UNIDIR

REPORT

Verifying the BWC: A Primer

JAMES REVILL

Acknowledgements

This paper is part of a UNIDIR series of briefings on BWC verification. This series of papers and events were supported by Effective Giving with additional support for this paper from the Government of China.

The author would like to thank Ching Wei Sooi, Jaroslav Krasny, Chen Zak Kane, and Vivienne Zhang for comments and support with this paper, and to those who contributed to reviewing the report including Herman Lampalzer, Daniel Feakes, Simon Cleobury, Anastasia Malygina, Matthew Shearer and Leifan Wang. Thanks also to the panelists who contributed to the discussion on verification during the WHO-UNODA-UNIDIR event which has informed the development of this briefing, specifically: Melanie Reddiar, Ryan Teo and Jeremy Littlewood. A recording of this event is available at https://www.youtube.com/watch?v=J91ZKSiGJz8.

About UNIDIR

The United Nations Institute for Disarmament Research (UNIDIR) is a voluntarily funded, autonomous institute within the United Nations. One of the few policy institutes worldwide focusing on disarmament, UNIDIR generates knowledge and promotes dialogue and action on disarmament and security. Based in Geneva, UNIDIR assists the international community to develop the practical, innovative ideas needed to find solutions to critical security problems.

Citation

James Revill (2023) "*Verifying the BWC: A Primer*", UNIDIR, Geneva, Switzerland.
https://doi.org/10.37559/WMD/23/Bio.verification.primer1

Note

Cover: Biological Weapons Convention. Credit: © Tancredi Francese.
Design and layout by Kathleen Morf.

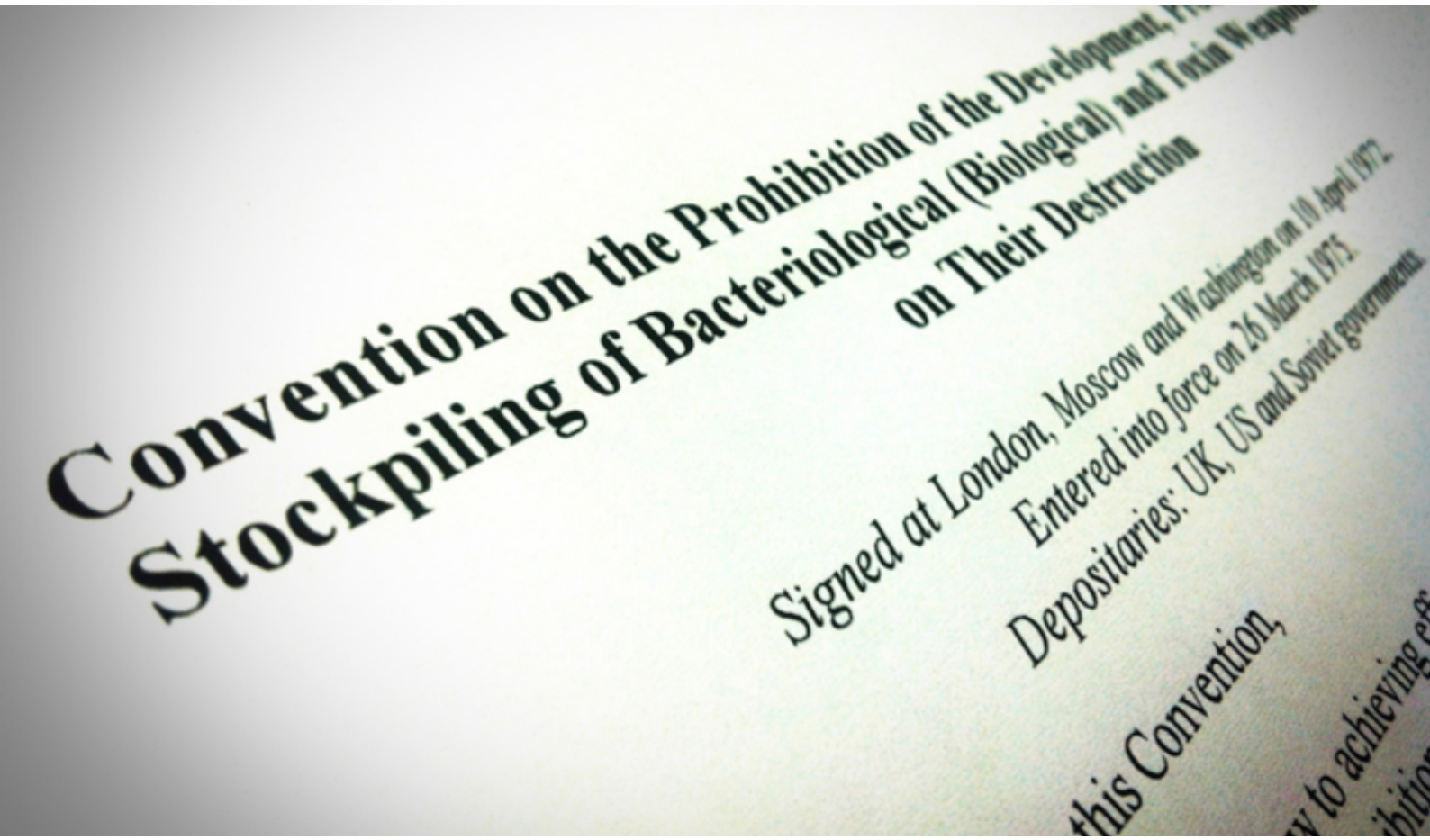
www.unidir.org – © UNIDIR 2023

Contents

Introduction

At the Ninth Review Conference of the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (BWC) in 2022, States Parties agreed to establish a new Working Group on the strengthening of the Convention, which will operate during the next intersessional period between 2023 and 2026. The agenda for the Working Group includes discussion on, among other things, compliance and verification. This is the first time in 20 years that verification will be formally discussed within the BWC framework, initiating a new process that opens a window of opportunity for States to advance work around monitoring and compliance.

