International Atomic Energy Agency

Research Report

TISPCMUNC 2025

Prepared by Teah Yang & Avy Cheong

Dais Introduction:

Head Chair :
Hai everyone ! My name is Teah Yang and I'll be your head chair for the upcoming three days conference. I started my MUN journey since 2023 in EIMUN, a MUN conference held in Nepal. Throughout the 3 years journey, I've gained a lot of skills and knowledge from MUN. I hope it goes the same for all of you too.

I hope all of us could enjoy all three days of the conference.

Co Chair :

Hello everyone ! My name is Avy, some of you might also know me as JingYuan, and I will be co-chairing this council. I've been doing MUN since late 2023 and has barely stopped ever since, it was something that was terrifying to me at first but later on turned into a fuel of passion that has yet to stop burning inside of me. From conventionals to crisis and later on to specialised councils, the dynamics I have seen in each and every council room sparks a new field of interest and excitement within me, and I hope that you would somehow find that in yourself too. Fun fact ! I have joined MUN in 3 different countries ; Malaysia, Thailand and Singapore. Each MUN speaks a different story to me and it certainly does allow me to share my thoughts and creativity with the people around me.

I sincerely hope that all of you will be excited and of course have fun with us for the three upcoming days of IAEA, and with that, I hope to see you and your smiles soon in the council.

Yours sincerely,
Avy C. (Co-chair)

Council Introduction:

The International Atomic Energy Agency (IAEA) is a critical international organization with a multifaceted mission aimed at promoting the peaceful use of nuclear energy while preventing its misuse for military purposes. Established in 1957 as an autonomous agency within the United Nations system, the IAEA operates independently under its own founding treaty but remains accountable to both the United Nations General Assembly and the Security Council. Headquartered in Vienna, Austria, the agency emerged in response to growing international concerns surrounding the proliferation of nuclear weapons, particularly in a time of heightened tensions between the world's foremost nuclear powers, the United States and the Soviet Union.

The IAEA's three primary missions encompass
1. **Peaceful Uses**: The agency seeks to accelerate and expand the contributions of atomic energy to global peace, health, and prosperity. It aims to ensure that the assistance it provides or oversees is exclusively used for peaceful purposes. Within this mission, the IAEA encourages research and development, secures and provides materials, services, equipment, and facilities for its member states, and fosters the exchange of scientific and technical information and training.

2. **Safeguards**: A core responsibility of the IAEA is to implement safeguards that verify the non-military use of nuclear energy. This entails monitoring nuclear programs and inspecting nuclear facilities to ensure compliance with the Non-Proliferation Treaty (NPT). These safeguards play a vital role in preventing the diversion of nuclear resources for military purposes, thereby contributing to global non-proliferation efforts.

3. **Nuclear Safety**: The IAEA prioritizes nuclear safety as one of its top three missions. The agency allocates a significant portion of its budget to enhance the safety and security of nuclear facilities and to prevent accidents. This emphasis on safety is a response to significant nuclear incidents, such as the Chernobyl disaster in 1986 and the Fukushima disaster in 2011, which underscored the need for rigorous safety standards and practices.

Position Paper Submission Guidelines

The submission of position paper is **Mandatory** to be eligible for any awards.

Format:

1. Position Paper should be named as follow:

   TISPCMUN25_PP_IAEA_[Full Name of Country]_[Delegate's Full Name]
   E.g. TISPCMUN25_PP_IAEA_United States of America_Teah Yang
2. Position Paper should be written in **Times New Roman, font size 12, 1.5 line spacing** and **justified format**.
3. The usage of bold, underline, and italics is permitted.
4. Any referenced sources should be added to a bibliography at the end of the position paper, following the 7th Edition APA Style in-text citations and bibliography.
5. The position paper should not exceed two [4] pages for both topics, excluding the bibliography.
6. Position paper for both topics must be written together in one document only.

Deadlines and Extensions:

1. Delegates are require to submit their Position Paper **not later than** 3rd July 2025, 11:59 p.m.
2. Requests for extensions will only be given at the discretion of the chairs on a case by case basis
3. Position paper from delegates who did not request for extension prior to the deadline and haven gotten approval by the dais, will NOT be entertained.
4. Failure in submitting your position paper by the stated (or extended) deadline may result in a heavy penalty on the final score and/or removal of eligibility for awards.
5. Submissions must be made through the submission box link provided by the Secretariat here: [link]

Any queries should be made via Discord (tag us in #radioactive-rumors) to both the Head Chair and Co-Chair.

