

# Sanctions applied against Russia: Who, what and how

Cristina Rotaru

On 25 February 2022, just one day after Russia's invasion of Ukraine, the United Nations Security Council (UNSC) met to consider a draft resolution intended to condemn and outlaw Russia's military offensive against its neighbour. The draft, submitted by Albania and the United States, garnered support from 11 UNSC members but was blocked by a Russian veto. China, India and the United Arab Emirates abstained. Since the UNSC was unable to agree multilateral sanctions or take steps to redress the crisis, on 2 March, a resolution was considered at an "emergency special session" of the UN General Assembly under its "Uniting for Peace" framework. [Resolution ES-11/1](#) was supported by 141 of the assembly's 193 members, and rejected by Russia, Belarus, Eritrea, North Korea and Syria. Thirty-five members, including China, abstained. While General Assembly resolutions are non-binding, its text carried political significance towards condemning Russia's actions, and was the first such text adopted by the United Nations since 1982.

With the UN unable to agree multilateral sanctions in response to the Ukrainian conflict, many Western states and blocs of states (namely the EU and G7) have independently adopted sanctions against Russia. They largely include individual restrictive measures, economic

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and sectoral sanctions, diplomatic measures, restrictions on media, restrictions on economic relations with Russia, and restrictions on relations with the two self-proclaimed break-away statelets in Donbas (Donetsk and Luhansk) controlled by pro-Russian separatists. However, some notable countries, including Argentina, Brazil, China, India, Indonesia, Iran, Israel, Mexico, Serbia, Saudi Arabia, South Africa, Turkey and the United Arab Emirates, have refused to impose sanctions. Many of these states' official position is that they do not consider sanctions against Russia to be an effective way to resolve the conflict in Ukraine, while others may not wish to sever their economic and political links to Russia, a major global exporter of energy. Some, like Argentina, have noted that, lacking a UNSC mandate, their national legislation does not allow them to impose unilateral sanctions against a country.

### European Union

The European Union has adopted six packages of sanctions against Russia to date (see table 1), building on its legislative

framework from 2014, when it initially sanctioned Russia after its annexation of Crimea. Some of the sanctions have also been applied to Belarus, while several non-EU states – states that are in a single market with the EU (Switzerland and European Economic Area states Iceland, Liechtenstein and Norway), as well as Albania, North Macedonia, Montenegro, Serbia and Ukraine itself – have aligned themselves with the EU sanctions packages.

### United States

Also building on a series of measures sanctioning Russia after its annexation of Crimea and for Russia's interference in foreign elections from 2014, the United States has applied a series of sanctions against Russia and Belarus (see table 2), via a combination of presidential Executive Orders, legislation and measures introduced by the departments of Commerce, State, Transportation and Federal Aviation Administration, and Treasury.

**Table 1: EU sanctions against Russia and Belarus**

Package	Date adopted	Coverage	Total sanctioned	
			Individuals	Entities
First	23-Feb	351 members of Russian State Duma plus 27 individuals; restrictions on economic relations with Donetsk and Luhansk; restrictions on access to EU capital and financial markets and services	555	52
Second	25-Feb	Russia's financial, energy and transport sectors; dual-use goods, export control and export financing; visa policy; additional Russian individuals, including new listing criteria; asset freeze on President Putin and Foreign Minister Lavrov; restrictive measures on members of the National Security Council; additional members of Russian State Duma	654	52
Third	28-Feb	Banned transactions with the Russian Central Bank; banned overflights of EU airspace and access to EU airports by Russian carriers; additional 26 persons and one entity.	680	53
	02-Mar	Excluded seven Russian banks from SWIFT; prohibitions on (a) investing in projects co-financed by the Russian Direct Investment Fund, (b) the provision of euro banknotes to Russia, and (c) broadcasting in the EU of state-owned media Sputnik and Russia Today	702	53
	09-Mar	Compliance package with measures targeted against Belarus state-owned entities and individuals; export of maritime navigation goods and radio communication technology to Russia; additional 160 individuals	862	53
Fourth	15-Mar	Banned (a) all transactions with certain state-owned enterprises, (b) the provision of credit rating services to Russian companies, (c) new investments in the Russian energy sector, and (d) the export of luxury goods; additional individuals and entities covered.	877	62
Fifth	08-Apr	Banned (a) coal imports, (b) Russian vessels from accessing EU ports, (c) Russian and Belarusian road transport operators from entering the EU; and (d) deposits to crypto-wallets; extended import and export bans; asset freezes on additional entities and individuals	1094	80
Sixth	31-May	Banned (a) seaborne oil by the end of 2022, with a temporary exemption for pipeline oil, and (b) three more Russian state-owned broadcasters; Russia's largest bank, Sberbank, excluded from SWIFT.		

