

Imagine what would happen if the nations of the world spent as much on development as on building the machines of war. ... Imagine that such a world is within our grasp.¹

- Director General ElBaradei, Nobel Peace Prize Lecture

I. Introduction

The International Atomic Energy Agency (IAEA) has made major contributions to preserving international peace and security, through the promulgation of international norms, providing authoritative reporting on non-proliferation, and direct technical assistance. While its contributions have been limited by structural weaknesses, such as the IAEA's reliance on state cooperation and the preservation of an unfair status quo, this does not take away from its contributions. These weaknesses are indicative of structural flaws in the international law project, and within that framework, the IAEA represents the international law's best chance at achieving international peace and security in the nuclear context.

At the outset, it should be noted that 'international peace and security' is not a settled concept. Peace, traditionally defined, is the absence of war. Yet in the post-Cold War period it has also been defined 'thickly' to encompass human rights, socio-economic development, and environmental protections.² Moreover, 'security' is a heavily contested concept.³ Definitions vary, with some commentators seeing it as inextricably linked to state security, such as the prevention of armed conflict or terrorism. Others argue for holistic definitions that encapsulate the interconnected political and economic issues that drive insecurity.⁴

Similarly, 'preservation' implies a maintenance of an already existing peace and security that seems incongruous with the historical record. In this context, to borrow the United Nations ("UN")'s parlance, preserving international peace and security must mean both the prevention of conflict and insecurity and the creation of necessary conditions that allow for peace and security to exist.⁵

¹ Mohamed ElBaradei, 'The Nobel Lecture' (*International Atomic Energy Agency*, 10 December 2005) <<https://www.iaea.org/newscenter/statements/nobel-lecture>> accessed 1 September 2025.

² UNGA Res 46/14 (31 October 1991).

³ White, Nigel D., and Auden Davies-Bright, 'The Concept of Security in International Law', in Robin Geiß, and Nils Melzer (eds), *The Oxford Handbook of the International Law of Global Security*, Oxford Handbooks (2021; online edn, Oxford Academic, 10 Mar. 2021).

⁴ Avril McDonald, Hanna Brollowski, 'Security' (last updated May 2011) in Rüdiger Wolfrum (eds), *The Max Planck Encyclopedia of Public International Law* (OUP 2008–) <www.mpepil.com> accessed 1 September 2025.

⁵ United Nations, 'Maintain International Peace and Security', (*United Nations*) <<https://www.un.org/en/our-work/maintain-international-peace-and-security>> accessed 1 September 2025.

The IAEA's self-described main areas of work (the "three pillars"), the promotion of peaceful nuclear technology, nuclear safety, and the non-proliferation of nuclear weapons,⁶ align neatly with these expanded definitions. Thus, this essay will analyse the IAEA's efforts in preserving international peace and security by analysing its efforts to preserve the positive idea of peace and security through the pillars of safety and promotion as well as its attempts to prevent nuclear proliferation.

II. Authority

Understanding the IAEA's contributions to international peace and security requires understanding its uncommon position in the international legal order. While definitive hierarchies are rare in international law,⁷ the IAEA stands out as an authoritative yet impartial voice regarding nuclear issues, which it has leveraged to pursue the three pillars.

For instance, the IAEA enjoys unparalleled authority in nuclear non-proliferation.⁸ Notably, the Treaty on the Non-Proliferation of Nuclear Weapons ("NPT"), a "cornerstone of global security",⁹ obliges non-nuclear-weapon states ("NNWS") to negotiate and accept IAEA verification measures in accordance with the IAEA's safeguards system.¹⁰ This legitimacy was only enhanced by the successive UN Security Council (UNSC) mandates that the IAEA has received to conduct inspections.¹¹ This authority has enabled the IAEA to tap into nearly unprecedented levels of cooperation in the field of nuclear disarmament, thus contributing significantly to international peace and security. In 2024, for instance, the IAEA was able to conclude that all nuclear material remained in peaceful activities for 75 states, and that all declared nuclear material remained in peaceful activities for a further 92 states.¹²

