

TOYO MODEL UNITED NATIONS
INTERNATIONAL ATOMIC
ENERGY AGENCY
(IAEA)
Background Guide

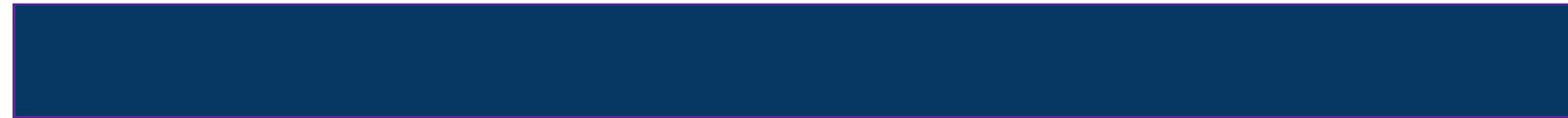


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Opening Remarks

Welcome to the International Atomic Energy Agency (IAEA) of the 3rd annual Toyo Model United Nations (Toyo MUN) 2022. It will be our greatest pleasure to serve as the Board of Dais for this committee, and we look forward to meeting delegates who seek to challenge themselves to their fullest and demonstrate passion in taking on the responsibility of debating pertinent world issues.

IAEA remains a unique committee for many MUNs as it is not often tackled and it's relatively new to several MUN communities in Asia. It is a staple committee and a venue of discussion in ensuring that nuclear materials are not misused and be used for a greater purpose other than warfare. This makes our committee topic "*Addressing the Fukushima Wastewater Issue*" all the more important as it delves into the discussion on the environment and the practicality concerning nuclear waste. Currently, the Japanese government is facing criticism for how it plans on handling more than a million tons of wastewater from the nuclear power plant, Fukushima, crippled nuclear reactors.

As much as MUN is an academic sport, it also serves as a platform for intellectual stimulation and progress. As your Board of Dais, we have experienced how transformative MUN can be, so we want all of you to be able to experience it in ToyoMUN. For those of you who are new to MUN, the first speech is always the hardest. Do not let your doubts consume you, but instead take ToyoMUN as an opportunity to learn. Believe that the things you have to say are as important as the other delegates'. As for those of you who are currently building your MUN resume, remember to always bring something home from your conferences: friendships, self-awareness, substantive feedback, fun memories, etc. Do not let awards be your sole motivation. Be someone you can look back fondly and say, 'I'm glad I had this delegate in my committee'. Speak up, take action, and good luck!

Sincerely Yours,

IAEA Board of Dais, Toyo MUN 2022

Chairs

Nikolas Banzuela

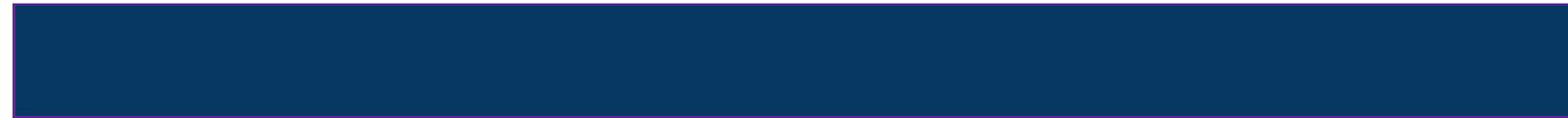
Nikolas is a MUNer hailing from the Philippines. Having started his MUN career in 2016, he has actively engaged in MUNs in the Philippines and abroad. Having amassed over 100+ conferences, he was able to experience being a delegate, dais, and organiser. It not only opened his mind to the world of international relations but also gave him the possibility to connect with different people from various nationalities while enhancing his skills in critical thinking and public speaking. Currently, his MUN career has turned more professional by becoming a mentor and trainer for various school delegations and individual delegates where he could pass on his acquired knowledge and hone the skills of the next generation of delegates.

Outside of the MUN circuit, he has worked in non-governmental organisations dedicated to agriculture as a researcher, where he organised conferences and went to fieldwork in various rural areas of the Philippines, where he learned different alternative farming methods, the plight of the farmers, and their rights, and the current state of farming in developing nations.

