



# International Atomic Energy Agency

MUNMX Región Monterrey 2022



Topic A:

Negative environmental impact of nuclear energy usage  
through incorrect waste disposal and water pollution



## **INDEX**

- I. Quorum
- II. Introduction to the Committee
- III. Statement of the Issue
- IV. Topic History
- V. Current Issues
- VI. Relevant International Action
- VII. Guiding Questions
- VIII. Bibliography



I. Quorum

1. Arab Republic of Egypt
2. Commonwealth of Australia
3. Dominion of Canada
4. Federal Republic of Germany
5. Federal Republic of Nigeria
6. Federative Republic of Brazil
7. French Republic
8. Hashemite Kingdom of Jordan
9. Islamic Republic of Iran
10. Kingdom of Norway
11. Kingdom of Spain
12. Nippon-koku
13. People's Republic of China
14. Portuguese Republic
15. Republic of Chile
16. Republic of Indonesia
17. Republic of Italy
18. Republic of Kazakhstan
19. Republic of Kenya
20. Republic of Korea
21. Republic of Latvia
22. Republic of Lithuania
23. Republic of Peru
24. Republic of Poland
25. Republic of Yemen
26. Russian Federation
27. Socialist Republic of Vietnam
28. State of Israel
29. State of Qatar
30. Ukraine
31. United Kingdom of Great Britain and Northern Ireland
32. United Mexican States
33. United States of America



## II. Introduction to the Committee

The IAEA, the International Atomic Energy Agency, was created in 1957 as a response to the deep fears generated by the discoveries and different uses of nuclear technology. As said by Eisenhower, president of the United States in the IAEA's creation speech, "The high purpose of the International Atomic Energy Agency is to make atomic power for peaceful purposes available to all nations" (IAEA, 1957).

At the beginning of this agency, the main objective was to seek to accelerate and enlarge the contribution of atomic energy to peace, health, and prosperity throughout the world (Article II, Statute of the IAEA). Despite what preceded it, nuclear technology has been in constant change. With a start of only 81 nations, and an actual of 127, IAEA has been working to ensure the Nuclear Technology and Applications, Nuclear Safety and Security, and Safeguards and Verifications (IAEA, 2022).

As part of the continuous development of the agency, in 1958, the IAEA statute declared the main functions as: the supervising and establishing of safety guidelines, the researching of atomic energy, the encouragement of peaceful uses, and the supplying of equipment and facilities. With the foundations of the agency, IAEA has been creating processes and developing treaties that would assure and support the goals preceded (IAEA, 1958).



Always taking into account the declaration that nuclear energy can always be considered a controversial weapon or an incredible advantage to humanity. The International Energy Agency was created to modify the world's perspective of nuclear energy, deconstructing nuclear weapons, and creating a security and a non-threatening environment around nuclear technology.



### III. Statement of the Issue

Nowadays, a great part of the overall world relies on nuclear energy, about 10% of the world's electricity comes from nuclear power (World Nuclear Association, 2022). Nuclear development affects diverse areas of developing and developed countries like commerce, medicine and healthcare studies, environmental actions and ecology, politics, aerospace development and more.

As aforementioned, nuclear energy impacts the environment of many countries through the usage of isotopic tools to understand the world we are living in, the correct management of nuclear waste, deep investigations and techniques to assess freshwater resources and more. IAEA acknowledges the positive impact nuclear energy may have helping in the mitigation of climate change thanks to the zero direct carbon dioxide emissions produced. Nonetheless, the nuclear energy process includes water discharge and waste disposal. These create thermal and radioactive contamination that puts many ecosystems and people at risk, therefore being relevant to the international community to discuss the consequences it has and possible solutions.

There are two main consequences that should be analyzed to stop the negative environmental impact nuclear energy usage has: thermal water pollution and nuclear waste.



Water, in the nuclear process, is used as process water and cooling water. The process water is the one that is not released to the environment, it forms parts of a constant cycle which generate electricity through the generator. The cooling water is the water obtained from any reservoir to cool the process water to later be released to the environment. The problem occurs when heated water is released to the environment, this normally happens when water is not correctly filtered and when thermal power plants don't regulate the correct control of water. Thermal pollution causes many risks to life below water, eutrophication and contributes to climate change.

Nuclear waste management can be handled in many ways depending on the waste level classification: very low and low-level waste (LLW), intermediate level waste (ILW) and high-level waste (HLW). General global procedure consists in sorting and classifying, treatment and conditioning, and finally storage or disposal. Nevertheless, many delegations don't follow this procedure. The IAEA provides distinct strategies and alternate solutions that should be followed but countries don't follow the indicated techniques.

The negative environmental impact that nuclear energy has through incorrect nuclear waste disposal and water pollution affect the Sustainable Development Goals number 6 (ensure availability and sustainable management of water and sanitation for all), 7 (ensure access to affordable, reliable, sustainable and modern energy for all), 11 (make cities and human settlements inclusive, safe, resilient and sustainable), 13 (take urgent action to combat climate change and its impacts) and 17 (strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development); thus,



being important to UN and international action. The consciousness the IAEA committee should have regarding the environmental consequences for sustainability is extremely important to safeguard the global wellbeing.

## IV. Topic History

<https://drive.google.com/file/d/1u0VnCNjnOjECOzqtP0y73P81NiYIT-O3/view?usp=sharing>



**IAEA**  
**Topic A**  
**MUNMX 2022**



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**1957**  
The IAEA is created in order to maintain peace among nations regarding nuclear energy. To understand, communicate and keep track of countries' nuclear development.