This authoritative role has also allowed the IAEA to respond decisively when faced with successive challenges, further amplifying its contribution to international peace and security. In the context of nuclear safety, this is best exemplified by the aftermath of the Chernobyl accident. Within five months of the accident, the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency were created by the IAEA and adopted by its general conference, comprising all member states.¹³ Similarly, after discovering that Iraq had secretly begun a

⁶ International Atomic Energy Agency, 'The "Atoms for Peace" Agency' (*International Atomic Energy Agency*) <<https://www.iaea.org/about/about-iaea>> accessed 1 September 2025; Tobias Weise, 'The Involuntary Watchdog: Legitimizing the International Atomic Energy Agency' in Klaus Dingwerth, Antonia Witt, Ina Lehmann, Ellen Reichel and Tobias Weise (eds) *International Organizations under Pressure: Legitimizing Global Governance in Challenging Times* (OUP 2019).

⁷ Gregory Shaffer, 'International Law and Global Public Goods in a Legal Pluralist World' (2012) 23 EJIL 669.
⁸ Weise (n 6).

⁹ UN Secretary-General, 'Statement: Non-Proliferation Treaty "Cornerstone" of Global Security But Conference Must Narrow Gap Between Performance, Promise' (2 May 2005) UN Doc SG/SM/9847-DC/2956.

¹⁰ Ionut Suseanu, 'The NPT and IAEA safeguards' (2021) 62-4 IAEA Bulletin <<https://www.iaea.org/bulletin/the-npt-and-iaea-safeguards>> accessed 12 September 2025; Treaty on the Non-Proliferation of Nuclear Weapons INFCIRC/140 22 April 1970.

¹¹ Weise (n 6).

¹² <https://www.iaea.org/newscenter/news/iaea-applied-safeguards-for-190-states-iaea-report>

¹³ Weise (n 6).

nuclear weapons programme, the IAEA began shifting its scrutiny from declared nuclear material alone and instead began attempting to verify a state's nuclear capabilities as a whole.¹⁴ In spite of disagreements as to its legality,¹⁵ this process forensic verification has become an established practice known as the "State-Level Concept".¹⁶

More noticeable is the IAEA's ability to play the role of a technocratic advisor in nuclear safety and promoting peaceful nuclear technology. For instance, the IAEA's technical legitimacy has facilitated the promulgation of international norms with regards to nuclear safety,¹⁷ whether as a "broker of nuclear information",¹⁸ a coordinating force in international conventions,¹⁹ or as a promulgator of soft law regulations.²⁰ Examples of this span from hard law through the Convention on Nuclear Safety or the Joint Convention on the Safety of Spent Fuel and Radioactive Waste Management,²¹ to soft law in the form of the advisory Nuclear Securities Series and associated "agreed standard" documents.²² These initiatives undoubtedly contribute to international peace and security by preventing the wide-ranging negative externalities associated with nuclear accidents.

Similarly, the IAEA's technocratic image affords it unprecedented levels of access, most notably in the Russo-Ukrainian war. The IAEA has provided impartial reporting on the safety of nuclear Ukrainian nuclear facilities since February 2022, and has been able to provide technical assistance as the only international organisation with access to those nuclear facilities.²³ The benefits to international peace and security facilitated by this access is apparent: it allows the IAEA to mitigate the risk of a nuclear disaster while providing impartial updates that inform the choices of the international community. Thus, the authority and legitimacy the IAEA enjoys has allowed it to generate an unprecedented level of international cooperation, whether from the states it monitors or the international community's collective organs. However, this rare position means that the IAEA occupies a

¹⁴ Hibbs, Mark, 'Irreversible Disarmament and Verification: Guidance from IAEA Safeguards' (2024) 7 Journal for Peace and Nuclear Disarmament 322.

¹⁵ Asada, Masahiko, 'Nuclear Non-proliferation and Disarmament under International Law', in Robin Geiß, and Nils Melzer (eds), *The Oxford Handbook of the International Law of Global Security*, Oxford Handbooks (2021; online edn, Oxford Academic, 10 Mar. 2021)

¹⁶ Noah Mayhew, 'A Lexical history of the State-Level Concept and Issues for Today' (2020) Vienna Center for Disarmament and Non-Proliferation Occasional Paper < https://vcdnp.org/wp-content/uploads/2021/01/Lexical-History-of-the-State-level-Concept_Final.pdf > accessed 1 September 2025.