Agenda A: Promoting the Usage of Nuclear Energy for Sustainable Development

Key Definitions :

1. Nuclear Energy - The energy released from the nucleus of atoms through nuclear reaction.

2. Sustainable Development - Meeting present needs without compromising future generations.

3. Baseload Power - A consisted, uninterrupted electric supply to meet minimum demand.

4. Radioactive Waste - Byproducts from nuclear fission.

5. Carbon Neutriality - Acheiving net-zero CO2 emissions by balancing emissions with removal.

6. Energy Security - A nation's ability to meet energy demand reliably and affordably, reducing dependence on imported fossil fuels.

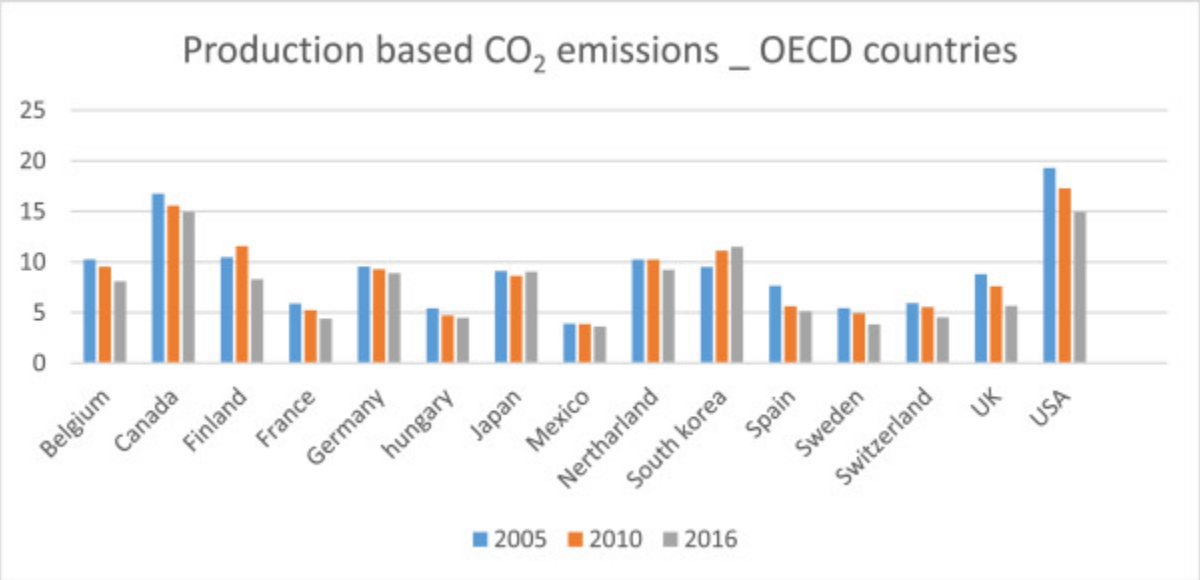
7. Levelised Cost of Energy (LCOE) - The average cost to generate electricity over a plant's lifetime.

Introduction to the Agenda :

In the midst of climate change and a growing energy demand globally, our world is in urgent need of clean, reliable and scalable energy solutions. Nuclear power, which is often perceived as a product of misunderstanding is uniquely capable of providing large-scale, low carbon electricity, it is presented as a critical opportunity to achieve sustainable development.

Unlike fossil fuels, nuclear energy emits no greenhouse gas, virtually, when operating. This makes it essential for achieving or meeting the requirements of the net-zero emissions target under the Paris Agreement, furthermore, the ability it has to deliver 24/7 baseload power complements intermittent renewables such as solar and wind, this ensures grid stability and energy security.

However, this particular form of energy face more challenges than any other type of energy. High upfront costs, radioactive waste management, and public skeptism all contribute to the unlikelyhood of implementation. Countries like France, Sweden, and China have demonstrated nuclear power's potential to decarbonize economies, while emerging nations like India and the UAE are expanding their nuclear programs to support sustainable growth.