This UNIDIR report, the first in a series, serves as a primer for the consideration of verification in the context of the BWC, with a particular focus on Article I and the core obligations contained in the title of the BWC. The paper begins with elements of a working definition of verification, before considering theoretically what contemporary biological weapons and biological weapons programmes might look like. The paper proceeds to discuss tools and approaches to verification of the BWC, and the importance of agreed procedures and resources, before concluding with some reflections on what the Working Group might be able to achieve.



Defining verification in the BWC context

There is no clear agreement on a definition of BWC verification.[1] In the past States Parties indicated different understandings of this concept as well as the scope and objectives of verification.

In terms of the **scope** of BWC verification, the BWC contains several positive and negative obligations that could be considered under a verification regime. However, this briefing focuses on the obligation not to develop, produce or stockpile biological or toxin weapons. As such, this briefing does not consider verification of national implementation (Article IV) or international cooperation (Article X)—nor does it consider verification of the use of biological weapons.

As discussed in the UNIDIR report, "Back to the Future for Verification in the Biological Disarmament Regime?", the **objective** of a verification regime is to build confidence in compliance with the BWC through the development of a structured and systematic means for both "providing an increased level of assurance that States Parties are complying with the prohibitions and obligations of the Convention" and "promptly, effectively, and impartially investigating cases of alleged or apparent non-compliance with the prohibitions of the Convention".[2]

Finally, in terms of **defining** BWC verification, for the purposes of the Working Group, the following elements of a working definition of BWC verification may be useful to consider further:

1. Verification is a process of data collection and analysis that must be collectively agreed upon by all BWC States Parties to ensure international legitimacy and acceptability to all.
2. Data collection and analysis are important components of verification that can be achieved relatively objectively through agreed methods. However, in many cases, evidence of a treaty violation will fall far short of the standard of 'beyond reasonable doubt' and will involve a political judgement by States Parties, based on the data collected and analyzed, as well as as other sources of available information (e.g., national technical means and other forms of intelligence).
3. The process of verification needs to be designed around explicit obligations under the BWC.

To add a healthy dose of realism, any verification regime will also need to fulfil two other criteria. First, a regime will need to strike a balance between the required level of intrusiveness to detect potential non-compliance, while at the same time considering legitimate national security or commercial interests. Second, any verification mechanism should be cheap to implement, and the risks associated with detection make it more costly for States Parties to violate their obligations under the BWC.[3]

---

1 Matthew Shearer et al., "BWC Assurance: Increasing Certainty in BWC Compliance," *The Nonproliferation Review* (2023), https://doi.org/10.1080/10736700.2023.2178099.

2 James Revill, John Borrie, and Richard Lennane, "*Back to the Future for Verification in the Biological Disarmament Regime?*", UNIDIR, Switzerland, 2022, https://doi.org/10.37559/WMD/22/BWC/02.

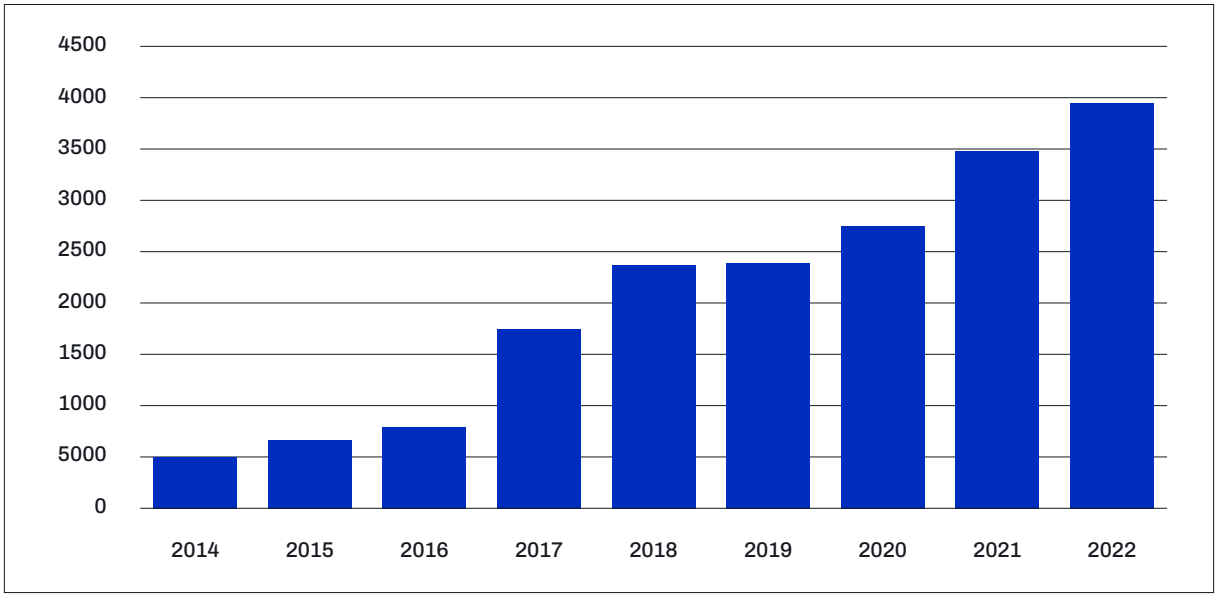
3 Richard Guthrie in Jean Pascal Zanders [ed.], "*The future of the CWC in the post-destruction phase*", European Union Institute for Security Studies Report no. 15, France, 2013, https://www.files.ethz.ch/isn/182303/ISS_15-The_future_of_the_CWC_in_the_post-destruction_phase.pdf.