¹⁷ Weise (n 6).

¹⁸ *ibid.*

¹⁹ James Crawford, *Brownlie's Principles of Public International Law* (9th edn, OUP 2019) ch 14

²⁰ Yasuhito Fukui, 'International Nuclear Security Law: The Use of "Soft Law"' (2024) 29 Journal of Conflict and Security Law 129.

²¹ 20 September 1994, 1994 UNTS 293; 5 September 1997, 2153 UNTS 303.

²² Fukui (n 16).

²³ Jenna Beasley, 'Calming the Waters: The International Atomic Energy Agency as a Viable Model to Address Water Weaponization' (2024) 38 Emory Int'l L. Rev. 113; Rafael Mariano Grossi, 'IAEA Director General's Introductory Statement to the Board of Governors' (International Atomic Energy Agency, 8 September 2025) < <https://www.iaea.org/newscenter/statements/iaea-director-generals-introductory-statement-to-the-board-of-governors-8-september-2025> > accessed 9 September 2025.

largely establishment position within the international law ecosystem, which has also proven to be a double-edged sword.

III. Structural Weaknesses in the IAEA Regime

The most noticeable IAEA lapses have been in nuclear non-proliferation. Despite being an outlier in terms of authority, the IAEA is still vulnerable to the same perennial issues that plague international law: the problem of enforcement²⁴ and the allegations that it preserves the status quo, or at worst, enforces the dominance of the Global North.²⁵ Beyond academic discussion, these issues have limited the contributions the IAEA has been able to make to peace and security.

A. Consent and Enforcement

The IAEA relies on cooperation from the states it seeks to inspect as well as the states which could levy sanctions and use force on its behalf, which limits its ability to contribute to international peace and security. As a *sine qua non* of the inspections process, the IAEA depends on states subscribing to both the NPT and IAEA statute to have any meaningful impact on non-proliferation. For instance, Israel is an IAEA member but not a party to the NPT, which has enabled Israel to pursue its widely-suspected nuclear weapons programme.²⁶

A more stunning example occurred in 1994, when the IAEA attempted to resolve inconsistencies between North Korea's declared plutonium production and the IAEA's own analysis through a special inspection request.²⁷ In an unhappy echo of the Manchurian Crisis, North Korea simply withdrew from the IAEA and claimed that inspection obligations no longer applied.²⁸ After a brief reconciliation brokered by the Carter Administration, in 2003 North Korea withdrew from the NPT itself, after it was revealed that it had, in fact, developed a nuclear weapons programme.²⁹ This failure has not been mitigated, and on 8 September 2025, the IAEA Director General's continued to find the continual development of North Korea's nuclear weapons programme "deeply regrettable" in his Introductory Statement to the Board of Governors.³⁰

Even if the state attempting to develop nuclear weapons was subject to IAEA inspections, it would need to disclose the facilities it was developing those weapons in for the IAEA to have

²⁴ International Atomic Energy Agency, 'IAEA Safeguards: Aims, Limitations, Achievements' (1983) IAEA/SG/INF/4 .

²⁵ Antony Anghie, 'Rethinking International Law: A TWAIR Retrospective' (2023) 34 EJIL 7.

²⁶ Center for Arms Control and Non-Proliferation, 'Israel' (*Center for Arms Control and Non-Proliferation*) <<https://armscontrolcenter.org/countries/israel/>> accessed 11 September 2025.

²⁷ International Atomic Energy Agency, 'Fact Sheet on DPRK Nuclear Safeguards' (*International Atomic Energy Agency*) <<https://www.iaea.org/newscenter/focus/dprk/fact-sheet-on-dprk-nuclear-safeguards>> accessed 11 September 2025.

²⁸ Ibid.

²⁹ Asada (n 21).