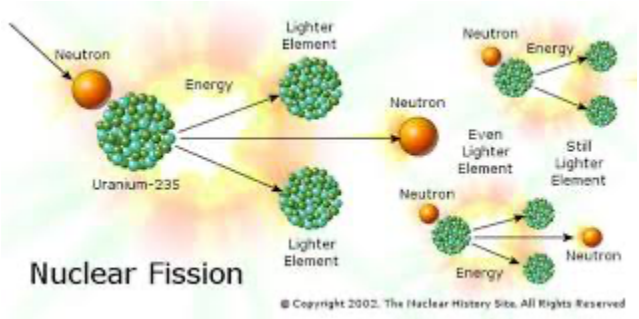


With the understanding of how the implementation of nuclear energy costs are high, countries produce reactors such as Small Modular Reactors (SMR),Generation IV reactors, and even fusion energy to assist on the matter itself. This allows a more affordable and supportable initiative to fuel the possibility of implementation as well as allowing countries to meet the net-zero emission goal.

Background of the Agenda :

The origins of nuclear energy can be traced back to the early 1940s, when nuclear reactors and atomic bombs were first discovered and invented, a great example would be the Manhattan Project from (1942-1946).

After World War II, scientists recognised the potential of nuclear fission for peaceful purposes by providing reliable and clean energy. This alleviates energy poverty by reducing reliance on conflict prone energy sources.



Breakdown of the Timeline : (1940 - 2000 ; present)

1942 - 1946 : Manhattan Project

1951 : The Experimental Breeder Reactor I (EBR-I) located in Idaho USA became the first reactor to generate electricity. It was a fully functioning and operating reactor until it was later shut down in 1964.

1954 : The Obninsk Nuclear Power Plant launched by the USSR was the first civilian nuclear power station connected to an electrical grid, it remained in operation between 1954-2002.

1957 : Establishment of the IAEA (International Atomic Energy Agency)

1960s : Three countries invested heavily on nuclear powers, these countries were the United States, The United Kingdom and The French Republic. This later on led to an adoption of a state-led nuclear programe to reduce oil dependency.

1970s : Environmental concerns drastically emerged and its focuses were mainly over coal pollution and energy security, in which led to nuclear adoption. (Nuclear Non-proliferation Treaty - NPTs)

1979 : The Three Mile Island in USA had a meltdown, although partial, it still raised severe concerns to the public and many people were unkeen of the idea and the usage of nuclear energy.

1986 : Cherynobyl, one of the worst and most dangerous disasters that ever happened in history. It is still undergoing decommission until today, but this disaster from the USSR led to the widespread of public fear and even stricter regulations to be implemented.

1990s : Competition arose, higher costs and increasing public opposition stalled new reactor constructions in the West. This meant that people were getting less and less supportive of the idea of using nuclear energy and would rather spend the same amount of money on safer alternatives and products.

2000s : As our climate began to worsen year by year, the public turned its attention back on to a more environmentally greener alternative, nuclear energy. The Intergovernmental Panel on Climate Change (IPCC) and the IAEA both highlighted the nuclear's ability and possibilities to reduce CO2 emissions.

2011 : Japan's Fukushima Disaster led to an advancement in reactor designs, safety measures were reviewed and improved, and people began to slowly accept the benefits of using nuclear energy

Questions a Resolution Must Answer (QARMAs)

1. What advancements in nuclear technology can help in addressing safety concerns?
2. What policies should governments implement to encourage the adoption of nuclear energy?
3. How can governments and organizations improve public perception and acceptance of nuclear energy?
4. What are the main barriers to expanding nuclear energy usage worldwide?
5. How can nuclear waste be managed sustainably to minimize environmental impact?
6. What role can nuclear energy play in achieving net-zero emissions by 2050?

Agenda B: Upholding Public Communication and Engagement on Nuclear Issues

Key Definition

Terms	Definitions
Nuclear Energy	An energy that is released from nucleus when they split (fission)) or fuse (fusion) together.
Professional	A person that has expertise and related knowledge.
Treated Nuclear Wastewater	Water that has undergone processes to remove or reduced radioactive substances.
Malevolent Person	Someone with bad intentions.

Introduction to Agenda

"Effective communication with the public in a nuclear or radiological emergency is considered one of the most important aspects of emergency management as it helps to mitigate risk, support the implementation of protective actions and contribute to minimizing fear."

