the committee. We thoroughly encourage each delegate to engage in all of the facets of their topic, in order to grow in their skills as a delegate and develop a greater knowledge of the world around them.

Although there will be a few changes to our conference due to Covid-19, our advisors and staff have put in countless hours to ensure delegates have an amazing experience. Our greatest hope is that from attending CHSMUN 2021, students are encouraged to continue on in Model United Nations and nevertheless, inspired to spark change in their surrounding communities. With this strong circuit consisting of over 500 delegates, CHSMUN Novice 2021 will provide a quality experience for beginner delegates to enhance their speaking and delegating skills.

If you have any questions, comments, or concerns, please contact us! We look forward to seeing you at CHSMUN Novice 2021!

Sincerely,

Anushka Panjwani & Naima Dellawar

sg.cerritosmun@gmail.com

Secretary-Generals

A Note From The Director

Dear Delegates,

My name is Patrick Jun and I am overjoyed to be chairing for this committee of the UNDP! I am currently a senior at Cerritos High School and have been doing MUN since the 9th grade. Throughout these years, MUN has helped me pursue my passion for public speaking as well as expand my political views to better understand the world around me. Outside of school, I am secretary for a club called RAISE and volunteer at a library where I tutor kids in elementary. When I'm not involved in those, I like to hang out with friends and play video games. I also enjoy long walks and listening to music when I am doing so. As someone who has started MUN in 9th grade, I can understand how nerve racking this conference can be, but I hope you all can gain the courage to speak and push your ideas onto committee as I know each and every one of you are capable of it. I hope you all can be confident in your speaking abilities and use this as an experience to grow more than anything else! Good luck and have fun!

Sincerely,
Patrick Jun
Director, UNDP
Committee Email: UNDP.CHSMUN@gmail.com

Committee Introduction

Headquartered in New York City, the UNDP is the largest UN development assistance program in the organization with a 36 member Executive board consisting of both developing and developed countries. Created in 1965 the United Nations Development Programme (UNDP) aims to help countries tackle problems such as poverty while achieving sustainable development to help improve the quality of life for all citizens. With heavy emphasis on the environment as well, the UNDP also aims to preserve the natural elements of the Earth for future generations. This organization has made notable progress through projects such as their five-year Country Programmes which works to fund projects aimed at attracting investment, training skilled employees, and implementing modern technologies. More recently, this program has plans to be launched in Eswatini starting from the year of 2021 to help support efforts to develop environmentally sound energy, economic policies, as well as to expand communications and technological infrastructure. Such efforts have led to the UNDP resident representatives to be implemented in more than 125 developing countries aimed at helping to coordinate local activities of other UN agencies and programs.

Topic: Introduction of Sustainable Energies into Developing Nations

Background:

For a long period of time, coal and fossil fuels were seen as the be all and end all energy source with their consumption becoming widespread within the last century. Globally, coal consumption has roughly doubled from 4 billion short tons to 9 billion in 2013 with countries such as China accounting for 51.7% of the world's total coal consumption. With such mass intake of that energy, setbacks have occurred in the past environmentally. For example, the UN marks healthy air quality as one that falls under 60 micrograms of PM10 particle matter per cubic meter. Globally, many cities such as Delhi and Beijing fall heavily over this limit with Delhi having the worst air quality at a whopping 292 micrograms per cubic meter. Taking this into account, many countries have called for energy reforms in hopes to preserve air quality. But more than this, the need to introduce sustainable energy to developing nations has become more prominent than ever. As of now, many underdeveloped nations such as Afghanistan continue to rely on fossil fuels as a main source of energy. The problem comes when we take into account the multiple disadvantages of such a source. For one, they are extremely unreliable and dangerous to continue using. One common practice to get fossil fuels is to extract gas out of rocks through hydrofracking. This practice involves pumping a chemical solution into the Earth to push the gasses out. The process leaves dangerous pollutants in the Earth which can then end up entering the water supply and cause health issues. This becomes especially prevalent for underdeveloped and developing nations when noting that 80% of diseases in the developing world are linked to inadequate water and lack of sanitation. This has led to the unfortunate deaths of 485,000 individuals per year.