**Table 2: US sanctions against Russia and Belarus**

Date	Instrument/ Dept.	Coverage
21-Feb	EO 14065	Stopped new US trade and financial interactions with Luhansk and Donetsk
22-Feb	Treasury	2 major Russian state-owned financial institutions, 5 Kremlin-connected oligarchs, and additional restrictions on Russian sovereign debt
24-Feb	Treasury	14 major Russian state-owned and private entities, other Russian oligarchs and asset freezes of 4 Russian banks
	Commerce	Restrictions on Russian access to technology (e.g. semiconductors, computers, telecommunications, information security equipment, lasers, and sensors); blocks on all US property interests involving Putin, Lavrov, and 11 members of the Russian Security Council; and transactions with the Central Bank of Russia, National Wealth Fund, the Ministry of Finance and the Russian Direct Investment Fund
02-Mar	TFAA	Banned Russian aircraft and airlines from entering US airspace
03-Mar	State Dept.	Additional financial sanctions against individuals
	Commerce	Expanded export controls on Russian oil refining industry and other entities supporting Russian military operations
08-Mar	EO 14066	Banned imports of Russian oil, liquefied natural gas and coal
11-Mar	EO 14068	Prohibitions on specific trade with and investment in Russia
	Commerce	Restrictions on exports of luxury goods to Russia and Belarus
	Treasury	Additional restrictions on individuals and guidance on protecting against sanction evasion through cryptocurrencies or other virtual currencies
24-Mar	Treasury	Russian defence companies, more than 300 members of the Russian Duma, and other Russian individuals
31-Mar	Treasury	Expanded sanctions under EO 14024 to include aerospace, marine and electronics sectors
1-Apr	Commerce	Export controls added to 120 Russian and Belarusian companies
5 Apr	Treasury	Sanctions on Hydra, the largest global darknet market, and Garantex, a ransomware virtual currency exchange
08-Apr	EO 14071	New US foreign investment into Russia as well as services exports banned.
	Treasury	Financial sanctions on 2 banks and 2 military shipbuilding companies; and family members of Putin, Lavrov and Russian Security Council members
	H.R. 6968 'Ending Importation of Russian Oil Act	Prohibited energy imports from Russia
	H.R. 7108 Suspending Normal Trade Relations with Russia and Belarus Act'	Raised US tariffs toward both countries
20-Apr	State Dept.	Sanctioned suspected sanctions evaders, including companies in Russia's virtual currency mining industry; visa restrictions on hundreds of individuals
21-Apr	State Dept.	Prohibited Russian-linked vessels from entering US ports
01-May	Treasury	Banned exports of accounting and management consulting services; new financial sanctions and visa restrictions on Russian bank executives and other individuals, defence companies, and state-owned television stations
24-May	Treasury	Blocked Russia from paying US bondholders by letting an exceptions license issued on April 6 expire
2-Jun	Treasury/State/Commerce	New Russian individuals and affiliated companies linked to Putin regime added to SDN List and have assets frozen

## United Kingdom

The UK's Russia sanctions regime under the Russia (Sanctions) (EU Exit) Regulations 2019 came fully into force on 31 December 2020, after the UK left the EU. 183 individuals and 53 entities were already subject to UK financial sanctions under the Russia sanctions regime. Since then, nine Amendment Regulations have entered into force (see table 3) in a rolling programme of intensifying sanctions.

## Other jurisdictions

At the outset of the current crisis, the countries of the G7 made clear they would act collectively on the imposition of sanctions against Russia. Hence, Canada, France, Germany, Italy and Japan have all imposed rigorous sanctions along similar lines to those imposed by the USA and UK. Similarly, Australia, New Zealand, Singapore, South Korea and Taiwan have also adopted sanctions against Russia.

**Table 3: UK sanctions against Russia**

Date	Legislation	Coverage
22-Feb		Asset freeze on 5 Russian banks and 3 oligarchs, and sanctions on selected politicians
24-Feb	Amend. No.2 & 3	Financial sanctions on certain Russian banks, defence companies and oligarchs; export controls on high-tech and strategic industries; banned Aeroflot from flying in UK airspace
25-Feb		Asset freeze on President Putin and Foreign Minister Lavrov
26-Feb		Selected Russian banks to be removed from the SWIFT system (Coordinated with US, EU and Canada)
01-Mar		Banned all Russian ships from UK ports
09-Mar	Amend. No. 6	Phase out imports of Russian oil by the end of 2022, bans Russian aircraft from flying over or landing in the UK and stops UK exports of aviation or space-related items and technology to Russia
11-Mar	Amend. No 4 & 6	Imposition of a 35% tariff on imports of Russian vodka and other goods; banned exports of luxury goods to Russia
14-Mar	Economic Crime (Transparency and Enforcement) Act	Allows sanctions on more Russian oligarchs; 386 members of the Russian Duma sanctioned; sanctioning of 34 prominent Oligarchs in a rolling programme (2 Mar-14 Apr)
15-Mar		Sanctions on members of Russian Federation Council
18-Mar	Ofcom	Russia Today's broadcasting rights revoked
24-Mar		Further sanctions on the Russian defence and strategic industries, additional Russian banks, and individual businesspeople
27 Mar		Suspension of publicly funded research and innovation collaborations with Russian universities and companies of benefit to the Russian state
30-Mar	Amend. No.7	Prohibits maintenance on aircraft or ships belonging to sanctioned Russian oligarchs; sanctions two additional individuals; extends earlier finance, trade, and shipping sanctions imposed on Crimea to Donetsk and Luhansk
31-Mar		Russian General Mikhail Mizintsev, the Chief of the National Defence Command and Control Centre, added to the sanctions list; a new set of sanctions aimed at Russian propagandists and state media
06-Apr		Asset freeze on Russia's largest bank, Sberbank, and the Credit Bank of Moscow; banned all new outward investment to Russia; import ban on all Russian iron and steel products, and Russian coal and oil by the end of 2022 and gas "as soon as possible thereafter"
08-Apr		Asset freezes and travel bans on President Putin's daughters, Katerina Tikhonova and Maria Vorontsova, and Sergey Lavrov's daughter, Yekaterina Vinokurova
13-Apr		Asset freeze and travel ban on Maria Lavrova, Sergey Lavrov's wife
21-Apr		Four Russian military leaders sanctioned for "committing atrocities on the front line"; further goods subject to additional tariffs including among other things, diamonds, leather, rubber, textiles, tobacco and some food products
04-May		Ban on the export of services, including management consulting, accounting and public relations; more individuals and entities sanctioned for spreading disinformation
05-May		Sanctions on Russian steel manufacturer, Evraz
09-May		New import tariffs on £1.4 billion worth of goods—including platinum and palladium; new export bans covering £250 million worth of goods such as chemicals, plastics, rubber, and machinery
13-May		Further measures targeting Russian individuals reportedly close to President Putin
19-May		Further measures to prevent Russian airlines from selling their unused landing slots at UK airports.
31 May		UK and EU agreed coordinated ban on insuring ships carrying Russian oil

