

## IAEA: International Atomic Energy Association

Development of a Unified Strategy for the Efficient Use and Deployment of Nuclear Resources, Centralising Their Control and Management at an International Level

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#### **Table of Contents**

- 1. Introduction to the IAEA
- 2. Context
- 3. Timeline of Key Events

#### 4. Proposed Solutions

- 4.1. Encouraging Universal Adherence to the NPT
- 4.2. Pushing for Ratification of the CTBT
- 4.3. Strengthening the IAEA Safeguards System
- 4.4. Expanding Support for UN Security Council Resolution 1540
- 4.5. Expanding Multilateral Fuel Cycle Initiatives
- 4.6. Supporting Diplomatic Efforts to Revive the JCPOA
- 4.7. Broader Adherence to the CPPNM
- 4.8. Expanding the Global Initiative to Combat Nuclear Terrorism (GICNT)

#### 5. Key Actors

- 5.1. United States of America
- 5.2. The Russian Federation
- 5.3. People's Republic of China
- 5.4. DPRK (North Korea)

#### 6. Impact on Stakeholders

- 6.1. Nuclear-Armed States
- 6.2. Non-Nuclear-Weapon States
- 6.3. Developing Countries
- 6.4. Private Sector (Nuclear Energy Companies, Contractors)
- 7. Glossary

#### 8. Research Links

9. Bibliography



## Letter to delegates

Dear Delegates,

Welcome to the IAEA committee at KMUN! Nuclear resources and their management are among the most pressing issues in international relations today. As we gather to discuss developing a unified strategy for the efficient use and deployment of these resources, it is crucial to remember the profound impact our decisions can have on global security, energy sustainability, and international cooperation.

In this committee, we aim to foster a productive debate that not only addresses the technical and logistical aspects of nuclear resource management but also considers the geopolitical, ethical, and environmental implications. We encourage you to approach the topic with a comprehensive perspective, considering both the opportunities and challenges that centralised control and management might present.

We look forward to witnessing your innovative solutions and well-reasoned arguments as you collaborate to shape the future of nuclear resource management.

Best regards, Directors, IAEA



## Context

The topic of centralising the control and management of nuclear resources is both complex and multifaceted, touching on issues of national security, global governance, energy sustainability, and international law. Since the dawn of the nuclear age in the mid-20th century, the international community has grappled with the dual-use nature of nuclear technology — its potential to provide clean, almost limitless energy, alongside its capacity to cause unprecedented destruction. The establishment of the International Atomic Energy Agency (IAEA) in 1957 marked a pivotal moment in the global effort to promote the peaceful use of nuclear energy while mitigating the risks of nuclear proliferation.

Over the decades, the IAEA has played a crucial role in developing standards for nuclear safety, providing technical assistance to member states, and monitoring nuclear programs to ensure compliance with international agreements such as the Treaty on the Non-Proliferation of Nuclear Weapons (NPT). The nuclear landscape has evolved significantly since the first atomic bombs were dropped on Hiroshima and Nagasaki in 1945. Initially, nuclear technology was concentrated in the hands of a few superpowers, primarily the United States and the Soviet Union. The Cold War era was marked by a tense nuclear arms race, with both sides amassing vast arsenals of nuclear weapons. This period also saw the birth of the NPT in 1968, which sought to prevent the spread of nuclear weapons while promoting cooperation in the peaceful uses of nuclear energy. Despite these efforts, the proliferation of nuclear technology has continued, with more countries developing or acquiring nuclear capabilities.

The collapse of the Soviet Union in 1991 raised concerns about the security of nuclear materials in the former Soviet states, leading to initiatives such as the Nunn-Lugar Cooperative Threat Reduction Program, which aimed to secure and dismantle weapons of mass destruction in the former Soviet republics. In recent years, the nuclear ambitions of countries like North Korea and Iran have further complicated the global nuclear landscape. North Korea's withdrawal from the NPT in 2003 and its subsequent nuclear tests have posed significant challenges to ernational non-proliferation efforts. Similarly, Iran's nuclear program has been the subject of intense scrutiny and diplomatic negotiations, culminating in the Joint Comprehensive Plan of Action (JCPOA) in 2015, which aimed to limit Iran's nuclear activities in exchange for sanctions relief. Today, the world faces a paradoxical situation: while the risk of nuclear conflict between major powers has diminished since the end of the Cold War, the potential for nuclear proliferation and nuclear terrorism has arguably increased.