Verifying what?

There is a range of agents and delivery systems that have been employed in biological weapons in the past. Historically, these weapons have been developed by States and terrorist groups to target humans, animals, and plants with different objectives, including mass destruction but also demoralization, localized terrorization, economic sabotage, and incapacitation. The nature and scale of biological weapons programmes have also varied, in some cases greatly, in terms of budgets, facilities, and staffing levels. Insight into past programmes can be useful in informing understandings of what a biological weapons programme might look like.

However, much has changed since the late 1990s when verification was last discussed in a systematic manner. Significant changes have occurred in technologies and equipment used in life science research and development. As such, any contemporary biological weapons programme could take a very different form to those of the past.

Figure 1. Patents dealing with "Biotechnology" by year.[4]



4 Date used in this Figure is based on a front-page search for "biotechnology" the WIPO "Patentscope" database. https://patentscope.wipo.int/search/en/result.jsf?_vid=P11-LMQ7D1-07809#.

States Parties will also need to consider how much of the global life science infrastructure any mechanism could realistically monitor, given the changes in the geography and sheer volume of research. The last two decades have witnessed considerable growth in the number of biotechnology related patents each year (see Figure 1 on the previous page) and more scholars are publishing ever more biotechnology-related papers in a growing number of institutions around the world, including high-containment facilities. For example, the Global Biolabs project[5] reports that there are "51 [biosafety level (BSL)] 4 labs in operation, three under construction, and 15 planned, all spread over 27 countries"; of these labs, about half "are less than the size of a tennis court". Moreover, there are at least 57 BSL 3 "plus" labs and many more lower-level containment facilities, including at least 63 DIY bio laboratories worldwide.[6] The COVID-19 pandemic and wider commercial value of biotechnology is likely to drive the growth in facilities in the future.

Compounding the difficulties generated by the advance and diffusion of biotechnology is the dual-use nature of research in this area. Many aspects of basic research and applied technology require materials, equipment, and knowledge that can be applied for peaceful, but also hostile, purposes—specifically in the development of biological weapons.

Moreover, any offensive programme will likely remain well-hidden behind a veneer of peaceful intent. As the Netherlands observed in 1992, "none of us is naive enough to assume that we might find anywhere in the world an establishment with a notice board announcing a name such as … Center for the development, production and stockpiling of biological weapons".[7] Therefore, efforts to develop a verification regime will need to consider what biological weapons programmes might look like in the twenty-first century and what indicators could help reveal any hidden offensive biological weapons programmes.

---

5 Kings College London and George Mason University, "*Global BioLabs Report 2023*", United Kingdom, 2023, https://static1.squarespace.com/static/62fa334a3a6fe8320f5dcf7e/t/6412d3120ee69a4f4efbec1f/1678955285754/KCL0680_BioLabs+Report_Digital.pdf.

6 The "labs" section of the DIYbiosphere website identifies 63 laboratories. https://sphere.diybio.org/browse/?q=&idx=diybiosphere&p=0&dFR%5Bcollection%5D%5B0%5D=labs.

7 Thanks to Jeremy Littlewood for pointing to this document, see: The Netherlands, "A search for discriminators between permitted and prohibited activities in technical microbiology," BWC/CONF.III/VEREX/WP.33, 24 November 1992, https://unoda-documents-library.s3.amazonaws.com/Biological_Weapons_Convention_-_Ad_Hoc_Group_on_VEREX_Second_ session_(1992)/BWC_CONF.III_VEREX_WP.33.pdf.

Indicators of compliance

Some indicators can be relatively easily drawn from publicly available materials, including confidence-building measures (CBMs) and other policy-related documents published by BWC States Parties. An illustrative list of indicators adapted from an earlier UK working paper is contained below in Table 1.