### Sanctions implementation, enforcement and monitoring

The question of how sanctions are implemented, monitored and enforced is central to measuring their effectiveness. In the UK, the Office of Financial Sanctions Implementation (OFSI), part of HM Treasury, acts as a purpose-built government body whose mission is "to ensure that financial sanctions

are properly understood, implemented and enforced". OFSI maintains a [consolidated list](#) of all its asset freeze targets, which includes names of individuals, entities and ships designated under the Sanctions and Anti-Money Laundering Act 2018, and a reason for the designation. In [Guidance](#) published on 8 June 2022, OFSI outlined its ongoing enforcement approach to reflect changes introduced by the Economic Crime (Trans-

parency and Enforcement) Act 2022. Notably, OFSI's new powers to impose civil monetary penalties on a strict liability basis for breaches of financial sanctions came into force on 15 June 2022. The document states that OFSI will continue to impose penalties where it is "appropriate, proportionate and in the public interest to do so" and will consider efforts to prevent breaches when deciding on any enforcement actions. Additionally, in its [response](#) to recommendations made by a [UK House of Commons Treasury Committee report](#) titled 'Defeating Putin: the development, implementation and impact of economic sanctions on Russia', the Government on 8 June pledged to increase OFSI's resources over the coming year and said that it is continuing to monitor the potential scale and nature of sanctions circumvention as a matter of priority.

Unlike in the UK, where the sanctions authority is centralised, in the United States, several agencies are tasked with implementation of sanctions. OFSI's equivalent agency in the United States, the Office of Foreign Assets Control (OFAC), part of the Department of the Treasury, administers and enforces economic and trade sanctions in support of US national security and foreign policy objectives. Its mandate to freeze assets is executed by regulations that direct financial institutions under the International Emergency Economic Powers Act (IEEPA), which empowers the US President during national emergencies to block the removal of foreign assets under the jurisdiction of the United States. The IEEPA falls under the provisions of the National Emergencies Act, which means that an emergency declared under the act must be renewed annually for it to remain in effect. OFAC also publishes a list of Specially Designated Nationals (SDNs), which lists people, entities, and vessels with whom US persons (nationals and residents) are prohibited from doing business. This is one of several sanctions lists published by the United States. Other government bodies that implement and enforce sanctions are the Department of State (under its International Traffic in Arms Regulations, or ITAR), the Department of Commerce (Export Administration Regulations, EAR), the Department of Energy (for nuclear technology), the Department of Justice (for criminal investigations of sanctions violations, including the FBI), and the Department of Homeland Security (for border security), as well as the Bureau of Industry and Security (for issues related to the proliferation of

weapons of mass destruction), the US Customs and Border Protection, and the Directorate of Defense Trade Controls (for defence exports).

In the EU, individual Members have agreed to seek a common position on foreign policy and security, including on sanctions and restricted parties. Such measures are set out by EU regulations and decisions and have direct effect under the national legislation of each EU Member State. The Directorate-General for Financial Stability, Financial Services and Capital Markets Union (DG FISMA) prepares proposals for Regulations on sanctions for adoption by the Council of the European Union and represents the European Commission in sanctions discussions with Member States at the Council Working Party of Foreign Relations Counsellors. DG FISMA also helps transpose into EU law certain United Nations sanctions. Member States are themselves responsible for the implementation and enforcement of EU sanctions, as well as identifying breaches and imposing penalties. The Commission monitors the implementation of EU sanctions and provides guidance and support to Member States, including by answering questions of interpretation raised by national competent authorities. DG FISMA is responsible for monitoring, on behalf of the European Commission, the implementation and enforcement of EU sanctions across Member States.

On a practical level, challenges in national implementation and enforcement remain. The Dutch National Coordinator for Sanctions Compliance and Enforcement last month presented a [report](#) on the Netherlands' compliance with, and enforcement of, EU sanctions, pointing out that establishing beneficial ownership and control in the context of complex cross-border ownership structures remains problematic, and called on the EU to lower its sanctions ownership threshold from 50% to 25%. It also reported that implementation of EU sanctions measures under its Sanctions Act 1977 involves several different Ministries, with data sharing between those bodies posing a challenge. In a separate [letter to Parliament](#), the Netherlands is reported to have frozen €640.8 million in assets and blocked €425.2 million worth of transactions pursuant to EU sanctions on Russia.

Approaches among implementing States may vary – but while there are certain variations in the designations, a coordinated sanctions approach remains the most potent way to ensure their effectiveness.

## Prospective verification, implementation and compliance issues arising from the Russo-Ukraine war

### Security of nuclear and chemical facilities in Ukraine: applicability of international law

Suzanna Khoshabi

On 24 February, the Ukrainian nuclear regulatory body [informed the International Atomic Energy Agency \(IAEA\)](#) that “unidentified armed forces” had seized control of the facilities of the Chernobyl Nuclear Power Plant (NPP). In the following weeks, Ukraine [reported](#) that Russian forces had taken control of the Zaporizhzhya NPP and that a projectile missile had hit a building near the nuclear reactors, causing a fire. In a [resolution](#) adopted on 3 March 2022, the Board of Governors of the IAEA deplored Russia for “forcefully seizing control of nuclear facilities and other violent actions [. . .] which have caused and continue to pose serious and direct threats to the safety and security of these facilities”.

Alongside threats to nuclear facilities, the Organisation for the Prohibition of Chemical Weapons ([OPCW](#)) [pointed to](#) media reports of “shelling targeted at chemical plants located in Ukraine”, including [the Sumykhimprom chemical factory](#) on 21 March. This required residents of a nearby town to take shelter from a resulting ammonia leak.

The security of nuclear and chemical facilities during armed conflict is covered in several international agreements to which both Ukraine and Russia are parties. In early March 2022, Ukraine issued a [communication](#) to the UN Secretary General that it could no longer guarantee full implementation of its obligations under the International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT), and under a number of other treaties, due to the conflict. In a [joint statement](#) to the Conference of the Parties to the Amendment to the Convention on the Physical Protection of Nuclear Material (A/CPPNM), a number of states called on Russia to “cease and desist from any action contravening the letter and spirit of the A/CPPNM”.