Andreas Ken Hananto Seto

Hailing from Indonesia, Ken is currently a second-year student at the Discovery Program for Global Learners at Okayama University. With an MUN career dating back to 2016, Ken is fortunate to have experienced conferences around the world both as a delegate and a chair. Although the majority of Ken's MUN experience revolves around security-oriented topics, he is happy to address other relevant problems around the world, including the current topic regarding the Fukushima wastewater issue.

Similar to Nikolas, this will be the third time that Ken is returning to Toyo MUN, having been a delegate in its first iteration and a chair in its second. Outside of MUN, Ken is also an intern at the ASEAN University Network (AUN) Secretariat, where he assists the core team in projects related to enhancing collaboration efforts between ASEAN universities and its partners. In his free time, Ken enjoys indulging in culinary adventures, and you can expect to see him with an iced coffee by his side during the conference.



Committee Introduction

General Summary

With the purpose of having an independent body to discuss nuclear energy, the International Atomic Energy Agency (IAEA) is an independent intergovernmental body within the UN in response to the possible threats associated with nuclear energy to the international community. Presently, the IAEA has a goal for peacebuilding through improving the use of atomic energy and ensuring the IAEA does not assist in having atomic energy used for military purposes.

Brief History and Mandates

The agency was created by representatives from over 80 Member States in 1956. Activities within its mandate include extensive research on atomic energy and applying the research and assessing its uses in the fields of agriculture, water resources, medicine, and heavy industry. Moreover, the organization can have training programs, establish conferences for discussions, and academic publications on technical skills and information. Furthermore, Member States that are middle-low income members of the IAEA are offered technical assistance, while setting administration as a protective measure to safeguard from radiation. The origins of IAEA's many safeguard mandates stems from the Treaty on Non-Proliferation of Nuclear Weapons (1968), which have parties to negotiate safeguard agreements with the IAEA, thus giving the organization jurisdiction to monitor and inspect nuclear facilities and their programs, such as the nuclear power plants in the US, Germany, and Japan.

Structure and Governance

Currently, there are 173 countries that are considered members of the IAEA. Any country that is a member of the United Nations (UN) can join the IAEA as long as they ratify its Statute. There is a General Conference, where the members annually approve the budget and debate on policies. Concurrently, the General Conference is where the New Director-General is in charge of overseeing all activities of the IAEA. Furthermore, there are at least five meetings where the

IAEA's Board of Governors convene where they are tasked with carrying out the statutory functions and approving the safeguard agreements between the IAEA and a Member State.



(Establishment of IAEA in Vienna, Austria)

Conclusion

The IAEA's main objective is for the progressive and peaceful use of nuclear materials. Despite its many efforts to promote atomic energy as a means of peacebuilding, the organization has difficult challenges of advancing nuclear technology and disseminating updated information that is both efficient and sustainable to any Member State, while avoiding the development and manufacturing of nuclear weapons that harms the international community. IAEA's operations remain crucial in setting standards for safety against nuclear threats and guaranteeing the protection of the environment and human health.

Key Definitions

Term	Definition
Atomic Energy	A kind of energy that is derived from the nuclear (fusion or fission) of atoms
Green House Gases	Gasses that has the property of absorbing infrared radiation emitted from Earth's surface and redirecting it back to the said surface, thus contributing to climate change
Nuclear Energy	A kind of energy that is released from the nucleus, the core of atoms, made of protons and neutrons. This energy is harnessed from around the world to produce electricity through nuclear fission.
Nuclear Fission	A reaction where a nucleus of an atom splits into two or smaller nuclei while releasing energy.
Nuclear Power Plant	A thermal power plant in which a nuclear reactor generates large amounts of heat for energy. The heat created is used to generate steam which drives a steam turbine connected to a generator that produces electricity.
Nuclear Reactor	They are the heart of nuclear power plants. They control nuclear chain reactions that produce heat through a process called fission. The said heat generated is used to make steam that spins a turbine to create electricity.
Tritium	Is an Isotope that is classified as radioactive. It has one proton and two neutrons in its nucleus and has at least three times the mass of ordinary hydrogen.
Wastewater	Used water has been affected by commercial, domestic, and industrial use. The composition of said water is constantly changing and highly variable, which can be from benign to at least

Term	Definition
	become dangerous at most when exposed to living organisms.