Table 1. Illustrative actions and activities that could be indicative of compliance or non-compliance.[8]

ILLUSTRATIVE ACTIONS AND ACTIVITIES INDICATIVE OF COMPLIANCE	ILLUSTRATIVE ACTIONS AND ACTIVITIES INDICATIVE OF NON-COMPLIANCE
The existence and implementation of a broad range of effective national measures under Article IV	A general disregard for international law
Comprehensive national export control legislation and the means to enforce it effectively	The existence of (active) biological weapons, or doctrine and training for their use
Transparency in national biodefence programmes	Closed and/or unduly secretive military or civil biological facilities and absence of scientific publications from such places
Effective enforcement of penal and other associated legislation	Persistent failure to be candid and transparent about past offensive BW programmes and current or past biological defence programmes
Sustained measures to promote awareness of the Convention	Clandestine procurement of dual-use equipment and materials
General commitment to candour and transparency, including full and consistent participation in the CBM process	Recurring refusal to respond to clarification requests under Article V
Generally open publication policy on research at biodefence facilities	Absence of candour and transparency in dealings with other States Parties
A readiness to respond promptly and comprehensively to any questions raised sunder Article V	Reluctance to enact and enforce national legislation despite repeated offers of assistance
Effective oversight processes for relevant dual-use research and development programmes	Persistent failure to submit comprehensive CBMs, or a pattern of submitting them intermittently and/or partially

8 United Kingdom of Great Britain and Northern Ireland, "We need to talk about compliance: a response to BWC/MSP/2012/WP.11," BWC/MSP/2013/MX/WP.1, 2 July 2013, https://unoda-documents-library.s3.amazonaws.com/Biological_Weapons_Convention_-_Meeting_of_Experts_(2013)/UK%2BCompliance%2BWP.pdf.

However, other indicators may require the development of specific tools and new approaches that could help to provide a baseline of data from which to inform assessments of compliance. Notably, most of the above indicators are unlikely as stand-alone measures to provide a clear indication of BWC compliance or non-compliance. Nonetheless, they can help build a more detailed, 'higher-resolution' picture of the activities of a BWC State Party through which to inform compliance judgments.

Tools and approaches to verification of the BWC

Various tools and approaches might be applied to generate data indicating possible biological weapons-related activities. In the early 1990s, the BWC VEREX group was tasked to identify and examine potential verification measures from a scientific and technical standpoint and looked at 21 possible measures, ranging from surveillance of publications to on-site interviewing. VEREX concluded that certain measures in combination could "contribute to strengthening the effectiveness and improve the implementation of the Convention".[9] However, the group also appreciated the scientific and technical shortcomings that some measures had at the time.

The central conclusion of VEREX, that measures in combination could help build confidence in compliance, may remain true 30 years on. However, many of the original 21 verification measures examined have evolved—in some cases significantly. For example, there is a growing number of commercial satellites operated by a range of States, moreover, the 'ground spatial resolution' of commercially available satellite data is considerably better than that available at the time of VEREX, with 30-centimetre resolution satellite imagery. In addition, new tools and technologies have emerged that could augment any future BWC verification process, including among others, bio-forensics and open-source technologies. None of these tools and technologies are guaranteed to unequivocally determine non-compliance. However, the application of tools and technologies in combination as part of a layered approach to verification could help build confidence in compliance and potentially verify the BWC.

9 Ad Hoc Group of Governmental Experts to Identity and Examine Potential Verification Measures from a Scientific and Technical Standpoint, "Summary Report," BWC/CONF.III/VEREX/8, 24 September 1993, https://digitallibrary.un.org/record/190931?ln=en.

The importance of procedures

Identifying evolving technologies relevant to BWC verification remains important in developing any regime. However, there remains a yawning gap between what is technically feasible and what is politically possible within the context of the BWC. Moreover, for technologies to be of value, they need to be validated for use and accompanied by procedures that are collectively agreed to by all States Parties.

Collective agreement on procedures and processes has proven divisive in the past. For example, during the Ad Hoc Group discussion that followed the work of VEREX in the 1990s, there was general agreement on the need for some form of investigative capacity. However, "elaboration of the investigation rules and procedures … led to lengthy and acrimonious debates".[10] These debates, and several others, remained unresolved when the work of the Ad Hoc Group on negotiating a protocol collapsed in 2001. If there is the ambition to once again look at verification in detail as part of a package of measures, collective agreement on processes and procedures will be important to help shield verification methods from undue criticism and ensure the multilateral legitimacy of any verification process.

The importance of institutional support

A multilateral verification regime will also require institutional support. The estimated costs for meetings and the four-person BWC Implementation Support Unit in 2023 is around $2,143,300.[11] Any effort to develop a multilateral verification regime will therefore require significant additional resources, including expertise necessary to collect and analyse verification-related data, that far exceeds the current level of funding. Certainly, during the Ad Hoc Group an annual figure of $30 million per year ($53 million adjusted for inflation) was envisaged to cover the costs of an organization with around 250 people that could carry out about 100 visits and inspections annually.[12]