However, Article 4(2) of ICSANT and Article 2(4)(b) of A/CPPNM state that the Conventions do not apply to activities of state military forces during armed conflict, which are instead governed by international humanitarian law. Article 4(3) of ICSANT clarifies that Article 4(2) “shall not

be interpreted as condoning or making lawful otherwise unlawful acts”. Article 2(4)(c) of A/CPPNM further provides that nothing in the Convention “shall be construed as a lawful authorization to use or threaten to use force against nuclear material or nuclear facilities used for peaceful purposes”.

While attacks on military targets are legitimate under international humanitarian law, attacks on civilian objects are [prohibited](#). Moreover, [Article 56](#) of the Additional Protocol I (AP I) to the Geneva Conventions specifically prohibits attacks on “works or installations containing dangerous forces”, including nuclear facilities, even (in some circumstances) where such targets are military objectives. Military objectives located at or in the vicinity of such works enjoy similar protection, if an attack “may cause the release of dangerous forces” and “consequent severe losses among the civilian population”.

Article 56 appears applicable to an attack such as that on the building nearby the Zaporizhzhya NPP. While Ukraine reported that no radioactive material was released as a result of the attack, the [Commentary to AP I](#) elaborates that such an attack is legitimate only where it “cannot cause severe [civilian] losses”, implying requirement of a high level of certainty that no such losses will arise.

Regarding chemical security, the shelling of the Sumykhimprom chemical factory has prompted questions about what constitutes chemical warfare under the Chemical Weapons Convention (CWC), which prohibits the use of chemical weapons. Chemical weapons are defined as “toxic chemicals and their precursors, except where intended for purposes not prohibited under this Convention”. Dr Jean Pascal Zanders, a researcher in disarmament and non-proliferation, noted in his [analysis](#) that although the specific properties of ammonia, which was released as a result of the attack, do not make it likely to cause mass casualties, an attack on a chemical facility done with the intent of exploiting the toxic properties of ammonia to cause death would nevertheless fall under the scope of the CWC.

Under international humanitarian law, the [Commentary to AP I](#) clarifies that the Article 56 protection of works containing dangerous forces is intended to be limited to the specific examples mentioned, namely, “dams, dykes and nuclear

electrical engineering stations”, and as such would not extend to chemical facilities. However, a similar protection exists under [customary international humanitarian law, which binds both Ukraine and Russia](#): “particular care” must be taken if works and installations containing dangerous forces are attacked. In its interpretation of the rule, the ICRC has [identified](#) that similar consideration should apply to installations such as chemical plants.

## The use of OSINT to monitor the conflict in Ukraine

Grant Christopher

On 24 February, at 4:50am, Russia [announced](#) its ‘Special Military Operation’ in Ukraine. The invasion had been observed over an hour earlier by Jeffrey Lewis and his team (Tricia White and Ben Mueller) at the James Martin Center for Nonproliferation Studies, who were [looking](#) at real-time traffic data near the Russia-Ukraine border in Google maps.

Lewis, White and Mueller were looking at traffic data in this area because they had Synthetic Aperture Radar (SAR) satellite imagery from the day before, showing tanks and vehicles lined up in columns indicating they were preparing to move. The images were provided by [Capella Space](#), which launched its first commercial SAR-capable satellite in 2018. The Google Maps traffic data they saw was not generated directly from the vehicles in the Russian advance but likely from Ukrainian civilian traffic halted at roadblocks or fleeing the advance. Since this incident, Google Maps has [disabled traffic features](#) in the region after speaking with Ukrainian authorities.

Open-source intelligence (OSINT) is used to discern what may occur, while open-source investigations take place into events that have already occurred. Both have featured prominently in the conflict to date. For example, they have been used to track large-scale troop movements, clarify humanitarian issues, and monitor incidents such as air and artillery strikes. OSINT techniques such as monitoring of technical publications and media has been a standard intelligence method for over a century. However, the availability of satellite imagery and the advent of the internet, including social media, and their adoption by non-governmental organisations, have revolutionised OSINT. In this conflict, mature OSINT techniques have been tested on a European battlefield on a grander scale than

ever before, with ubiquitous data from smartphones complementing expanding commercial satellite imagery capabilities.

OSINT has also influenced international public opinion by countering Russian narratives. Prior to the conflict Russia was perceived as highly capable in information warfare, with an ability to wrongfoot adversaries, sow confusion and obfuscate their own influence in affairs. Before the invasion, NATO states repeatedly voiced their concerns about staged false flag attacks to provide a pretext for an invasion. However, OSINT analysts have been able to [debunk](#) staged false-flag operations. One such incident was footage, released by the breakaway Luhansk People’s Republic via their Telegram channel, of a vehicle being towed from a bridge. In this they claimed they were towing explosives planted by Ukrainian forces away from a bridge that would have prevented evacuation of civilians. Researchers, following standard OSINT practices, checked the video metadata and found it was filmed in 2019 (although some questions remain in this particular case as the time of year indicated by the metadata is not consistent with the observed foliage).

The ability to effectively counter disinformation continued after the war started. One of the most notable incidents was at Bucha, a location on the outskirts of Kyiv, where Russian troops have been accused of conducting atrocities against civilians. After the accusations emerged, Russian Foreign Minister Sergey Lavrov claimed the bodies were staged after Russian forces left the town. However, MAXAR satellite imagery showed bodies appearing in the streets two weeks before the departure of Russian troops. OSINT analysts were able to [confirm](#) from multiple satellite images and roadside video footage the provenance of the appearance of the bodies.

Analysts have been using tried and tested methods based on satellite imagery and social media to track the conflict on the ground and in the air, but have also developed new and innovate approaches. For example, while large-scale troop movements are being tracked daily in an all-source analysis by the Institute for War, analysts such as [@IntelCrab](#) and [@KyleJGlen](#) have been validating and geotagging individual incidents also on a daily basis. This analyses then feeds into the analysis of well-established investigative journalism organisations, such as Bellingcat.