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**1986**  
The Chernobyl nuclear accident contaminated rivers, lakes and oceans of diverse parts of Europe including Scandinavia, Germany, Ukraine and Russia.  
The radioactive exposure affected the aquatic food chain and aquatic bodies are still being contaminated by runoff of lasting Caesium-137 and Strontium-90.

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**2018**  
It was revealed that US didn't have a long term nuclear disposal because the country doesn't have the infrastructure to dispose of radioactive nuclear waste in a High Level Repository.  
The US government has recollected more than 40 billion dollars out of energy costumers for the allegedly pronounced permanent nuclear waste disposal. Currently their nuclear waste is mostly store in dry casks.

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**2021**  
Japan approved to release Fukushima's contaminated water into the oceans.  
Around 1.5 million tons of treated waste water of the Fukushima Nuclear Power Plant were planned to be released into the ocean since the Japanese government believed it is the best way to treat it.

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**2022**  
Nuclear waste from war of the 1940's and 1950's was found in an elementary school in Missouri, United States.  
Reunions in the Hazelwood School District happen to discuss the poor treatment of nuclear waste management

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**2022**  
The IAEA revealed its first report regarding the Japanese contaminated water discharge and the monitoring that has been done.  
Many countries have demanded more transparency in this process and even some are in disagree with the discharge. Although many disadvantages and negative opinion exists, the discharge is permitted thanks to Japanese "significant" preparations according to Director General Rafael Mariano.



## V. Current Issues

### *United States of America*

The **United States of America** is by far the largest nuclear electricity producers with 771, 638 GWh (Gigawatt hours). This country has a history with nuclear technology that is worldwide known, being one of the first to use nuclear energy for weapons. In 1945, as it is well known, the United States of America attacked Japan with a nuclear weapon. Since then, the U.S.A has developed this technology expanding the research field. Hence, it has been a long process that has obligated the country to implement some extreme measures and regulations.

The 1970's Nuclear Proliferation in the Persian Gulf is one of these actions that provoked a response in the country's government. This crisis started when the shah of Iran offered to exchange oil to France for nuclear reactors, because this provoked France to realize that it could trade oil for nuclear technology with other countries in the Persian Gulf (creating interest in Saudi Arabia, and Iraq). The USA government then acted because of their own worry of the potential danger of this issue by preventing Saudi Arabia from acquiring nuclear reactors, but Iraq was another case. This created an enduring impact on nuclear proliferation in the Gulf. As a result, the U.S. Nuclear Regulatory Commission (NRC) was created as an independent agency by the congress in 1974. This to ensure the safe use of radioactive materials for beneficial civilian purposes while protecting people and the environment. This agency is the one that regulates



commercial nuclear power plants and other uses of nuclear materials, such as in nuclear medicine, through licensing, inspection and enforcement of its requirements.

### *Iran*

**Iran's** nuclear program was created in 1950 by Shah Mohammad Reza with the U.S's help. In a declaration that it would be in peaceful terms, solely for nuclear technological development. Since then, Iran has developed nuclear technology in an exponential way, having as of today a uranium stockpile to create 8 to ten nuclear bombs. On January 16, 2016, the IAEA verified that Iran had the necessary guidelines for the program to remain exclusively peaceful, but this was a result of the JCPOA (Joint Comprehensive Plan of Action), which implied an international agreement on the Iran's nuclear program that would prevent Iran from using this nuclear technology to create weapons. This plan included the P5+1, Iran, and the European Union.

### *France*

**France** generates 70% of its electricity from a nuclear fleet of 56 reactors. This nuclear energy has been processed and developed since the first test of nuclear weapons in 1960. France currently processes the fourth largest nuclear stockpile, deliverable by submarine and air-launched missiles. France's involvement in the 1970's nuclear crisis created a real importance for the country's history in nuclear technology. As of today, France has been working under The Nuclear Safety Authority (ASN) an independent administrative authority set up by law 2006-686 of 13 June 2006 concerning nuclear transparency and



safety (known as the “TSN law”) is tasked, on behalf of the State, with regulating nuclear safety and radiation protection in order to protect workers, patients, the public and the environment from the risks involved in nuclear activities. It also contributes to informing the citizens. This organization is actually working, and actually President Emmanuel Macron has put nuclear power at the heart of his country's drive for carbon neutrality by 2050, with plans to build at least six new reactors, and his government wants to reduce the bureaucratic processes involved.



## VI. Relevant International Action

Every year the IAEA proposes scientific articles about different topics regarding nuclear security. For example, in 2022 the IAEA published a 50-page book about the requirement for core management and fuel handling in nuclear power plants.

The IAEA has 4 volumes of the official International Framework for Nuclear security, this binding is updated every 10 years in order to meet the necessities of nations and try to meet future needs regarding nuclear security and development. Every year the IAEA holds a meeting with nation's representatives in order to discuss nuclear progress and different issues regarding nuclear security.

## VII. Guiding Questions

1. What are some environmental consequences nuclear energy is having in your delegation (positive and negative)?
2. What is your delegation's posture with nuclear energy and alternative energies?
3. How does your delegation undergo water filtration for nuclear usage? (Is it deposited in nearby water bodies?)
4. How does your delegation stop thermal pollution produced in the nuclear process?
5. How does your country handle nuclear waste?
6. What are the protocols and frameworks your delegation forms part of regarding nuclear waste management?

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