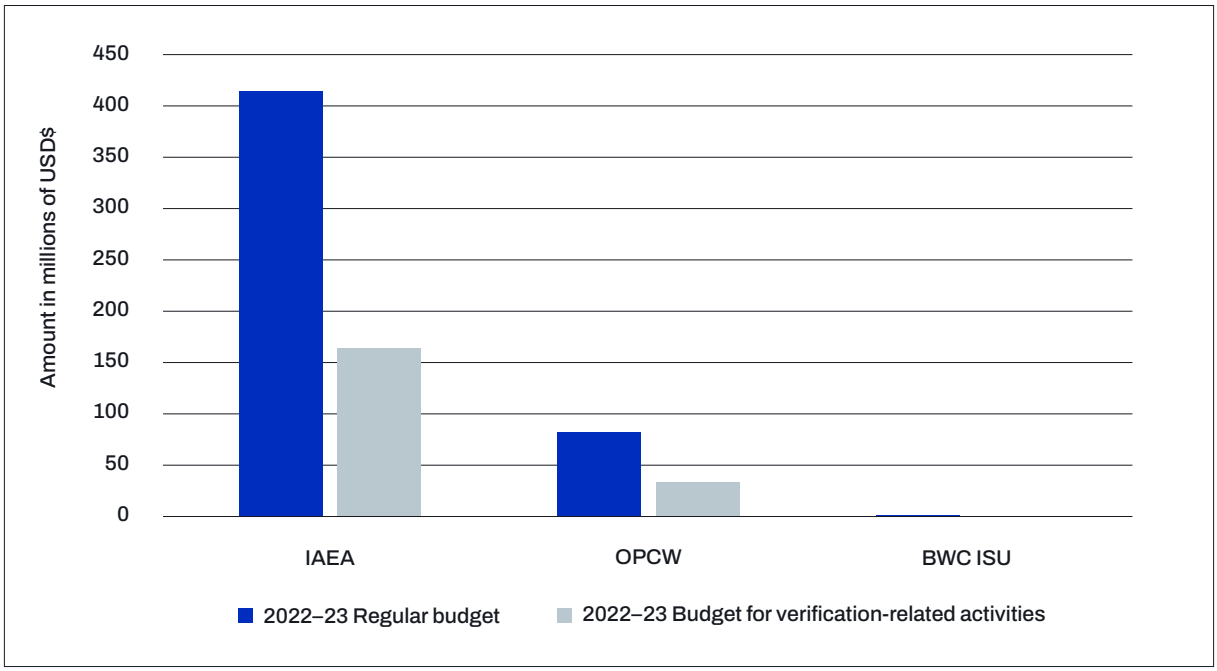
---

10 Onno Kervers, "Strengthening Compliance with the Biological Weapons Convention: The Protocol Negotiations," *Journal of Conflict & Security Law 7*, no. 2 (2002): 275–92. http://www.jstor.org/stable/26294424.

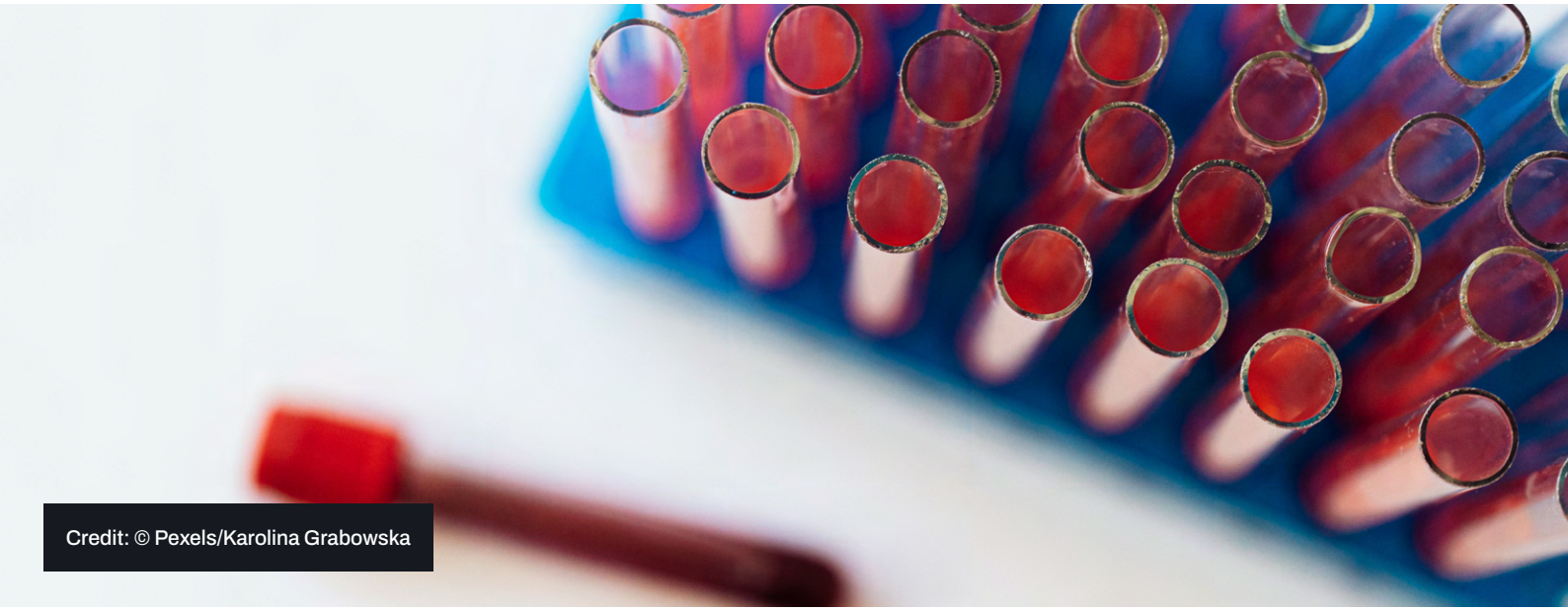
11 Biological Weapons Convention Implementation Support Unit, "Estimated costs of the meetings to be held from 2023–2026," BWC/CONF.IX/8, 30 December 2022, https://undocs.org/en/BWC/CONF.IX/8.