The Ukrainian Government has also seen the value of using its citizens to conduct OSINT. In 2020, it launched the

Diia app as a major e-government initiative offering digital versions of official documents in smartphones. After the invasion, two major features were added: air raid warnings and the ability to geotag Russian troop movements. However, the use of Diia by civilians may [challenge](#) the international law principle of distinction blurring the line between civilian and combatants.

OSINT has become integral to how the conflict is understood. It shapes both how the conflict is reported and how narrative differences are resolved. As the conflict continues, new OSINT practises and users will continue to emerge. Based on the role OSINT has played so far in Ukraine it will continue to be highly relevant there and in future conflict zones.

## Redistributing frozen assets – A legislative perspective

Cristina Rotaru

Asset-freezing measures are part of economic or financial sanctions regimes. Frozen assets remain the property of the sanctioned person or entity. To transfer the ownership of property would constitute expropriation and would normally be unlawful under international law, unless there has been a legal determination that they are the proceeds of criminal activities. Several countries and the EU have proposed or introduced legislation to widen national powers to redistribute frozen assets. These measures are controversial. The United States has been criticised for redistributing by Executive Order \$7 billion in frozen assets that belong to the Afghanistan Central Bank giving half to a trust fund supporting relatives of victims of the 9/11 attacks and the other half to a trust fund to support the humanitarian needs of the Afghan people—in effect, redistributing funds from one of the poorest countries in the world to victims of terror in one of the wealthiest.

In the context of the war in Ukraine, hundreds of billions of dollars in assets of the Russian Central Bank, private Russian banks and Russian oligarchs have been frozen by the United States, EU, UK and Japan, among others. There have been increasing calls for these seized assets to be used to make reparations to Ukraine for war crimes or to help post-war reconstruction. This article discusses the current status of EU and national legislation in a number of countries that may be considering this option.

## European Union

On 17 March, the European Commission announced the creation of a ‘Freeze and Seize’ Task Force to ensure that EU sanctions against Russian and Belarusian targets are implemented efficiently. The Task Force, made up representatives of Member States, was set up with the specific aim to seize and confiscate assets of the designated individuals and companies. In response to a [question](#) by Vice-President of the European Parliament Othmar Karas, the EU Commission stated that by 8 April 2022, €6.7 billion of assets had been frozen and €22.8 billion otherwise blocked through the enforcement of EU sanctions on Russian and Belarusian “oligarchs” by Member States; this increased to €9.7 billion of frozen assets by 29 April.

On 25 May 2022, the European Commission presented a [package of legislative proposals](#) that reinforced the EU’s existing rules for freezing and confiscating assets in the context of organised crime and strengthened its Member States’ powers to prosecute sanctions violations. As part of this, the Commission proposed to add the violation of restrictive measures to the list of EU crimes, setting a common standard on criminal offences and penalties across the EU. The package also included a proposal for a [Directive on asset recovery and confiscation](#), which would allow the EU’s Asset Recovery Offices to trace and identify assets of individuals and entities subject to EU restrictive measures, expanding its powers to confiscate assets from sanctions violations, and establishing Asset Management Offices in all EU Member States to ensure that frozen property does not lose value, thus providing for the sale of assets that could depreciate if not sold, or those that are costly to maintain.

On 3 June 2022, Council Regulation (EU) 2022/880 which amended Council Regulation (EU) No 269/2014 required Member States to lay down rules on penalties for breach of Regulation 269 and ensure they are implemented and to “provide for appropriate measures of confiscation of the proceeds of such infringements”. The Freeze and Seize Task Force is considering legal ways to redistribute frozen Russian assets to compensate war victims and participate in the reconstruction of Ukraine. However, certain Member States, such as Germany, have legal or constitutional limits on confiscating assets, especially without a criminal conviction of the owner.

## Canada and the United States

As of 9 June 2022, the Royal Canadian Mounted Police had [reportedly](#) frozen \$123 million in assets and blocked \$289



million in transactions pursuant to its Russia sanctions regime, under the Special Economic Measures Act (SEMA) and its Russia regulations. In April 2022 Canada [introduced legislation](#) that would give its government the authority to seize and sell assets of sanctioned Russian oligarchs and redistribute the proceeds to Ukraine. The Frozen Assets Repurposing Bill has had its third reading in the Canadian Senate, with one Senator [stating](#) that the bill “would provide that legal basis and that legal tool to help hold dictators, human-rights abusers and kleptocrats accountable for their actions”.

In the United States, the White House proposed [similar legislation](#) to allow US authorities to liquidate the assets of Russian oligarchs and send the proceeds to Ukraine. The proposal seeks to streamline the process for seizure of oligarch assets, expand the assets subject to seizure, and enable the proceeds to flow to Ukraine. The legal pathway in which this could be achieved, however, is not clear. Congress has demonstrated that it is willing to pass such legislation, having already done so for legislation that would authorise the President to seize and liquidate assets worth over \$5 million belonging to foreigners already sanctioned by the United States whose wealth is at least partially linked to President Putin.

Some experts have suggested that only Russian central bank assets should be considered, while others have called for the inclusion of frozen assets of other Russian entities and nationals. To legally achieve this, however, Congress would have to change two laws: the International Emergency Economic Powers Act 1977 (IEEPA) and the Foreign Sovereign Immunities Act 1976. IEEPA provides the legal basis for various sanctions regimes, including for Russia, and grants the President authority to regulate frozen assets. However, that law has historically been interpreted as not having the authority to change who owns assets or has title over them – or ‘vest’. On one occasion in 2001, Congress did amend the IEEPA to allow some vesting of foreign assets at the request of the George W. Bush, in situations where “the United States is engaged in armed hostilities or has been attacked by a foreign country or foreign nationals” – this, however, is not currently the case with Russia. Others have pointed to civil forfeiture as a possible route to seizure. In recent years, this was the route taken by US authorities to redistribute the assets of a frozen North Korean vessel called the *Wise Honest*, with the proceeds then used as compensation for the families of victims of the North Korean

regime (read more in Compliance Watch, [Trust and Verify 165](#)). And while the US has seized Afghan and Iranian assets before, it did so in part to compensate American victims of terrorist attacks in its own jurisdiction, and not in a third country.

