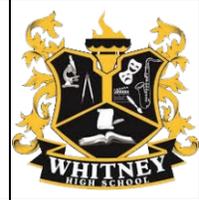


**Whitney High School Model United Nations**  
 16800 Shoemaker Avenue / Cerritos / CA / 90703 / 562-926-5566



**WHSMUN XX CONFERENCE**  
 January 29, 2022

# Novice Atomic Energy Agency [ IAEA ]

Combating Climate Change with Nuclear Energy

## Chair Introductions

### Head Chair

Hello everyone! My name is **Siddhant Watwani** and I am excited to be Head Chair of IAEA during this year's Whitney Conference. I am a Senior, and outside of MUN, I play water polo and swim, and play active roles in my school, community, and other areas. I have a passion for medicine and hope to become a Physician as well as a positively impactful leader.

### Vice Chair

Hello everyone! My name is **Jaktaiga Y Thomas**, and I am excited to be the Vice Chair for this committee! I am currently a sophomore, and this is my second year in MUN. Outside of MUN, I am a part of a Robotics club. I don't have many hobbies, and simply like to watch anime or play games. I am often intrigued by how daily objects and technology function. I hope we have a great conference!

### Legal

Hi everyone! I'm **Jacquelyn Tran** and I can't wait to be serving as your Legal for our conference! I'm a sophomore and in my second year of MUN, which has definitely been a worthwhile experience. I'm in a few other school activities such as ASB, our Dance Club, JAWS (a dragon boating team) and our Chinese cultural club; they take quite a bit of time but they make me happy! I also just enjoy reading, knitting/crocheting, napping, and rewatching disney shows. I can't wait to see everyone at WHSMUN 2022!



# BACKGROUND

On December 2, 1942, 3:25 PM Chicago, the first self-sustaining nuclear reaction in history was achieved by Enrico Fermi and his group, marking the beginning of the use of nuclear energy. Ever since, nuclear energy has been widely applied, from agriculture in eradicating harmful bacteria within the soil and crops, to medicine in detecting and treating diseases. However, this technology has been used for destructive purposes such as the Manhattan Project, established in 1939, or have caused disasters such as Chernobyl. Multiple world organizations ranging from the International Atomic Energy Agency (IAEA), to the American Nuclear Society (ANS), an international non-profit organization located in the United States, have actively worked towards making sure nuclear energy is being used for the good of humanity, promoting and maintaining safety regulations in harnessing the potentially destructive powers.

As stated by the Intergovernmental Panel on Climate Change (IPCC) and Global Climate Change, and NASA, the effects of human activities on Earth's climate to date are almost irreversible, leading to a rise in sea level, natural disasters, drought, and more. Treaties signed by the United Nations, such as the Paris Agreement in 2015 and the 2030 Agenda for Sustainable Development (SDGs), aim to limit the amount of global warming to 2°C compared to pre-industrial levels. While multiple causes are contributing to the dilemma of climate change, the main driver is the emission of greenhouse gasses from burning fossil fuels such as coal, oil, and gas. As a result, many global panels and organizations have pushed for the replacement of fossil fuels with low-carbon emitting sources of energy, including hydro, solar, geothermal, wind, and nuclear power. As stated within a report created by the IAEA, "Nuclear power [serves] as a firm source of low carbon electricity [and] is well suited to replace coal and other fossil fuels while also providing heat and hydrogen to decarbonize hard-to-abate sectors such as industry and transportation." The fact that nuclear energy might be clean source of energy is suggested by Our World in Data, where it is listed that fossil fuels such as coal create 820 tons of CO<sub>2</sub> per 1 gigawatt-hour of electricity (oil creating 720 tons), while nuclear energy creates only three. In fact, nuclear power creates the lowest amount of CO<sub>2</sub> of all renewable energies, with hydropower creating 34 tons and solar 5. Their positive stance on nuclear energy is further supported by a statement by the IAEA Director General Rafael Mariano Grossi, who states that the benefits nuclear energy and power plants bring are too high, and not implementing them in global warming countermeasures would lead to devastating results. Nations such as China and Korea have acted upon the new research and their technology to begin constructing over 21 nuclear power plants.