Topic Introduction

Brief History of Japan and Nuclear Energy

During the climax of World War II (WWII), Japan suffered devastating effects of nuclear weapons from the Allied Nations. Two atomic bombs were dropped in the cities of Hiroshima and Nagasaki, where an estimated 200,000 Japanese civilians were killed from the blast. In the following years, many survivors would later face leukemia, cancer, and other side effects from radioactive poisoning in the later years after the bombings.

Despite Japan being the only country to suffer the harmful effects of nuclear bombings in wartime, the country took initiative and embraced nuclear technology as a major source of electricity. As the country recovered from WWII, it rapidly expanded its energy industry. It was initially more dependent on fossil fuels, particularly from the Middle East, which led the country vulnerable to price hikes when the 1973 Oil Crisis happened, when the Organization of Arab Petroleum Exporting Countries (OAPEC) proclaimed an oil embargo on nations that supported Israel during the Yom Kippur War. Retroactively, Japan started growing its nuclear industry, with five operating nuclear reactors. Moreover, re-evaluation of the country's domestic energy policy led to diversification and major nuclear construction programs. The energy sector made it a high priority in reducing Japan's dependence on oil imports and gaining as many benefits from uranium imports. Subsequently, Japan's energy policy in the 2000s was mainly on continuing to have nuclear power as a major element of production for electricity, developing fast breeder reactors to improve the efficiency of uranium utilization, and promoting nuclear energy to the public with an emphasis on safety and non-proliferation. In 2002, to be in line with the guidelines set by the *Kyoto Protocol* that the country ratified, Japan's government announced that it would rely on nuclear energy to achieve greenhouse gas (GHG) emission reduction. In early 2011, nuclear energy accounted for almost 30% of the country's electricity production, with further plans to raise the total energy production to be 50% by 2030.

Fukushima Nuclear Power Plant Accident

A major earthquake happened that triggered a tsunami that killed over 19,000 people and triggered the Fukushima nuclear accident. The accident occurred within the Fukushima Nuclear Power Plant, where a 15-meter tsunami disabled the power supply and cooling of three of the Power Plant's reactors, thus resulting in a nuclear accident. The accident released high levels of radiation for over four days. For over two weeks, the three reactors were stable with water addition, thus the cooling process was a success. Concurrently, the Japanese government had a task to prevent the release of radioactive materials, particularly contaminated water that was leaked from the three reactors. At the end of the incident, there have been no deaths or cases of radiation poisoning after the nuclear accident, but it led to over 100,000 civilians being evacuated from their homes as a preventative measure.



(Fukushima Disaster in a Birds Eye View)

After the Fukushima nuclear accident, public sentiment shifted against the government, where protests for nuclear power to be abandoned. The balance between populist sentiment and the continuation of affordable and sustainable energy is being mitigated politically within the country, as it still aims for reliance on nuclear energy and increasing its production by 2030.

Fukushima Wastewater

In 2021, Japan has announced that it plans to release 1.25 tons of wastewater, that were contaminated during the Fukushima Nuclear Accident, into the Pacific Ocean. Japan's government rationalizes that it is the best method to deal with the tritium and trace amounts and radionuclides in the water. Moreover, the current Japanese Prime Minister states that Japan will do its best to keep the water far above safety standards. Complementing the initiative, industry groups and nuclear scientists sided with the government's plan of action as other nuclear power plants disposed of their wastewater this way with minimal impacts to health and the environment. Experts from

the government's advisory committee have stated that dumping wastewater into the ocean was the only practical option in disposing of the water as there have been preceding practices. Nuclear power plants from all over the world have regularly dumped wastewater containing tritium into the environment and it was done in closely monitored and controlled conditions. Governments are confident that vaporization will help take care of the contaminated water released such as wastewater from the Three Mile Island Nuclear Generating Station Incident in 1979. Furthermore, the IAEA itself has stated that the disposal options set by Japan are technically feasible and in line with international practices.