With that said, there is still hope. Many countries have invested into different energy sources that are reliable and are sustainable. In recent times, the idea of solar power has gained extreme traction. Countries such as the US have focused on small-scale solar and utility-scale renewable technologies with past administrations investing a total of 301.7 billion US dollars in 2019. Additionally, countries such as Russia have introduced the benefits of nuclear power and their plans to advance it in the near future. The government has invested 8,230 billion rubles into the effort and have aimed to make half of Russia's electricity and power stem from nuclear and hydro by the year of 2030. But where do underdeveloped nations tie in with all this development? While many intrinsic values do make solar energy appealing to developing countries, the problem comes when most of these underdeveloped nations fear the problems of land use, habitat loss, resource consumption, and the implementation and disposing of hazardous materials, including solar cells and solar thermal plants. For example, the Bloomberg New Energy Finance (BNEF) state of the dangerous and potentially toxic material that comes out of such a source. In fact, the amount of solar panel waste alone is projected to be 78 million metric tons in 30 years, not including waste from wind turbines, battery storage units, and off-grid products with shorter lifetimes. In short, the inexperience and lack of methodology make it difficult for a country to swap from fossil to new renewable sources of energy. Similar arguments can also be applied to the usage of nuclear energy. While countries such as China have made extreme breakthroughs when designing and producing nuclear reactors, such as the first steam pressurized water reactor, many countries are reluctant to use it due to the stigma surrounding it. The citizens of Jordan have openly protested to the implementation of such an energy and have voiced opinions in regards to disasters such as the Fukushima Daiichi nuclear disaster in 2011. It is due to this that the Energy and Mineral Resources Committee of the Lower House decided in

May of 2012 that the government suspend the nuclear power program due to rising opposition against it. Disposing nuclear waste also proposes a problem as wasted nuclear fuel remains dangerously radioactive for thousands of years after it is no longer usable in a reactor. Hydropower has also been extremely successful in countries such as Canada who use it to power more than 95% of their power generation, but it's hard for this source to be implemented in developing nations. Not only does it obstruct fish migration for settlements who depend on it, but it also must be closely monitored so as to not harm water quality. These factors make it hard for underdeveloped nations to implement a technology as they do not have the resources to supplement hydropower. Nonetheless, one characteristic of these energies is that they are necessary for developing countries, but their drawbacks and complications must be addressed for them to be truly successful.

United Nations Involvement:

Understanding the necessity to spread the usage of renewable energy, the UN has created many programs aiming to help the development as well as the implementation process of doing so. As such, in partnership with the IAEA, the UN has put an emphasis on spreading nuclear technology to countries such as the Dominican Republic. The partnership has worked to implement Fixed Bed Nuclear Reactors through the FBNR project. It works to help install affordable, small-scale, and environmentally friendly nuclear reactors for developing nations. These reactors create about 70 megawatts of electricity per reactor and are in motion to be expanded to provide about 22% of the Dominican Republic's total electricity use by the year of 2022. With this newfound technology, the UN has also stepped in to help countries reap the benefits of them. An article in 2017 written by the FAO press center details that through using nuclear technology, crop breeding programs were created to develop cross-bred crops allowing even the driest climates to produce agriculture. In fact, in the country of Bangladesh, farmers were able to improve the quality and yield of rice through the nuclear program established by the FAO with the IAEA. Bina Dhan-7 is a famous example and has helped rice production increase significantly from 26.8 to 33.8 million tonnes in 2013 compared to 2003. But nuclear technology isn't the only source of energy the UN has aimed to give developing nations.