³⁰ Grossi (n 23).

any effect. Iran had already joined the IAEA and adopted the NPT,³¹ when it was discovered that Iran had not reported the construction of the Natanz and Arak nuclear facilities. Similarly, in the aftermath of the Gulf War, the IAEA discovered Iraq had been covertly pursuing a major nuclear weapons programme in undeclared facilities, while it was still under IAEA monitoring.³²

Thus, in the period before the true establishment of the state-level concept, the IAEA failed to prevent nuclear proliferation, which limits the contributions to international peace and security that can be fairly credited to it. The fact that most states have not used their nuclear material for non-peaceful purposes does not mitigate these lapses. To use the language of law and economics scholars,³³ nuclear non-proliferation and the prevention of nuclear-enabled terrorism is a “weakest link” public good.³⁴ In other words, it is a public good where the failure of one actor compromises the good for all other actors. Thus, any lapse in the IAEA-NPT regime would effectively compromise the IAEA’s contribution to international peace and security.

Finally, the IAEA depends on enforcement by states, making its ability to contribute to international peace and security vulnerable to power politics. This can take the form of states commencing ‘enforcement’ actions regardless of IAEA reporting, as can be seen in the prelude to the Iraq War. On the back of UNSC Resolution 1441, the IAEA conducted daily inspections of Iraqi nuclear facilities, and failed to obtain evidence of a resurgence in its nuclear weapons programme.³⁵ Regardless, on 20 March 2003, US forces began Operation Iraqi Freedom, ostensibly due to the presence of weapons of mass destruction.³⁶ Similarly, the IAEA’s vulnerability to power politics was exemplified by the recent US-Israeli attacks on Iranian nuclear facilities. As Director General Rossi notes, this has had complex reverberations, including a complete suspension of nuclear inspection work for the first time since Iran adopted its comprehensive safeguard agreement under the NPT, and Iran adopted a law to suspend cooperation with the IAEA.³⁷

Yet, preserving international peace and security is not just the prevention of the development of nuclear weapons programmes or nuclear accidents. It also means creating and maintaining the conditions necessary for peace and security, which is woefully exemplified by the

³¹ Askary, Pouria, ‘The Future of the Iran Deal from the International Law Perspective’ (2021) 115 Proceedings of the ASIL Annual Meeting 320.

³² Asada (n 21).

³³ Barrett, Scott, *Why Cooperate? The Incentive to Supply Global Public Goods* (Oxford Academic 2007)

³⁴ Shaffer (n 7).

³⁵ S. Murphy, ‘Contemporary Practice of the United States relating to International Law’

97 American Journal of International Law 419 (2003) (in Martin Dixon and Robert McCorquodale and Sarah Williams, *Cases & Materials on International Law* (7th edn, OUP 2024) ch 11)

³⁶ George Bush, ‘President Discusses Beginning of Operation Iraqi Freedom’ (*White House Office of the Press Secretary*, 22 March 2003) < <https://georgewbush-whitehouse.archives.gov/news/releases/2003/03/20030322.html> > accessed September 11 2025.

³⁷ Rafael Mariano Grossi, ‘Statement by IAEA Director General on Iran’ (*International Atomic Energy Agency*, 10 September 2025) < <https://www.iaea.org/newscenter/multimedia/videos/statement-by-iaea-director-general-on-iran> > accessed 12 September 2025.

bifurcated system that the IAEA legitimises. In this regard, blemishes on the IAEA's track record shift from failed contributions to counterproductivity. In other words, what the IAEA also preserves is a status quo that is observably detrimental to international peace and security. The NPT and the IAEA creates a distinction between nuclear-weapon states (NWS) and NNWS,³⁸ and legitimises that bifurcated system by codifying it and shifting the narrative from disarmament to non-proliferation.³⁹ For instance, the NPT only obliges NWS to “pursue negotiations in good faith on effective measures” for disarmament,⁴⁰ and contain carve-outs for inspections based on national security.⁴¹

The negative effects of this status quo can be seen in the recent US-Israeli attacks on Iran and the ongoing Russo-Ukrainian War. As one commentator put it:⁴²

“It is not lost on anybody that Israel and the United States both have nuclear weapons and have attacked Iran, that does not [...] Russia has nuclear weapons and Ukraine does not. [...] The message here is nuclear weapons bring you security and immunity and empower you to take action against your adversaries.”