The Debate on the Wastewater

Despite scientists backing Japan's disposal method stating that the water will be treated and diluted so radiation levels are below set for drinking water and the United States (US) voicing its support as the Biden administration sees it as, within international standards, the local fishing industry remains strongly opposed to the move. Concurrently, environmental groups such as Greenpeace have expressed their opposition to releasing the wastewater into the ocean and even stated that such an act is an example of the Japanese government had once again failed the people of Fukushima as the incident in 2011 had countries banning the import of seas food that was caught off Japan's north-eastern coast, thus affecting the micro-industries near Fukushima.

Many countries share a sea border with Japan. Member States such as China, South Korea, and even Russia have a variety of objections and concerns due to the ecological and human risks at stake when the wastewater is dumped, as the seawater may contain radioactive tritium. Furthermore, a variety of treaties, agreements, and conventions in regards to both nuclear energy and the environmental protection of people are relevant to the discharge of wastewater in Fukushima.

The *Resolution on Pollution of the High Seas by Radioactive Materials* was adopted by the United Nations Conference on the Law of Sea. The resolution recommended that the IAEA, in consultation with existing working groups and established organs should pursue whatever studies and take any action deemed necessary to assist the Member States in controlling the release of

radioactive materials to the sea, while promoting new standards and drawing up regulations to prevent pollution of the sea that would have adverse effects on both people and marine resources. Subsequently, the *United Nations Convention on the Law of the Seas (UNCLOS)* stipulates that the ocean is a common heritage for people of the global community. In pursuant of *Article 192*, all Member States have the obligation to protect and preserve the marine environment, which is supplemented by *Article 195* that specifies that countries must not transfer, either directly or indirectly, damage or hazards from one area to another, or transform one type of pollution to another.

In line with what was stipulated by the UNCLOS, Germany's Geomar Helmholtz Center for Ocean Research made calculations predicting that once the wastewater from Fukushima Nuclear Power Plant is released, the radioactive material will spread to most of the Pacific Ocean's marine life and ecology within a less than a period of two months. Subsequently, China, SouthKorea, and Russia warned that imports of Japanese agricultural and seafood products could be restricted and that consumer confidence in purchasing goods would decline. Furthermore, South Korea has threatened to take action by taking the issue to the international judicial tribunals for review. Currently, the method on how the dispute would be resolved pursuant to either the International Court of Justice or one of the other Conventions remains to be seen.

Conclusion

It is important to note that the Fukushima nuclear wastewater should be given priority to alternatives that can have a lesser impact on the marine environment. The precautionary principle of the UNCLOS is the first principle of environmental law. Pollution avoidance is superior to pollution reduction. Avoiding the discharge of the Fukushima wastewater should be superior to behaviors that comply with certain standards, but can still cause damage to the environment. It is recommended that nuclear and marine experts from different Member States bordering the Pacific further evaluate the wastewater. Furthermore, the discharge of the Fukushima nuclear wastewater is unprecedentedly huge, and the half-life of some radioactive elements can imply they will continue to pose a threat to marine life and its ecosystem for decades as the said materials were never inherently safe at the start.

The global environment is beyond Japan's territorial waters, and any unilateral decision made by the Japanese government to discharge the wastewater that could materially harm the marine environment far beyond non-Japanese waters. The challenge of discussion would be on which Member State should take responsibility and duties that need to be carried out to fulfill international commitments and treaties.

Timeline of Events

Date	Short Description
March 11, 2011	Following the Tōhoku earthquake and tsunami, three reactor cores of the Fukushima Daiichi nuclear power plant exploded, resulting in the greatest nuclear disaster in history since Chernobyl.
April 5, 2011	Tokyo Electric Power Company (TEPCO) discharged 11,500 tons of low-level radioactive water (100 times above the legal limit) into the Pacific Ocean to free storage capacity for more highly contaminated water.
March 30, 2013	TEPCO announced the initiation of a water decontamination operation using an advanced liquid processing system (ALPS) to remove over 60 radioactive chemicals, although it cannot remove tritium (an isotope of hydrogen).
January 15, 2015	Japan officially joins the Convention on Supplementary Compensation for Nuclear Damage, which addresses liability instruments related to damage caused by nuclear accidents.
April 13, 2021	The Suga Cabinet unanimously voted to approve a plan to dump the stored wastewater in Fukushima to the Pacific Ocean over a course of 30 years.
April 13, 2021	South Korea, China, and Taiwan releases separate statements expressing disapproval over Japan's decision, while the United States expressed its support over Japan's move.
April 14, 2021	South Korean President Moon Jae-in ordered officials to consider plans to bring the case