In 2012, the UN made notable achievements in ten African countries (some examples are DRC, Ethiopia, Malawi, Mali, etc) and four South Asian countries through the "Call to Action" initiative, a UN Development Programme which encourages private actors to develop inclusive business models that can have both commercial success and a positive impact in development. In these countries, this program has helped to link partnerships with the solar energy provider, ToughStuff, to provide low-cost, durable solar panels to low-income communities. In doing so, the company estimates some \$520 million will be saved as well as reducing carbon emissions up to 1.2 million tons. But as progress such as this requires cooperation as well as international coordination, the Sustainable Energy for All organization was formed in 2011 by former UN Secretary-General Ban Ki Moon. This organization works in partnership with the United Nations and its leaders in government, the private sector, financial institutions, civil society and philanthropies to promote efforts to achieve Sustainable Development Goal 7 (SDG7). Even now they continue to work on implementing the first high-level summit on energy mandated by the General Assembly since 1981. The High-level Dialogue on Energy 2021 summit is planned to take place on June 21-25th and is planned to become annual with efforts projected to continue

until 2030. The goal of these summits are to agree on data-driven points as well as to help expand and increase efforts to establish the SDG7 Coalition of over 70 countries and an Annual Leadership Meeting attended by over 50 countries. Lastly, two UN documents that are also imperative to this topic are the Kyoto Protocol and Resolution A/62/197. The Kyoto Protocol is an international treaty which extended the 1992 United Nations Framework Convention on Climate Change that commits parties to reduce greenhouse gas emissions, based on the scientific consensus that global warming is occurring and that human-made CO₂ emissions are increasing it. Through this, countries should aim to lower their emissions to a certain target. Additionally, Resolution A/62/197 works off of the protocol as it promotes the need for economically viable and sustainable development projects which take into account regional organizations and other relevant stakeholders to increase the efficient usage of energy. The resolution also sees the need for awareness and the importance of energy and so they urge cooperation on the global scale, including through North-South and triangular cooperations. Through these two documents, it's clear that the UN has primarily focused on the implementation of renewable energy as well as helping its impact on climate change.

Case Study: Russian and Egypt

In the past, countries have bonded together to help widespread renewable energy usage. The El Dabaa Plan between Russia and Egypt is a successful example of a partnership which started in 1954. The El Dabaa site was selected for the plant in 1983 and the decision for the construction of the plant was announced in October 2007. The site was approved by the International Atomic Energy Agency (IAEA) in August 2010, but the development was halted due to the 2011 Egyptian revolution and disputes with Dabaa locals. Despite this, the Government of Egypt signed two contracts with the Russian Government for the construction and financing of the El Dabaa NPP in November 2015. Recently approved by the Egyptian Nuclear and Radiological Regulatory Authority (ENRRA) in March 2019, the site's first unit was implemented this year. The power plants consist of four pressurized water reactors (PWRs) with a total capacity of 4.38 GW which can be expected to account for 50% of Egypt's power generation capacity. Financing is heavily done by Russia who will provide 85% of the construction cost as well as providing a \$25bn loan. The loan is projected to be paid over the course of 22 years with an interest rate of 3%. Egypt's private sectors are also going to be paying for 15% of the remaining costs. Overall, this project was extremely successful and details how effective cooperation between countries and the private sectors can be. Nations should use this initiative as a precedent for future relations and implementation plans. In doing so, it will also help countries as a way to help grow their influence on a certain technology. But, delegates must be aware of what the implementation of such a new technology means socio-culturally. Delegates should be mindful of the consequences and potential resistance, as seen by the Egyptian people, when agreeing to install nuclear technology.

Bloc Positions:

Western: The Western bloc is largely known for its advancements in technology and this is no different when applied to sustainable energies. Countries such as the US and Canada report sustainable energies as becoming the fastest growing energy source with them currently sustaining about 17% of energy in both countries, the bulk coming from hydropower (7.0 percent) and wind power (6.6 percent) in the US. However, countries in this block are in less need of the implementation of sustainable energy, rather the expansion and application of them. At home, countries should work to find ways to use sustainable technology to reduce carbon emissions as part of the Kyoto protocol while also forming relations and partnership with other countries to widespread sustainable energy products.