12 "Prospects for Progress: An Interview with Ambassador Tibor Toth," Arms Control Association, accessed 6 September 2023, https://www.armscontrol.org/act/2000_05/intma00.

Figure 2. Comparison in organizational budgets



For example, the IAEA's regular operational budget for 2022 was estimated at $417.1 million. Of this amount, $164.3 million was allocated to "nuclear verification".[13] The revised regular budget for the OPCW in 2023 was $81.2 million of which $32.4 million was spent on the verification and inspections programmes.[14] This funded, among other things, the completion of 162 inspections of chemical facilities around the world.



Credit: © Pexels/Karolina Grabowska

13 Converted from Euros, see IAEA, "The Agency's Programme and Budget 2022–2023", GC(65)/2, July 2021, https://www.iaea.org/sites/default/files/gc/gc65-2.pdf.

14 Converted from Euros, see OPCW, "Note by the Director-General, Draft Revised Programme and Budget of the OPCW for 2023," EC-101/DG.1/Rev.1, 22 September 2022, https://www.opcw.org/sites/default/files/documents/2022/09/ec101dg01r1%28e%29.pdf.

Seeking wider input: the biotechnology industry

In seeking to develop a functional verification regime, input will be required from the global biotechnology industry, which has grown significantly in the last decade and looks set to continue to grow—many States increasingly prioritize biotechnology and the global market is estimated to reach $3.44 trillion by 2030.[15] This trend, along with the transnational nature of life science research, could complicate initiatives to develop a verification regime and means that any mechanism will need to carefully balance the pursuit of greater transparency with the protection of intellectual property.

Achieving this balance and building a verification regime that is fit for purpose cannot be achieved without nurturing a constructive relationship with industry, thus measures to incentivize industry engagement will be important. In this regard, there are perhaps useful ideas from the past and present that could be built upon, including the opportunities presented by verification-related measures, such as non-challenge visits "to discuss Article X and international cooperation issues",[16] and the potential for greater transparency in facility activities to continue enhancing confidence in institutional commitments to the responsible, peaceful use of biology.

Seeking broader input: other disarmament regimes

BWC States Parties will also likely require external expert input, including from those working in other disarmament areas. There is much that can be learned from other processes and regimes, including good practices in managing confidential information, and many insights from experiences—both good and bad—in recent investigative processes, such as those undertaken under the OPCW verification regime (see Annex 1 for further details). There are also insights into technological opportunities in other regimes. For example, the OPCW has undertaken work on analysis of biotoxins[17] and "Investigative Science and Technology".[18] However, approaches designed to deal with other forms of WMD cannot be readily copied into the biological weapons context; the material accounting methodologies applied to nuclear and chemical regimes are not applicable when developing a biological weapons verification regime.