However, while the act shows their dedication towards solving the problem, it is important to consider the possible safety hazards and difficulties of implementing and maintaining multiple nuclear power plants at the same time. As pointed out by Liu Zhenmin, the Under Secretary General for Economic and Social Affairs (DESA), nuclear energy is often the cause of public concern. Just one accident such as the Fukushima Fukushima Daiichi nuclear disaster caused over 60% of the entire population in Japan to switch their views from neutral, or supporting nuclear power plants, to opposing and pushing to abolish it. However, it should be noted that nuclear power plants, when looking at the overall statistics, are safe. Even when accounting for the disasters caused by Chernobyl and Fukushima, they only cause 0.07 deaths per gigawatt-hour of electricity. While higher than most renewable energies, it is 1/615 of the number of casualties of Coal, and is extremely low compared to fossil fuels. Nuclear power plants are overall safe, and are an effective source of creating electricity, posing as an effective alternative to fossil fuels. While most world organizations are focusing on using nuclear power plants to counter climate change, there are multiple other methods nuclear energy can be applied. Deforestation,

another cause of global warming, could be countered using nuclear energy by applying common nuclear agriculture techniques such as using Cobalt 60, a radioactive substance, to kill germs and harmful funguses within the soil, supporting the growth of trees. While not as effective nor efficient as nuclear power plants, it is necessary to consider the different solutions available and implement them swiftly across the globe.



## UN Involvement/Possible Solutions

Within the United Nations system lies the International Atomic Energy Agency (IAEA), which extends its services to achieve peaceful use of nuclear energy and provide assistance to member states. The main goal of the IAEA is to facilitate the contribution of nuclear energy towards peace. The IAEA utilizes the Technical Cooperation (TC) Programme, which provides nuclear technology to member states, and Coordinated Research Projects to address the role of nuclear energy in different fields, including climate change. The IAEA has also released a few reports such as Climate Change and Nuclear Power 2020 to provide the current states of nuclear power and its contributions to limiting climate change.

Additionally, the IAEA organized the 2019 International Conference on Climate Change and the Role of Nuclear Power with the intention of creating discussion on the role of nuclear power in combating climate change. Attending nations were encouraged to exchange information in terms of the opportunities and challenges of utilizing nuclear technology to achieve climate change goals through amending energy policies and international cooperation. The conference had a focus on long and short term contributions of nuclear energy while also considering the Paris Agreement and Sustainable Development Goal 7 (Ensure access to affordable, reliable, sustainable and modern energy for all) and Sustainable Development Goal 13 (Take urgent action to combat climate change and its impacts).

Recently, the IAEA has released a report on Nuclear Energy for a Net Zero World ahead of the UN Climate Change Conference (COP26) to heighten the chances of nuclear energy being part of policy discussions. Throughout the report, the importance of investing in nuclear power was emphasized in mitigating the climate crisis and in circulating economic prosperity. It also recommended a series of actions to be taken to expand on the different uses of nuclear energy. The United Nations Economic Commission for Europe (UNECE) has also voiced their support of using nuclear power to combat and limit the worsening effects of climate change trends. The document warned that the use of nuclear energy to quell issues of climate change is far more important than the risks that it may bring. As the priority of addressing climate change escalates, the IAEA and the International Energy Agency have also prevented the closure of nuclear plants, stepping in on nations that view nuclear power as too risky.

Overall, the IAEA is the backbone of many of the United Nations' initiatives and efforts regarding nuclear power and climate change. The 26th UN Climate Change Conference of the Parties (COP26) is a main discussion to look forward to in furthering the use of nuclear energy to mitigate the increasingly worrying trends of the climate crisis.



# Bloc Positions

## Asia-Pacific Bloc

This region is an area of significant growth of energy generation power and nuclear energy. There are many existing operable nuclear reactors, many in construction, many planned to be built, and many being proposed. China is leading. However, there has been little action shown in harnessing this power into climate change.

## African Bloc

A growing number of African countries are pushing for a switch to clean energy via nuclear power. Africa, however, is lagging a little behind in their execution and actions. There is only one commercial nuclear power plant in Africa, even though a third of the world's nations that are considering nuclear power are located within Africa. There is not much talk of harnessing nuclear power towards climate change as of yet.

## European Bloc

Many nations of the European continent are actively debating whether or not to embrace nuclear energy, and they don't hold a substantive stance at present. According to CNBC, a trusted source, "Some EU members, notably France, which have big investments in nuclear and are wary of using gas from Russia see the energy resource as a viable option. Other nations, including Germany, believe it is time to move away from it and are worried about nuclear waste." The EU decision will determine its stance as a leader in the global fight against climate change.

## Latin American and Caribbean Bloc

This region is invested in clean energy to combat climate change. They are making a profound effort



# Questions To Consider

1. In what other methods can nuclear energy be used to counter climate change other than generating electricity and replacing fossil fuels?
2. How can countries help each other, including ones that may not have the resources to build and/or to maintain nuclear energy in counter climate change?
3. Is it possible for your country to resolve the misunderstanding some of the general public has on nuclear energy?
4. What regulations are necessary for promoting safe and sustainable use of nuclear energy across the globe? How long are each solution supposed to last?
5. Consider the effects the shift in fossil fuels and other energy sources to nuclear energy has on citizens across the globe.
6. What actions have already been taken for the shift in energy sources? What could be done to improve the efficiency and safety of such acts?



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