Thus, this bifurcated system damages peace and security in three ways. First, focusing on non-proliferation does nothing to remove the threat of nuclear weapons from states which already possess those weapons.⁴³ Second, it lowers the potential costs for the use of force for a select few states. Finally, this bifurcated system provides an obvious incentive for NNWS to obtain nuclear weapons. In other words, the IAEA has inadvertently lent credence to a framework that threatens both ‘thin’ and ‘thick’ peace and security.

Finally, the IAEA regime has also contributed negatively by providing a barrier to the adoption of alternative regimes. The Treaty on the Prohibition of Nuclear Weapons (“TPNW”) has been hailed as a “decolonial alternative” to the IAEA-NPT regime, because it shifts the narrative from non-proliferation to outright disarmament.⁴⁴ However, concerns over the fragmentation of international law and incompatibility with the IAEA-NPT regime have been cited by countries from the Global North like the Netherlands and Switzerland as

³⁸ See e.g. Preamble to the Treaty on the Non-Proliferation of Nuclear Weapons INFCIRC/140 22 April 1970

³⁹ Leila Hennaoui, ‘The Global South’s challenge to nuclear colonialism’ (*The Loop*) <<https://theloop.ecpr.eu/the-global-souths-challenge-to-nuclear-colonialism/>> accessed 13 September 2025.

⁴⁰ Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons INFCIRC/140 22 April 1970 ; Asada (n 21).

⁴¹ Agreement between the United Kingdom of Great Britain and Northern Ireland and the International Atomic Energy Agency for the Application of Safeguards in the United Kingdom of Great Britain and Northern Ireland in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons Treaty Series No. 56 (2024)

⁴² <https://web.archive.org/web/20250623161345/https://www.wired.com/story/international-nuclear-watchdog-warning-iran-strikes/>

⁴³ Linde Desmaele, ‘Enduring lessons or outdated logic? Updating Europe’s nuclear thinking’ (*The Loop*) <<https://theloop.ecpr.eu/enduring-lessons-or-outdated-logic-updating-europes-nuclear-thinking/>> accessed 13 September 2025.

⁴⁴ Hennaoui (n 39).

barriers to entering the TPNW.⁴⁵ Whether these reservations are genuine or not, it remains the case that the entrenched position of the IAEA-NPT is a barrier to systemic change.

IV. Analysis

How then, is the IAEA's legacy to be categorised? Because the IAEA framework relies on consent, paradoxically, the states which are least likely to develop are the ones which the IAEA has the most ability to monitor. If so, can the prevention of nuclear proliferation in those states fully be credited to the IAEA's safeguards? Further, the IAEA is somewhat complicit in legitimising a system that has a detrimental effect on international peace and security. What impact does this counterproductivity have on the IAEA's contributions?

Despite these weaknesses, omissions, and the inadvertent complicity of the IAEA, it would be disingenuous to claim that the IAEA has not contributed significantly to international peace and security. On one hand, the IAEA's structural limitations as reflected in its track record stem from the very fact that it is part of the international law project. As mentioned above, weak enforcement powers and the preservation of an unfair status quo are issues that have consistently plagued the international law project from the beginning. In this sense, these failings are symptoms of a broader structural issue that cannot truly take away from the IAEA's accomplishments.

On the other hand, the IAEA has outstripped similar international agencies in some respects. The IAEA has been able to access areas by leveraging its neutrality, as shown above in the cases of Iraq and Ukraine. The IAEA's commitment to nuclear safety through soft law and non-binding advice is also particularly commendable. As Herbach points out, soft law is preferable in circumstances like these precisely because it is non-binding and thus presents a lower barrier to entry for states.⁴⁶ Further, as Fukui notes,⁴⁷ soft law instruments are particularly suited to the context of nuclear security because they are malleable and can be adapted to the particularities of each state and its nuclear facilities. This is reflected in the IAEA's track record. As recent developments in Iran highlight, technical advice can be adopted into domestic law despite outwardly ending cooperation with the IAEA.⁴⁸