	into the International Tribunal for the Law of the Sea.
April 14, 2021	The Pacific Islands Forum (PIF) released a statement expressing deep concern over Japan's decision and urged Japan to reconsider their plan.
February 4, 2022	China and Russia released a joint statement expressing concerns about the environmental impacts of the Fukushima wastewater and urged transparency from Japan over the process.

Past Actions

Vienna Convention on Civil Liability for Nuclear Damage

A 1963 treaty under the auspices of the IAEA, the Vienna Convention on Civil Liability for Nuclear Damage describes the legal liabilities faced by nuclear operators in the event of nuclear damage, along with establishing minimum standards on financial protection relating to damages from the peaceful application of nuclear energy.

Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter

Drafted at the 1972 Intergovernmental Conference on the Convention on the Dumping of Wastes at Sea in London, the Convention addresses the disposal of wastes at sea, including hazardous materials that may threaten human health. However, the Convention does not cover land-based discharges.

Treaty of Rarotonga

Signed in 1985 by the eleven Pacific Island countries in the Southern Hemisphere along with Australia and New Zealand, the Treaty of Rarotonga bans the manufacture, possession, stationing, and testing of any nuclear explosive device in Treaty territories, as well as banning the dumping of radioactive waste in the sea.

Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency

Adopted in 1986 as a direct response to the Chernobyl disaster, the Convention provided a framework for cooperation among states in the event of a nuclear accident, with state parties agreeing to provide assistance at request.

Convention on Nuclear Safety

A 1994 IAEA treaty that pertains to the safety rules of nuclear power plants located in state parties to the Convention, the treaty aims to promote an effective nuclear safety culture and commitment

to fundamental safety principles on nuclear installations. The Convention has 78 state parties to date, including Japan.

Convention on Supplementary Compensation for Nuclear Damage

Adopted in 1997 to establish a global nuclear liability regime and to increase the number of compensation made available in the event of a global nuclear accident, the Convention entered into force in 2015 when Japan ratified the Convention and fulfilled the threshold of having at least five ratifying States with a minimum of 400 000 units of installed nuclear capacity.

Areas of Debate

Stakeholder Involvement

Although Japan has continuously worked together with the IAEA on issues pertaining to nuclear fallout from the Fukushima disaster, neighboring countries such as South Korea and China has insisted that this is not enough and that other countries should also have a say in matters related to the dumping of the Fukushima wastewater. Noting that the Pacific Ocean is considered international waters, countries opposed to the dumping of nuclear wastewater into the ocean have argued that Japan's actions are unilateral and not done in consultation with the rest of the international community. Despite Japan insisting that the process has followed international safety standards and endorsed by the IAEA, the optics of having nuclear wastewater dumped into the Pacific Ocean can also negatively impact the fishing community, with consumers less likely to purchase fish coming from the Pacific Ocean regardless of its actual safety. Furthermore, the discharge of radionuclides such as strontium-90 and carbon-14 that is in the Fukushima nuclear wastewater also remains a controversial point, although Japan has also insisted that the levels of radioactive exposure from the Fukushima wastewater is not dangerous to human health and even has lower radiation levels found in drinking water.