Non-state actors and terrorist groups pose a unique and growing threat, as they might seek to acquire nuclear materials to create "dirty bombs" or other forms of radiological weapons. Moreover, the global energy landscape is undergoing significant changes, with many countries turning to nuclear energy as a means to reduce carbon emissions and combat climate change. This has led to a renaissance of nuclear energy in some regions, while others remain wary due to the potential risks associated with nuclear power, as evidenced by accidents like Chernobyl in 1986 and Fukushima in 2011. The increasing number of nuclear reactors worldwide, coupled with advancements in nuclear technology, has intensified the debate over how best to manage nuclear resources. Centralising control at an international level could help to standardise safety protocols, improve transparency, and ensure that nuclear materials are used exclusively for peaceful purposes. However, such centralization also raises significant concerns, particularly regarding national sovereignty. Many states may be reluctant to cede control over their nuclear resources to an international body, fearing that it could compromise their national security or economic interests.

Looking ahead, the development of a unified strategy for the efficient use and deployment of nuclear resources will require careful consideration of both the opportunities and challenges presented by centralization. On the one hand, a centralized system could facilitate the sharing of best practices, provide a mechanism for rapid response in the event of a nuclear crisis, and reduce the risk of nuclear proliferation. On the other hand, it could also lead to tensions between states, particularly if the central authority is perceived as being dominated by a few powerful countries. In this context, the role of the IAEA and other international organizations will be critical. These bodies can provide the necessary expertise, chnical assistance, and oversight to support the implementation of a centralized nuclear management system. Additionally, the development of new international treaties or the strengthening of existing ones could help to address the concerns of states and build confidence in the centralization process. Ultimately, the success of any such strategy will depend on the willingness of states to cooperate and compromise, balancing their national interests with the collective goal of global nuclear security. This committee's deliberations will play a crucial role in shaping the future of nuclear governance, and it is imperative that delegates approach this task with a deep understanding of the issues at hand, as well as a commitment to finding solutions that benefit all of humanity.

### Timeline

#### 1957: Establishment of the IAEA

The International Atomic Energy Agency (IAEA) was established in 1957 as part of the UN family to promote nuclear energy's peaceful use and prevent its use for military purposes. The IAEA was created in response to growing concerns about the proliferation of atomic weapons following the devastation of Hiroshima and Nagasaki. The IAEA has largely succeeded in its mandate to oversee nuclear activities, providing technical support and monitoring compliance through its safeguards system. However, challenges remain, such as limited jurisdiction and occasional state resistance over transparency.

#### 1968: Treaty on the Non-Proliferation of Nuclear Weapons (NPT)

The NPT is a landmark international treaty aimed at preventing the spread of nuclear weapons and weapons technology, promoting peaceful uses of nuclear energy, and furthering the goal of global nuclear disarmament. It divides the world into nuclear-weapon states and non-nuclear-weapon states, with the latter agreeing not to pursue nuclear weapons, The NPT is one of the most widely adhered-to treaties, with 191 signatories. While it has succeeded in curbing the spread of nuclear weapons to a large extent, some states, such as India, Pakistan, and Israel, ve not signed the treaty, and nuclear-armed states have made limited progress on disarmament.

#### 1974: India conducts its first nuclear test

In 1974, India conducted its first nuclear test, which it termed a "peaceful nuclear explosion." This event marked India's entry into the group of nuclear-armed states and caused global concern about the further proliferation of nuclear weapons. India's nuclear test signaled the limitations of the NPT framework, as India was able to develop nuclear weapons despite being outside the treaty. This event led to the establishment of the Nuclear Suppliers Group (NSG) to prevent non-NPT states from acquiring nuclear materials.