The UK Government is [reported](#) to be considering measures to introduce powers to “acquire specific land and property owned by a sanctioned person, without the need to pay them compensation” in the Second Economic Crime Bill, due to be introduced in the next parliamentary (2022–23) session. Home Secretary Priti Patel said it would include powers to seize crypto-assets from criminals, and enable information-sharing on money laundering, in the UK’s attempt to tackle dirty money. This could set the scene for the UK following a similar path to redirecting those assets towards victim compensation.

## Conclusion

No matter the route, the legal path to the redistribution of assets in a sanctions framework is not a straightforward one. Under international law, the assets of convicted war criminals can be used to compensate victims – although this measure has never been applied to Russia, a G20 country, and a state that holds a permanent seat at the UN Security Council table. Whether it is through confiscating the already frozen assets of Russian oligarchs, or by blocking \$300bn worth of frozen Russian central bank reserves held abroad, such measures must be lawful and follow due process if they are to be successful.

Some experts have [drawn attention](#) to the fact that in adopting such measures, states could be in violation of Chapter 2 of the United Nations Articles on the Responsibility of States for Internationally Wrongful Acts, adopted by the International Law Commission in 2001, which lays out rules for countermeasures Member States may take to hold another Member accountable for illegal acts. Article 49 says countermeasures “shall, as far as possible, be taken in such a way as to permit the resumption of performance of the obligations in question”, “induce the wrongdoing state to comply with its international obligations” and be reversible if a targeted state ends its unlawful conduct. However, certain voices have pointed out that once Russian assets are redistributed to Ukraine, the resumption of performance of Russia’s international obligations would be compromised, since those assets would become irrecoverable. To avoid legal setbacks, such measures must observe the international rules-based order. From

a legal perspective, the leap from freezing assets—depriving owners of their use—to redistributing them to third parties is significant. In the larger context, if introduced, such legislation could have notable consequences on how sanctions are used in the future as a foreign policy tool.

## Allegations of non-compliance with the Biological and Toxin Weapons Convention

Angela Woodward

Since Russia invaded Ukraine on 24 February 2022, the United Nations Security Council (UNSC) has convened three times, at Russia's behest, to hear its claims that Ukraine maintains a biological warfare programme, supported by the United States, in violation of both states' obligations under the 1972 Biological and Toxin Weapons Convention (BWC).

At the first UNSC meeting on 11 March, the UN High Representative for Disarmament Affairs, Izumi Nakamitsu, briefed that the United Nations “is not aware of any biological weapons programmes”. She noted that while the BWC lacks an international verification regime, it does “contain several measures to which concerned States parties can have recourse in order to address situations in which States parties have concerns or suspicions about the activities of their peers” including Article V, whereby States parties “undertake to consult one another and to co-operate in solving any problems which may arise in relation to the objective of, or in the application of the provisions of, the Convention”. She also noted that States parties have developed procedures “for clarifying ambiguous and unresolved matters, including the possible convening of a formal consultative meeting to consider such matters”. Further, she noted the existence of the Convention's confidence-building measures (CBM), established pursuant to Article V, which were intended to “prevent or reduce the occurrence of ambiguities, doubts and suspicions” between States parties, and that Russia and Ukraine's CBM returns are available to all States parties. Her statement also highlighted that under Article VI, “Any State party . . . which finds that any other State party is acting in breach of obligations deriving from the provisions of the Convention may lodge a complaint with the Security Council”, and that the Security Council may then agree to initiate an investigation into such a complaint, but noting that this Article has never been activated. The High

Representative then encouraged States parties to strengthen the Convention, including by operationalising and institutionalising it, at the ninth Review Conference later in 2022.

### The Russian allegations

In its statement to the meeting, Russia made wide-ranging claims that Ukraine and the United States were collaborating on biological warfare activities involving “a network of at least 30 biological laboratories [in] Ukraine, where extremely dangerous biological experiments aimed at enhancing the pathogenic properties of plague, anthrax, tularaemia [three traditional biowarfare agents developed by, inter alia, the Soviet Union's biological weapons programme], cholera and other deadly diseases, using synthetic biology, are being conducted” with funding from the United States. Russia claimed a causal relationship between what it believes to be an “uncontrolled increase in the incidence of particularly dangerous . . . infections in Ukraine” and its collaboration with the United States on public health initiatives involving these laboratories, calling Ukraine a “testing ground [using] Ukrainian citizens as guinea pigs”. Further, Russia claimed that Ukraine began destroying biological agents in these laboratories after 24 February in order to prevent the detection of what Russia considers to be nefarious activities, and that a senior US government official had told the US Congress that there were “research facilities there that should not fall into the hands of the Russian military”.

In its statement, Russia said that it had posted all of this information on its Ministry of Defence website and that it “did not rule out the possibility of invoking the mechanisms of Articles V and VI of the Biological and Toxin Weapons Convention at a later date”.

With the exception of China, the prevailing opinion within the UNSC was that the Russian claims were either lacking credibility or that the BWC mechanisms for resolving compliance concerns ought to be used to address them.

### States that assessed Russia's claims as entirely lacking credibility

The **United States** considered Russia's statement to be an attempt to “use the Security Council to legitimize disinformation and deceive people” and said that “Ukraine does not have a biological weapons programme. There are no Ukrainian biological weapons laboratories supported by the United States

– not near Russia’s border or anywhere”. Its statement noted that the United States supports Ukraine to operate its public health laboratory infrastructure safely and securely, and that it is transparent about such support. **Albania** said that Russia’s allegations are “part of its information warfare – a false and unsubstantiated part of the usual propaganda, disinformation and conspiracy theories coming from Russia” and that “allegations about weapons of mass destruction could serve as yet another pretext for Russia to prepare the ground and use chemical or biological weapons during its ongoing invasion of Ukraine, while accusing others”. **France** denounced “in the strongest possible terms the unfounded allegations made by Russia . . . [as] part of a cynical disinformation strategy”. The **United Kingdom** called Russia’s claims “a series of wild, completely baseless and irresponsible conspiracy theories” and said “[t]here is not a shred of credible evidence that Ukraine has a biological weapons programme”. **Ireland** considered that Russia called this meeting “for no other reason that to advance baseless claims against Ukraine and the United States” and is “making unsubstantiated and unfounded claims against Ukraine” regarding biological weapons, finally urging Russia to cease using “the Council as a platform to spread disinformation”. **Norway** stated that Russia convened this meeting “based on an uncorroborated narrative, insinuating that Ukraine is developing biological weapons” which “impacts the credibility of the Council” and that Russia is making an “unsubstantiated claim that Ukraine was preparing aggressive action with the use of biological weapons”.