Most notably, a very persuasive argument could be made that the IAEA represents the best chance the international law project has at preserving international peace and security in nuclear contexts. Returning to the language of law and economics, Shaffer provides a useful heuristic to evaluate approaches to public goods, like nuclear non-proliferation.⁴⁹ On his account, three approaches exist, with distinct benefits and trade-offs. Legal pluralism allows

⁴⁵ Black-Branch, Jonathan L, 'Competition, Fragmentation and Polarization: A Bifurcated International Legal Infrastructure Regarding the Nuclear Architecture and Regulation?' in *The Treaty on the Prohibition of Nuclear Weapons: Legal Challenges for Military Doctrines and Deterrence Policies* (CUP 2021).

⁴⁶ J Herbach, *International Arms Control Law and the Prevention of Nuclear Terrorism* (Cheltenham Edward Elgar Publishing 2021).

⁴⁷ Fukui (n 16).

⁴⁸ Grossi (n 37).

⁴⁹ Shaffer (n 7).

for widespread implementation by building norms via hybridity, not hegemony, which would see higher adoption rates due to the legitimacy they possess. The Global Constitutionalist approach has the centralisation needed to solve collective issues, while the Administrative Law approach provides technocratic solutions to smaller-scale problems while maintaining accountability.

The issue with evaluating the IAEA's track record is that the problems the IAEA tries to solve comprise multiple types of public goods: weakest link public goods like non-proliferation and nuclear safety, and aggregate efforts goods which require contributions from all actors, such as nuclear disarmament. On this analysis, it seems that the IAEA is again in an exceptional position. As explored above, it has the technocratic legitimacy of the Administrative approach, through its largely apolitical pillars of promotion and nuclear safety and the trust its impartial advice has garnered. Perhaps counterintuitively, this technocratic trust serves as a foundation for Constitutionalist elements. Because it is so trusted, it is seen as a neutral actor suited for collective action,⁵⁰ and the success of the controversial state-level concept could also be chalked up to its reputation. Finally, the IAEA's consistent promotion of soft law regulations, with the associated flexibility and low barriers to entry, echoes the benefits of a Pluralist approach.

With this unique position comes a unique precarity. If the IAEA had pursued drastically more Constitutionalist aims, such as direct enforcement, it would likely have hampered its position as the neutral technical advisor. The same is likely for the inverse scenario; if it had not engaged in more 'political' work like UNSC-mandated inspections, would it possess the same authority that feeds into its expert reputation? Similarly, skirting too close to the pluralist alternative of complete denuclearisation risks alienating nuclear armed states, limiting the IAEA's ability to obtain cooperation. In short, then, the only way the IAEA could have contributed more would have been structural shifts of the international legal system, and even the ramifications of a more Constitutionalist or Pluralist swing are uncertain. Thus, the IAEA in its modern form might well be the best possible attempt at preserving international peace and security.

V. Conclusion

From its technocratic role as an advisor, to providing authoritative accounts of ongoing crises, through to enhancing nuclear security as a promulgator of soft law, the IAEA has, in fact, made major contributions to international peace and security. While it has had lapses, and occasional moments of inadvertent counterproductivity, this analysis has shown that they are mainly due to structural issues with international law as a whole. Thus, these critiques cannot hamper the credit that must be given to its wide ranging accomplishments.

Further, it is at most debatable whether the IAEA could have done more given the context it exists in. As the law and economics analysis above highlights, the IAEA exists not only as an

⁵⁰ Weise (n 6).

established body in international law, but also in a position of unique precarity where accelerating in one approach would compromise its effectiveness in others. Thus, its failure to obtain lasting peace and security through complete denuclearisation cannot completely tarnish its record. Yet, the IAEA has also leveraged its unique position to achieve decisive change in the past, as shown by the emergence of the State-Level Concept, thus future improvements cannot be ruled out entirely. But for now, we can only “imagine that such a world is within our grasp”.⁵¹

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⁵¹ ElBaradei (n 1).