# 1996: Comprehensive Nuclear-Test-Ban Treaty (CTBT) is adopted by the United Nations General Assembly

The CTBT was adopted in 1996 to ban all nuclear explosions for both civilian and military purposes. Its goal is to prevent further nuclear weapons development and ensure global non-proliferation efforts. However, the treaty has not yet entered into force because several key states, including the United States, China, and India, have not ratified it. While the CTBT has been effective in creating a de facto norm against nuclear testing, its inability to enter into force due to lack of ratification by several key nations limits its effectiveness in fully preventing nuclear tests globally.

## 2006: The United Nations imposes sanctions on North Korea following its first nuclear test

In 2006, North Korea conducted its first nuclear test, defying the international community and its obligations under the NPT (from which it had withdrawn in 2003). In response, the UN Security Council imposed sanctions aimed at curbing North Korea's nuclear ambitions.Despite several rounds of sanctions, North Korea has continued to expand its nuclear weapons program, conducting further nuclear tests and developing ballistic missile technology. The sanctions have had limited success in halting North Korea's nuclear development.

15: Iran and P5+1 nations sign the Joint Comprehensive Plan of Action (JCPOA)

The JCPOA, also known as the Iran Nuclear Deal, was signed between Iran and the P5+1 (China, France, Russia, the United Kingdom, the United States, plus Germany) to limit Iran's nuclear activities in exchange for sanctions relief. The deal imposed restrictions on Iran's uranium enrichment and other nuclear-related activities, with IAEA inspections ensuring compliance. The JCPOA successfully curbed Iran's nuclear activities for several years and improved international relations. However, the U.S. withdrawal from the agreement in 2018 undermined its effectiveness, and Iran has since resumed some nuclear activities.

## Present: Growing global interest in nuclear energy as a means to address climate change, coupled with concerns about nuclear proliferation and safety

As the world seeks sustainable and low-carbon energy solutions, many countries are reconsidering nuclear energy as a vital part of their energy mix. However, the increased use of nuclear power also raises concerns about safety, nuclear waste management, and the potential for nuclear proliferation. While nuclear energy is viewed as a key player in reducing carbon emissions, accidents like Fukushima and Chernobyl continue to fuel opposition. Furthermore, the dual-use nature of nuclear technology remains a challenge, as countries must balance energy production with non-proliferation efforts.

## **Proposed Solutions**

#### 1. Nuclear Non-Proliferation Treaty (NPT) (1968)

One of the most important international treaties, the NPT seeks to prevent the spread of nuclear weapons and weapons technology. It promotes the peaceful use of atomic energy and aims for global disarmament. The NPT remains the cornerstone of international efforts to control nuclear proliferation, with 191 signatories. Proposed Solution: Encouraging universal adherence to the NPT and ensuring compliance through robust monitoring systems conducted by the IAEA.



#### Comprehensive Nuclear-Test-Ban Treaty (CTBT) (1996)

The CTBT bans all nuclear explosions for both civilian and military purposes. It has yet to enter into force because several key states, including the United States, China, and India, have not ratified it. Proposed Solution: Pushing for the ratification of the CTBT by remaining states so that the treaty can enter into force and prevent further nuclear tests globally.

#### 3. IAEA Safeguards System

The IAEA has implemented a safeguards system designed to ensure that nuclear material is not diverted from peaceful uses to nuclear weapons programs. These safeguards include on-site inspections, surveillance, and verification measures. Strengthening the IAEA's safeguards system, including more frequent inspections and enhanced technologies to monitor nuclear materials globally.

#### 4. UN Security Council Resolution 1540 (2004)

This resolution obliges all UN member states to establish domestic controls to prevent the proliferation of nuclear, chemical, and biological weapons, especially to non-state actors. It includes measures to control materials and technologies that could be used to develop weapons of mass destruction (WMDs). Expanding the support and resources for states to comply with Resolution 1540, ensuring they can control nuclear materials and prevent them from falling into the hands of non-state actors or terrorist groups.