Alternative Disposal Methods

The Japanese government has assessed various alternatives to disposal by sea, including the possibility of building more tanks to accommodate the nuclear wastewater. However, Japan has run out of space around the Fukushima area to accommodate more tanks, with the likelihood of establishing more facilities in nearby land bringing negative domestic repercussions from residents who do not want to live close to nuclear facilities ("Not in My Backyard" phenomenon). Another feasible alternative considered by the Japanese government was vapour release, which involved the evaporation processing of the nuclear wastewater, with vapour containing tritium then sent to evaporation equipment to be released from an exhaust pipe into the atmosphere as a high-temperature vapour. Other options include hydrogen release, which would reduce the water to hydrogen by means of electrolysis before being released into the atmosphere, along with underground burial, where the nuclear wastewater will be solidified with a cement-based agent and buried. However, each of these alternatives come with their own challenges, and the Japanese government has rejected these alternatives before.

International Law

Under Article 25 of the United Nations Convention on the Law of the Sea (UNCLOS), which stated that every country “shall take measures to prevent pollution of the seas from the dumping of radioactive waste, taking into account any standards and regulations which may be formulated by the competent international organizations”, countries opposed to the Fukushima wastewater dumping has argued that Japan has not fulfilled this obligation under International Law. Japan, on the other hand, can point out the endorsement from the IAEA as proof that it has taken all the necessary measures to ensure that its decisions are in-line with expert opinion and that it has not violated any laws in doing so. Although the IAEA does not have the mandate to change International Law decisions in its resolutions, delegates are nevertheless still encouraged to explore this perspective when debating on the issue.

Major Bloc Positions

Japan, the United States, and the IAEA

The Japanese government has been adamant that the decision to release Fukushima wastewater into the Pacific Ocean has been transparent and scientifically based. Japan has worked together with the IAEA throughout the process and has argued that the radiation in the treated wastewater would be very low while downplaying the dangers of tritium (which was unable to be removed in the treatment process). The IAEA and the United States have generally been supportive of Japan's decision, with the IAEA having provided technical assistance to Japan in terms of radiation monitoring, remediation, and other activities related to the handling of the Fukushima aftermath. Japan has also insisted that the disposal of treated wastewater is unavoidable due to storage capacity issues, and that disposal into the sea is the most realistic method to do so.

China, South Korea, and Russia

As direct neighbors of Japan, the three countries have expressed the highest levels of disapproval among other countries towards Japan's decision to release Fukushima wastewater into the Pacific Ocean. China has argued that the disposal of nuclear-contaminated water is incomparable to the discharge of wastewater from a regular nuclear plant, with the latter being a common procedure around the world. The three countries, which have historically had complicated relationships with Japan, have intensified their objections towards Japan's plan, pointing out that Japan's decision was largely made without consulting neighboring countries and the broader international community.

Pacific Islands Forum Member States

With most members of the Pacific Islands Forum being a party to the Treaty of Rarotonga, which aims to ensure that the South Pacific is a nuclear-free zone, the Pacific Islands Forum has expressed strong objections to Japan's plan to release Fukushima wastewater into the Pacific Ocean. With the population in Pacific Islands Forum countries heavily depending on marine resources for sustenance and economic activity, concerns about the long-term consequences of the wastewater have shaped their stances towards the issue. With a history of nuclear testing in the region by major powers such as the United States and France, nuclear-related issues remain a very sensitive topic among the members of the Pacific Islands Forum.

European Union

The position of the European Union has been split between countries that are supportive of nuclear energy and the ones that are against it. Countries such as France, Poland, Hungary, and the Czech Republic have embraced nuclear energy initiatives in the EU, while Germany, Luxembourg, Portugal, Denmark, and Austria have made statements in opposition to plans to classify nuclear energy as climate-friendly. While this does not necessarily indicate their positions on the Fukushima nuclear wastewater issue, nuclear-friendly countries are more likely to be sympathetic to Japan's efforts in regards to the issue, noting that the possibility of another event like Fukushima might happen in the near future.

Questions a Resolution Must Answer

(QARMAS)

1. How can the Member States provide a safe area or alternative for Fukushima to dump their wastewater that does not interfere with its state sovereignty?
2. Does Japan still need to continue generating nuclear energy for its electricity production?
3. Has Japan's efforts pertaining to the Fukushima nuclear wastewater been sufficient?
4. Can the wastewater be purified or be utilized somewhere else?
5. How can communities near the wastewater dumping location be able to prepare for possible environmental hazards?
6. What international bodies can be tapped to help mitigate the environmental disputes?

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