### **States that considered that the claims should be handled through the BWC’s compliance mechanisms**

**India** stated that “any matters relating to obligations under the BTWC should be addressed as per the provisions of the Convention and through consultation and cooperation between the parties concerned”. **Mexico** and **Ghana** similarly called for disputes to be settled “using the mechanisms established by the Convention” and that a determination “can be made only after further assessment by relevant institutions” respectively. **Brazil** stated that allegations of BWC violations “are extremely serious and as such must be thoroughly substantiated by solid evidence . . . presented to and confirmed by an independent and impartial authority, as foreseen in Article VI” and noting that “it is unfortunate that such investigative mechanisms are

not strong enough” at present. **Kenya** observed that if the UNSC was to consider a formal complaint lodged under Article VI, armed conflict would need to be halted to enable an investigation. **Gabon** called for full adherence to the BWC, and efforts to de-escalate the crisis. **China** “noted with concern the relevant information released by Russia” and stated that “[t]he concerns raised by Russia should be properly addressed”, and that the relevant parties should “provide comprehensive clarification and accept a multilateral verification”.

Ukraine’s invited statement considered that Russia may be invoking ‘non-existent biological weapons’ as cover for a “false-flag operation” and said that Ukraine’s public health system is in full compliance with its international obligations.

### **Subsequent UNSC meetings**

The UNSC meetings on [18 March](#) and [13 May](#) continued in a similar vein with further accusations by Russia and repeated objections by other Member States. In her 18 March briefing, High Representative Nakamitsu repeated her earlier statement, noting in addition that Russia had now submitted documents regarding its allegations (but not a formal complaint under Article VI of the BWC). She also highlighted that the United Nations currently “has neither the mandate nor the technical operational capacity to investigate” such information claiming the existence of a biological weapons programme—although it does have a mandate to investigate biological weapons use, through the [United Nations Secretary-General’s Mechanism \(UNSGM\)](#). Deputy to the High Representative for Disarmament Affairs, Thomas Markram, repeated this statement a third time at the 13 May meeting. Russia, claiming that the United States has refused to engage “in any constructive discussion”, noted that it planned to use the BWC Article V and VI mechanisms and that it would submit the materials it has collected to the UNSC for investigation. To date, it has not done so.

### **Key challenges with BWC compliance**

The UNSC discussion on Russia’s claims illuminate several key challenges with BWC compliance. First, the only available investigation mechanism relating to biological weapons—the UNSGM—relates solely to alleged use of biological weapons (and chemical weapons), and not any other prohibited activity under the BWC (or CWC), due to its genesis as a mechanism established pursuant to the 1925 Geneva Protocol.

Second, if a BWC State party does not invoke the BWC compliance mechanisms (the informal Article V bilateral consultation and cooperation mechanism, or the formal Article V multilateral consultative meeting procedure, or the Article VI complaint procedure involving the UNSC) then suspicions and allegations of non-compliance can be left to fester without resolution, potentially undermining the authority of the Convention.

Third, neither the BWC compliance mechanisms, nor discussion in the UNSC pursuant to the UN Charter mandate to uphold international peace and security, have procedures to impartially collate and evaluate evidence concerning compliance concerns, and to dismiss spurious allegations, such as international verification organisations have.

Fourth, the BWC need to be strengthened, including by updating procedures for using the compliance mechanisms, to achieve operational and institutional readiness, as the High

Representative emphasised in her briefings to the UNSC. The Article V consultative meeting process, [invoked in 1997](#) in the ‘[thrips palmi](#)’ case, still relies on basic procedures set down by the BWC third Review Conference in 1991.

Fifth, there remain strong differences of opinion on whether verification of compliance with the BWC is achievable, and on how it might be better or fully achieved through complementary mechanisms, despite there being no systematic technical discussions on BWC verification since 2001. Some States parties may hold internal views on verification and the verifiability of the Convention that differ from those that they claim publicly, which serves to further politicise verification and compliance with the Convention.

Finally, the resolution of compliance concerns during an armed conflict are operationally difficult and dangerous, as the OPCW’s Joint Investigation Mechanism’s fact-finding missions concerning alleged chemical weapons use in Syria attested.

## Guest article

### “For the sake of all mankind”:<sup>1</sup> The role of women in the Biological Weapons Convention

Lara Bühler

In 1995, representatives of 189 United Nations Member States, UN agencies as well as nongovernmental organizations gathered in Beijing to convene the Fourth World Conference on Women. Member States reaffirmed their commitment to the empowerment of women and concluded with the [Beijing Declaration and Platform for Action](#), arguably the most progressive blueprint ever for advancing women’s rights.

Since the 1990s, much has happened in the area of women’s participation in international politics, and the topic remains particularly pertinent in non-proliferation and disarmament. Although the integration of gender perspectives is addressed in many deliberations on weapons of mass destruction (WMDs)—for example in the Treaty on the Non-Proliferation of Nuclear Weapons (NPT)—it is still relatively low on the agenda of the biological weapons regime. This article explores the role of women in the Biological Weapons Convention (BWC), including: the issue of representation at UN confer-

ences; the impact of biological agents and toxins according to sex and gender; and actions taken on multinational level and through UN agencies. It then outlines the challenges that are likely to prevail in the coming years, before identifying possible strategies for the way ahead.