#### 5. Multilateral Fuel Cycle Initiatives

Several proposals have been made to centralise and control nuclear fuel production, including creating international fuel banks. For example, the IAEA's Low Enriched Uranium (LEU) Bank, which became operational in 2017, provides a backup supply of LEU to countries in need, reducing their reliance on national enrichment programs. Proposed Solution: Expanding multilateral fuel cycle initiatives, such as international fuel banks, to reduce the need for individual countries to develop sensitive nuclear fuel cycle capabilities that could be diverted for weapons use.



#### The Joint Comprehensive Plan of Action (JCPOA) (2015)

Known as the Iran Nuclear Deal, this agreement between Iran and the P5+1 (China, France, Russia, the United Kingdom, the United States, plus Germany) was designed to limit Iran's nuclear program and provide sanctions relief in exchange for compliance. Though the US withdrew from the deal in 2018, other parties have continued efforts to maintain its provisions. Proposed Solution: Supporting diplomatic efforts to revive and strengthen the JCPOA or similar agreements to address concerns about nuclear proliferation in specific regions.

#### 7. Convention on the Physical Protection of Nuclear Material (CPPNM)

This international legal framework sets out measures to protect nuclear materials during international transport and aims to prevent atomic theft or sabotage. Its amendment in 2005 also introduced provisions for the domestic protection of nuclear facilities and materials. Proposed Solution: Encouraging broader adherence to the CPPNM and its amended provisions and ensuring that all countries implement these protective measures domestically to secure nuclear materials against theft or terrorism.

#### 8. Global Initiative to Combat Nuclear Terrorism (GICNT)

Launched in 2006, the GICNT is a partnership of 89 nations and five international organisations committed to strengthening global capacity to prevent, detect, and respond to nuclear terrorism. The initiative focuses on securing radioactive materials and improving preparedness and response efforts. Expanding the GICNT's reach and effectiveness by providing additional resources to member states and fostering international cooperation to combat the threat of nuclear terrorism.

## Key Actors

• United States of America: As one of the leading nuclear powers, the USA's position on centralisation will significantly influence the outcome of



discussions. The country has a vested interest in maintaining control over its nuclear arsenal while promoting global non-proliferation.

- The Russian Federation: Russia's extensive nuclear capabilities and history of atomic energy development make it a crucial player in any discussion about centralisation. The country may advocate for a balanced approach that protects its interests.
- **People's Republic of China:** China is rapidly expanding its nuclear energy program and is interested in participating in international frameworks. However, its stance on centralisation will likely be cautious, prioritising national sovereignty.
- DPRK (North Korea): North Korea's nuclear ambitions and history of defiance against international norms make it a critical country of concern. Discussions may revolve around bringing North Korea into compliance with international standards.

## Impact on Stakeholders

#### 1. Nuclear-Armed States

- Impact: Nuclear-armed states are likely to view the centralization of nuclear resource management with caution. These nations rely on their nuclear arsenals for deterrence and national security and are often unwilling to cede control over such strategic assets to an international body. Additionally, they might fear that centralized control could dilute their influence over global nuclear policies.
- **Challenges:** Sovereignty concerns, national security risks, and the potential for losing strategic autonomy in decision-making could make nuclear-armed states hesitant to support centralization. However, some might see benefits in global non-proliferation efforts and reducing nuclear risks through international cooperation.
- **Opportunities:** If centralization leads to enhanced global security and more efficient nuclear resource management, nuclear-armed states could benefit from reduced risks of nuclear accidents, theft, or misuse



of materials, while also gaining a platform to shape international policies.

- 2. Non-Nuclear-Weapon States
  - Impact: Non-nuclear-weapon states typically focus on the peaceful use of nuclear energy, relying on international guarantees and oversight to ensure their security. They stand to benefit from centralized control through improved access to nuclear resources, technologies, and enhanced safety standards. This could help them maintain stable energy supplies while complying with international treaties like the NPT.
  - Challenges: Non-nuclear-weapon states may worry about the overreach of a central authority if it interferes with their domestic energy policies. They may also face pressure from larger powers to align with specific geopolitical interests, potentially complicating their negotiation position.
  - Opportunities: Centralized management could help non-nuclear-weapon states access enriched fuel and nuclear technologies without needing to develop sensitive facilities themselves. This would bolster their energy security and ensure continued access to nuclear power for peaceful purposes.