Latin America and Caribbean: The growth of renewable energies are essential to the region of Latin America and their goals to reach economic development as well as for addressing climate change. The region as a whole already generates about 25% of their energy from renewables, largely hydropower and biofuels. Although the Covid-19 Pandemic has slowed down efforts, countries such as Brazil are still largely successful as their nation generates more than 58% of their electricity from hydro. The issue comes when you examine the gap between each country. Relatively developed countries such as Brazil are far more ahead of countries such as Venezuela. Venezuela in particular has had failures when attempting to transition into more sustainable energy sources in the years of 2005 and 2009. Project “Sembrando Luz” proved to be unsuccessful due to the lack of resources and effort given to the project. For instance, the project was only able to install 18 out of the proposed 300 hybrid systems for power generation. Countries are often separated far too greatly in this region and delegates must find ways to help the bloc grow as a unit together, not individually.

African: The African bloc faces an enormous challenge as the region has the lowest electricity generation capacity as well as the greatest electric poverty rate in the world. As of now, 630 million people live without reliable access to electricity and 790 million people solely rely on solid biomass to cook their food and heat their homes. The sun could be a major resource in African countries seeing as it has 117% more sunshine than Germany (the world’s leading solar power country), but problems have arisen from the past in such efforts. According to the NGO Oxfam, utilities have historically been poorly managed, resulting in an energy system that has nowhere to go except on expensive oil and thus creating further issues as they suffer from the volatile prices associated with these sources. As a consequence, tariffs are high and utilities are financially unsound. The region’s most successful renewable source of energy is hydropower, but delegates must be aware of how it is particularly vulnerable to climate change.

Asian-Pacific: Countries in Central Asia such as Turkmenistan and Kyrgyzstan are heavily invested in oil as an energy source. In specific, Turkmenistan’s current economy is largely dependent on it as the country’s energy is accounted for by 83% natural gases and 17% petroleum products. Delegates should be aware of what a transition means for these countries who have been largely dependent on such substances for energy and so should invite incentives and structure to either seek middle ground or help transition. On the other hand, countries in East Asia such as China are responsible for heavy pollution rates due to their unhealthy practices, yet they are still leading the world in electricity production from renewable sources. As of 2019, they had a total of 790GW of renewable power from hydroelectric, solar, and wind power. Additionally, countries like South Korea and many others are on track to having renewable

energy account for 42% of their power generation by the year of 2034. Similar to Western bloc, delegates in such regions should try to focus on the application process of these energies as well as lowering emission rates overall while forming relations overseas and partnerships to implement this technology to other countries.

Basic Solutions:

Delegates can target this issue from multiple angles. If their country's status and economy allows it to, partnerships, such as the one between Russia and Egypt (dubbed the El Dabaa Plan), can be made to help implement power in regions who cannot do nor afford it for themselves. Additionally, delegates may also focus on education and policy making, as a large factor in this issue comes from the lack of structure and guidance countries have when implementing such technology. As previously mentioned, many of these countries struggle to manage power sources as well as to keep their performances up to par. Lastly, delegates should be mindful of the multiple renewable sources that are available to them. For example, while nuclear energy wouldn't fit for all countries as some lack development and infrastructure, solar energy will benefit countries who are in the African regions more than others as they tend to receive more sunlight as a whole compared to other countries. Delegates shouldn't tunnel vision on only one source of energy, but help countries find the one that is best fit to their needs.

Questions to Consider:

1. What economic and societal barriers hold countries back when implementing new forms of energy?
2. How can countries safely transition from fossil fuels, natural gas, and other forms of energy to more renewable ones?
3. What renewable energy would best fit each country and how should they be implemented?
4. In terms of economics, how can undeveloped countries implement renewable energy affordably without falling behind their peers?
5. How can developed countries, in a cost effective manner, help other nations to implement renewable energy?
6. How can countries ensure lasting and continuing effectiveness of newly implemented renewable power sources?

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