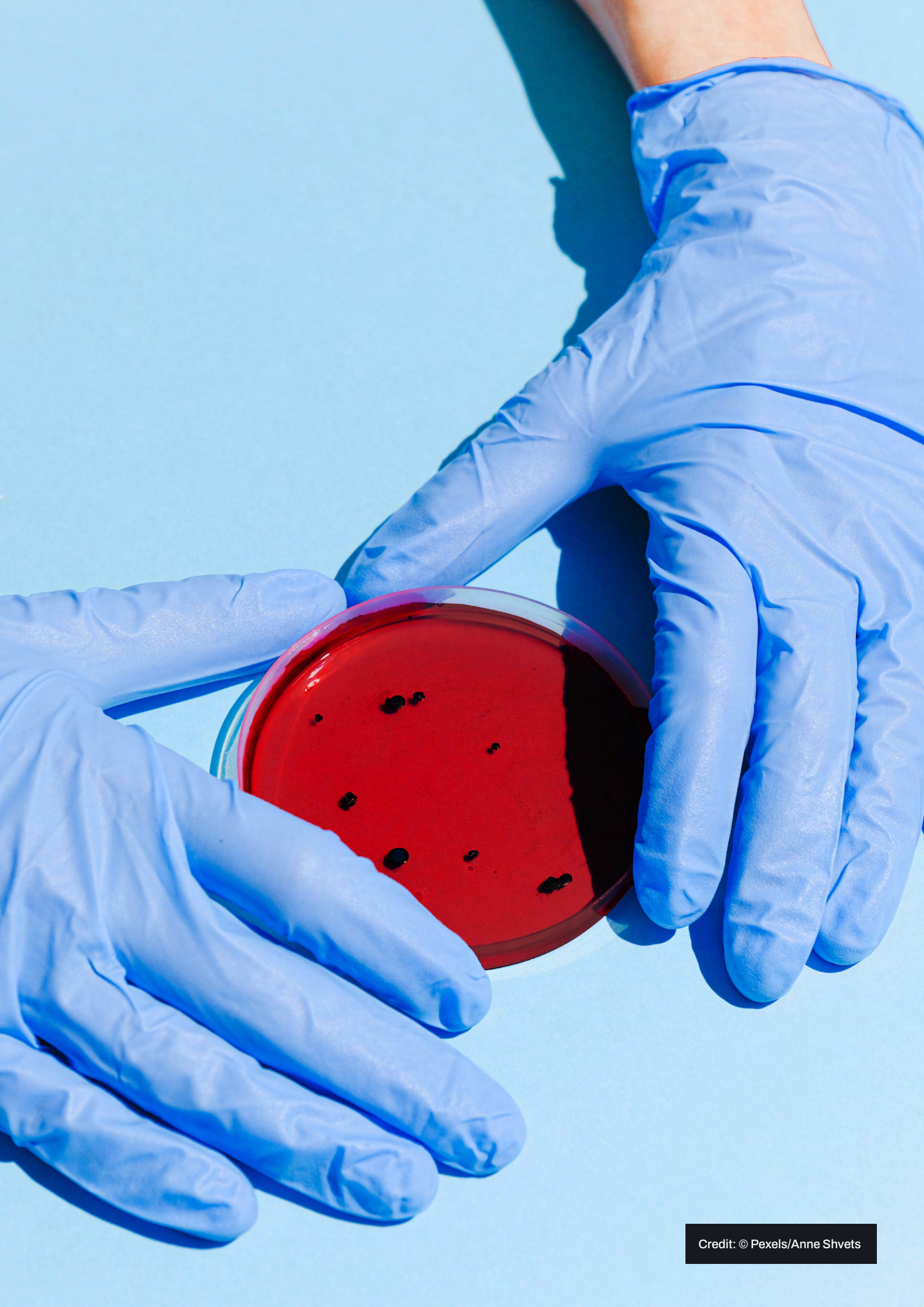
---

15 "Biotechnology Market Size to Worth around US$ 3.44 Trillion by 2030," BioSpace, 25 April 2022, https://www.biospace.com/article/biotechnology-market-size-to-worth-around-us-3-44-trillion-by-2030.

16 Brazil and the United Kingdom of Great Britain and Northern Ireland, "Report of a Joint UK/Brazil Practice Non-Challenge Visit," BWC/AD HOC GROUP/WP76, 18 July 1996, https://docs-library.unoda.org/Biological_Weapons_Convention_-_Ad_Hoc_Group_Fourth_session_(1996)/BWC_AHG_wp.76.pdf.

17 Report of the Scientific Advisory Board's Temporary Working Group, *Analysis of Biotoxins*, SAB/REP/1/23, 20 April 2023, https://www.opcw.org/sites/default/files/documents/2023/04/Analysis%20of%20Biotoxins%20Final%20Report.pdf.

18 Report of the Scientific Advisory Board's Temporary Working Group, *Investigative Science and Technology*, SAB/REP/1/19/, 1 December 2019, https://www.opcw.org/sites/default/files/documents/2020/11/TWG%20Investigative%20Science%20Final%20Report%20-%20January%202020%20%281%29.pdf.



Credit: © Pexels/Anne Shvets

After detection, what?

There is a range of tools available to States to address non-compliance. These range from the provision of technical assistance to address minor or 'technical' non-compliance, to reputational sanctions (e.g. naming and shaming non-compliant States), to national or regional economic sanctions, through to a referral to the Security Council, among other measures.[19] However, for any compliance and verification regime to be effective, the decision-making process of determining compliance as well as non-compliance and, where necessary, redressing non-compliance needs to be developed. More importantly, States must be willing to demonstrate leadership and enforce treaties in some cases with high-level pressure, even when enforcement is difficult and not necessarily consistent with immediate political interests.[20]

Expectations for the BWC Working Group

The Working Group opens up a window of opportunity for BWC States Parties to advance work around compliance and verification in the Convention. However, the Working Group has a broad mandate and limited time. The current geopolitical context further complicates the prospects of advancing arms control and disarmament measures, as reflected in the difficulties faced in the Ninth BWC Review Conference and other arms control and disarmament events over the last year.

To make the most of this opportunity, States Parties need to begin preparations early and carefully in considering how best to reconcile potentially contrasting perspectives on what can and should be done in terms of monitoring and verification of compliance with the BWC. While the Working Group is highly unlikely to develop a blueprint for a complete BWC verification regime, the process could lay out a road map for advancing the BWC and revitalizing attention in biological disarmament, thereby laying the foundations for strengthening the Convention as part of a wider 'balanced package' of measures.

---

19 Revill et al., "Compliance and Enforcement: Lessons from across WMD-Related Regimes," *WMDCE Series* no. 6, UNIDIR, Switzerland, 2019, https://doi.org/10.37559/WMD/19/WMDCE6.

20 Ibid.

Annex I: Illustrative compendium of verification measures in selected multilateral agreements.[21]

This annex provides a factual outline of treaty verification components in the CWC, CTBT and IAEA Safeguards applied under the NPT. These components have been clustered in the following broad categories: objectives and definitions; data exchanges, declarations, or notifications; inspections or investigations; monitoring; and consultative mechanisms and dispute settlement.