#### 3. Developing Countries

- Impact: Developing nations may see the centralization of nuclear resources as an opportunity to gain access to nuclear technology and fuel that they may not have the capacity to develop independently. Nuclear energy could be a critical component in addressing their energy needs while also reducing reliance on fossil fuels.
- **Challenges:** There is a concern that centralization could favor developed nations, limiting the autonomy of developing countries in managing their own nuclear resources. Additionally, disparities in the ability to influence international policy could exacerbate existing inequalities between developing and developed nations.
- **Opportunities:** If centralization is implemented equitably, developing countries could benefit from access to shared nuclear technology, fuel,



and safety standards. This could boost their energy capacity, support industrial growth, and help them transition to cleaner energy sources.

- 4. Private Sector (Nuclear Energy Companies, Contractors)
  - Impact: Companies involved in the nuclear energy sector may be impacted by increased regulation and oversight if nuclear resource management is centralized. While this could impose new compliance requirements, it could also standardize operations globally and reduce regulatory uncertainty.
  - Challenges: Private sector companies may resist additional layers of bureaucracy and international oversight, which could slow down project approvals or impose more stringent safety and environmental standards.
  - Opportunities: If centralized management leads to global standards for nuclear operations, companies may find it easier to operate across multiple jurisdictions. This could also open up opportunities for collaboration and investment in emerging markets, especially in developing countries seeking to expand their nuclear energy capabilities.

### Glossary

**IAEA** (International Atomic Energy Agency) – An international organization established in 1957 to promote the peaceful use of nuclear energy and to prevent the proliferation of nuclear weapons. The IAEA also provides guidance on nuclear safety and security.

**Nuclear Proliferation** – The spread of nuclear weapons and related technologies to countries that do not currently possess them. The international community seeks to prevent nuclear proliferation to reduce the risk of nuclear conflict.

**Treaty on the Non-Proliferation of Nuclear Weapons** (NPT) – An international treaty that aims to prevent the spread of nuclear weapons, promote peaceful uses of nuclear energy, and work toward global nuclear disarmament. It was signed in 1968 and remains one of the most important treaties regarding nuclear weapons.

**Aclear Disarmament** – The process of reducing or eliminating a country's nuclear weapons arsenal, typically through international agreements or treaties. The goal is to reduce the risk of nuclear conflict and work towards a world free of nuclear weapons.

**Comprehensive Nuclear-Test-Ban Treaty** (**CTBT**) – An international treaty that bans all nuclear explosions, for both civilian and military purposes. The treaty was adopted by the United Nations General Assembly in 1996 but has not yet entered into force as several key countries have not ratified it.

**Nuclear Deterrence** – The military strategy by which a country uses the threat of nuclear retaliation to deter adversaries from attacking it with nuclear weapons. The logic behind nuclear deterrence is that the consequences of nuclear war are so severe that no rational actor would initiate conflict.

**Dual-Use Technology** – Technology that can be used for civilian and military purposes. In the context of nuclear energy, dual-use technologies refer to equipment and knowledge that can be used to produce nuclear energy for peaceful purposes but can also be adapted to create nuclear weapons.

**Safeguards** – Measures used by the IAEA and other international organisations to verify that nuclear materials and technology are not being diverted from peaceful uses to nuclear weapons programs. Safeguards include inspections, monitoring, and verification activities.

**Nuclear Weapon States** (**NWS**) – Countries recognised by the NPT as having nuclear weapons, which include the USA, Russia, China, France, and the UK. These countries are obligated under the NPT to work towards nuclear disarmament.

**Non-Nuclear-Weapon States** (**NNWS**) – Countries that do not possess nuclear weapons and have agreed under the NPT not to pursue them. In exchange, they receive assistance with peaceful nuclear technology under the NPT framework.

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- 4. The Atomic Bombs that Ended the Second World War (Imperial War Museums)

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