Perceived danger, threats, and uncertainty are the roots of fear. It's human nature to be afraid of something that they are not familiar with. Especially when it comes to something that threatens their health and life. Hence, it's really important to develop an effective and workable way of communication to educate and calm the public when it comes to nuclear- or radiology- related matters.

Background of the Agenda

It's crucial to uphold public communication and engagement on nuclear issues, as this will reduce the risk, cost, and uncertain factors when parties are implementing policy and measures on emergencies. Although there are numerous initiatives and programs underway to educate and share knowledge about nuclear energy, there is still a cognitive gap between the public and the professionals.

To ensure the communication plan is effective, IAEA has suggested a few criteria, including having a contact list of involved institutions and responsible people, a well-trained spokesperson, and a set of procedures or instructions for the coordination of internal and external. Besides that, the plan should be tested, evaluated and adjusted based on the feedback regularly.

Case Study: Japan, Fukushima Daiichi Nuclear Power Plant Released Treated Wastewater
In August 2023, Japan announced a staggering news to the world. Saying that they start releasing more than 1 million metric tons of treated nuclear wastewater into the Pacific Ocean on 24 August 2024. China and Korea immediately raised their concerns and voices against this action. Despite the fact Japan and the IAEA have justified the release of wastewater is safe and would not harm the environment or agriculture, China and Korea still published statements that they will ban seafood imported from Japan. Two years later, China finally removed the ban after collected and measured the sample of the seawater. The investigation involved experts from China as well as from other countries and the IAEA. This has shown the efforts put in by the IAEA on **expanding international participation and transparency**.

Past and Current Actions

International Atomic Energy Agency (IAEA)

IAEA published two important documents that served as the guidelines for the member states to develop communication plans. "**Method for Developing a Communication Strategy and Plan for a Nuclear or Radiological Emergency**" and "**Communication with the Public in a Nuclear or Radiological Emergency Points if Contention**". In summary, these two publications are created with the sole purpose of providing a standardized framework for member states to develop a communication plan with the public that relates to nuclear or radiological emergencies. Along with the aims of creating a platform that contains transparency, accountability, consistentcy and empathy.

Besides that, IAEA also launched an initiative named Asia-Pacific Nuclear Science Education Programme in 2018. It's a program that focused on integrating nuclear science into secondary school curricula. Which allows students to learn the basics of nuclear energy.

IAEA also works with different chapters to host workshops and seminars through physical and online. For examples Asian Network for education in Nuclear Technology (ANENT), African Network for Education in Nuclear Science and Technology (AFRA-NEST), and Latin American Network for Education in Nuclear Technology (LANENT).

International Nuclear Security Education Network (INSEN)

It's a collaboration among universities, research institutes, and other stakeholders auspices by IAEA. It's formed by three working groups that focus on

- Development and maintenance of educational materials, tools, and methodologies;
- Programme, curriculum, and faculty development;
- Knowledge management and promotion of nuclear security education and INSEN.

Members (participants) will work collaboratively in virtual or in-person throughout the year, producing new teaching tools, course content, guides and joint training efforts. The tasks' priorities, progress and results will be reviewed once a year in the Annual General Meeting. This

initiative provided a platform for the youth to work along with the experts on promoting nuclear energy.

Points of Contention

1. **Transparency:** When we are encouraging transparency, some countries might refuse to share their information due to the concern of national security. Nuclear energy is different from other energy sources like electricity, as it can be used to produce mass destructive weapons. So, how much information about nuclear facilities, materials, or incidents should be publicly disclosed?
2. **Acceptance of the Public:** Throughout history, there have been too many accidents, such as Chernobyl or Fukushima. The public, especially those families who experienced the downside of nuclear energy, will be strongly against the dissemination of nuclear energy. How to build the public's confidence in the use of nuclear energy will be one of the main obstacles to overcome.
3. **Misinformation and Media Bias:** It's important to ensure the information shared is accurate and free of bias. The public might be new to nuclear energy and easily incited by malevolent persons. For example, social media rumors and political agendas. This misinformation might lead to public overreaction, a rise in doubt, unnecessary confusion, and economic damage.

Questions a Resolution Must Answer (QARMAs)

1. How can we balance transparency and confidentiality when sharing information with the public?
2. How can we promote the benefits of nuclear energy without causing public fear or resistance?
3. What steps can be taken to ensure the information shared is both accurate and unbiased?

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