TREATY AND BUDGET	OBJECTIVES AND DEFINITIONS	DATA EXCHANGES, DECLARATIONS, OR NOTIFICATIONS	INSPECTIONS OR INVESTIGATIONS	MONITORING	CONSULTATIVE MECHANISMS AND DISPUTE SETTLEMENT
CWC, 1993.[22] The Revised regular budget for OPCW in 2022 was $81.2 million. Of this amount, $32.4 million was spent on verification and inspections.[23]	The CWC prohibits the development, production, acquisition, stockpiling, retention, transfer, or use of chemical weapons. The Convention contains an intent-based definition of chemical weapons. Annex II identifies specific chemicals for the application of verification measures. Part I of the Verification Annex provides definitions of verification-specific terms.	CWC States Parties are obliged to provide various declarations including initial declarations and annual declarations of past activities.	The Verification Annex includes provisions for on-site challenge inspections, which are available for clarifying and resolving issues concerning possible non-compliance, as well as investigations of alleged use. Challenge inspections have not been used, but mechanisms have been used to find facts related to an event and investigate allegations of CW use.	Part III of the Verification Annex provides for continuous monitoring, including through the use of on-site instruments.	Article IX includes provision for consultation and cooperation on any matter which may be raised relating to the object and purpose, or the implementation of the CWC.

21 The text in this compendium is drawn from the Illustrative Compendium of Verification Measures prepared by a UNIDIR team (Vivienne Zhang, Pavel Podvig and James Revill) in support of the Group of Governmental Experts to further consider nuclear disarmament verification issues.

22 For more details on the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction (CWC) see https://www.opcw.org/chemical-weapons-convention.

23 OPCW, "Note by the Director-General, Draft Revised Programme and Budget of the OPCW for 2023." https://www.opcw.org/sites/default/files/documents/2022/09/ec101dg01r1%28e%29.pdf.

Annex I: Illustrative compendium of verification measures in selected multilateral agreements (continued)

TREATY AND BUDGET	OBJECTIVES AND DEFINITIONS	DATA EXCHANGES, DECLARATIONS, OR NOTIFICATIONS	INSPECTIONS OR INVESTIGATIONS	MONITORING	CONSULTATIVE MECHANISMS AND DISPUTE SETTLEMENT
CTBT, 1996.[24] (Not entered into force) The 2022 CTBTO budget was $125.9 million.	The CTBT prohibits nuclear explosions by everyone, everywhere. The Treaty does not explicitly define a nuclear explosion.	Under the CTBT, States are obliged to provide voluntary notifications of chemical explosions greater than 300 tons TNT-equivalent. Under the Treaty, States share certain forms of seismological, hydroacoustic and infrasound data.	The Treaty contains a mechanism for conducting ad hoc on-site inspections if necessary.	The International Monitoring System and the International Data Centre provide additional information relevant to monitoring.	Parties agreed that compliance concerns would be referred to the multilateral Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO). The Treaty includes a dispute settlement procedure of recourse within the CTBTO or at the International Court of Justice.

24 For more on the Comprehensive Nuclear-Test-Ban Treaty (CTBT) see https://www.ctbto.org/the-treaty/treaty-text.

Annex I: Illustrative compendium of verification measures in selected multilateral agreements (continued)

TREATY AND BUDGET	OBJECTIVES AND DEFINITIONS	DATA EXCHANGES, DECLARATIONS, OR NOTIFICATIONS	INSPECTIONS OR INVESTIGATIONS	MONITORING	CONSULTATIVE MECHANISMS AND DISPUTE SETTLEMENT
IAEA Safeguards applied under NPT, 1968.[25] The IAEA operational Regular Budget for 2022 was $417 million.[26] Out of the Regular Budget, $164.3 million was allocated for nuclear verification.	The NPT requires non-nuclear-weapon States to place all source and special fissionable material (as defined in the IAEA Statute) under IAEA safeguards to prevent their non-peaceful uses. Each non-nuclear-weapon State concludes a separate safeguards agreement with the IAEA.	Parties provide detailed baseline declarations on the numbers, location, and technical data of nuclear material and facilities and an inventory of special fissionable materials. Notification about transferring nuclear material in and out of State, any changes to nuclear facilties and inventory, including unaccounted for material.	Ad hoc, routine, and short-notice on-site inspections including baseline inspections, special inspections inventory inspections, data update inspections, material transfer verification inspections, and complementary safeguards visits.	Tags, seals, sensors, data recorders and other monitoring equipment. There are provisions for continuous monitoring if necessary.	The IAEA Secretariat will normally attempt to resolve anomalies and compliance concerns. If necessary, concerns are communicated to the IAEA Board of Governors. The Board makes a determination of non-compliance if appropriate and reports it to Member States, the Security Council, and the General Assembly. INFCIRC/153 includes a dispute settlement procedure creating an arbitral tribunal at the International Court of Justice.

25 For more on the IAEA Safeguards under the NPT see https://www.iaea.org/bulletin/the-npt-and-iaea-safeguards; see also Olli Heinonen, "IAEA Mechanisms to Ensure Compliance with NPT Safeguards," *WMDCE Series* no. 2, UNIDIR, Switzerland, 2020, https://doi.org/10.37559/WMD/19/WMDCE2.

26 IAEA, "The Agency's Programme and Budget 2022–2023." www.iaea.org/sites/default/files/gc/gc65-2.pdf.

@unidir
/unidir
/un_disarmresearch
/unidirgeneva
/unidir

Palais de Nations
1211 Geneva, Switzerland

WWW.UNIDIR.ORG