#### The role of women in the Biological Weapons regime

Following a recurring pattern in disarmament deliberations, the role of women in the BWC manifests itself primarily through a lack of adequate representation at all levels of decision-making processes. Different constellations in the four official BWC meetings—the Review Conference, the Preparatory Committee, the Meeting of States Parties, and the Meetings of Experts—are presented below.

During the last two decades, no woman has ever presided over any of the eight BWC Review Conferences that have taken place (usually every five years) since the first one

in 1980. As with the other BWC Review Conference office holders, especially the Chairs and Vice-Chairs of the three Committees (namely the Committee of the Whole, the Drafting Committee, and the Credentials Committee), only three women have ever held such roles: Minister-Counsellor Titta Maja from Finland, Counsellor Judit Körömi from Hungary, and Deputy Permanent Representative Berna Kasnakali from Turkey. Judit Körömi served as Vice Chair of the Preparatory Committee (which precedes the Review Conference) in 2011 and as Chair of the Drafting Committee in the same year. She also served as Chair of the 2013 Meeting of States Parties, making her the only woman ever to preside the MSP Chair.

Comparably little progress has been achieved regarding the Chairs of the Meetings of Experts. During the 2018 to 2020 intersessional programme, only four out of fifteen Meetings of Experts were chaired by women. However, this development is accompanied by slight linguistic changes: While the BWC Rules of Procedure are not gender-neutral, reports written by the BWC Implementation Support Unit (ISU) include gender-neutral language of ‘Chair’ or ‘Vice-Chair’.

Generally, as the most recent analysis by the UN Institute for Disarmament Research on participation at BWC Review Conferences showed, a correlation between gender composition and the total number of delegates can be identified.<sup>2</sup> In large meetings with more than 100 participants, on average 32 percent of the diplomats are women. In smaller fora, the rate drops to 20 percent. The issue of representation is thus not only one of the leadership levels. It trickles down to the delegations and determines their composition. By comparison, looking at participants from NGOs and academia at BWC Meetings of States Parties, the ratio of female to male participants is on average 77 percent—thereby deflating arguments that try to blame the imbalance in presiding positions on a differing level of interest between men and women.

### **The impact of biological agents and toxins on sex and gender**

Looking beyond mere representation, debates around the implementation of the BWC “have not systematically considered the relevance of sex- and age-disaggregated data on the effects of these weapons”.<sup>3</sup> This is all the more relevant, since rapid advancements in the field of biotechnology and

life sciences pose new challenges to the international community. Proxy indicators from naturally deriving infectious disease outbreaks such as Ebola permit conclusions about differing levels of exposure between women and men, rooted in caregiving responsibilities as well as from sex-specific susceptibility. This suggests that similar developments would follow accidental or intentional disease outbreaks and bioweapons usage. In a way, the Covid-19 pandemic raised awareness that impacts of health crises are never gender neutral. [Research on economic effects](#) of the pandemic showed that women—constituting 39 percent of the global workforce—accounted for 54 percent of overall job losses, while increasingly stemming the unequal division of unpaid caretaking in households. Women were vulnerable because of existing economy-related gender inequalities. At the same time, [global epidemiological findings](#) indicated higher morbidity and mortality in males, thus making men more prone to Covid-19-related health problems.

While data collections on health effects, disease progression, and mortality risk are still in their infancy, comparative values could be drawn from other WMD-related research. For example, it has been “relatively well researched how exposure to nuclear materials and ionizing radiation [effect] women and men differently”.<sup>4</sup>

### **Recent developments**

In 2021, steps towards strengthening the role of women in the BWC regime were taken both during official BWC meetings as well as in the interim between such convenings. For example, the ISU in cooperation with the International Gender Champions Disarmament Impact Group organized an international [webinar](#) on Advancing Gender Perspective in June 2021. The webinar aimed at raising awareness regarding the role of women in strengthening the BWC and concurrently marked the launch of a new [factsheet](#) on Gender and Biological Weapons.

Some initial steps are also being taken at States Parties level. During the Meetings of Experts in late Summer 2021, Panama introduced a [working paper](#) entitled ‘Enhancing Gender Equality and Women’s Empowerment as an Integral Part of the Institutional Strengthening of the BWC’. The paper contained “twelve concrete suggestions, ranging from the adoption of a new mandate to mainstream a gender perspective in all BWC machinery to strengthening the link with other gender equality agendas”. While many States Parties

commended the concrete proposals and emphasized their importance, others requested clarification on some aspects (see the 2020 [Meeting report](#)). Panama re-introduced the [working paper](#) during the Meeting of States Parties in November 2021.

### The way ahead

While awareness of gender imbalances can be raised through gender-inclusive language, achieving quantitative and qualitative gender equality should be the ultimate aim. The BWC is one of the oldest UN conventions, having celebrated the 45<sup>th</sup> anniversary of its entry into force in 2020. It was written at a time when traditional gender roles were still common and awareness about the inclusion of women into the discourse were not as pronounced as they are today. Since the Beijing Declaration, voices have been increasingly raised, calling not only for linguistic adaptation of the UN conventions, but for appropriate participation of women in official bodies. The UN system-wide [strategy](#) on gender parity states that “using gender-inclusive language is a powerful way to promote gender equality and eradicate gender bias”. Moreover, developments within the UN Convention on Cluster Munition (CCM) show what is possible given the political will. In September 2021, the CCM’s Second Review Conference ended with the adoption of the [Lausanne Plan of Action](#), in which States Parties committed to step up in their implementation of the Convention in the next five years and to ensure that gender and age considerations are taken into account. The fact that states were able to agree to proactively promote the inclusion of women within the framework of the convention marks a milestone and can serve as a positive example to other arms control regimes, even though the number and composition of CCM States Parties differs considerably.

Within the realm of the BWC, taking action to achieve equality, including with regard to all office-holder’s positions of official meetings, is long overdue. Furthermore, the 21<sup>st</sup> century, called ‘the age of biotechnology’, should—for the sake of all humankind—pave the way for a systematic inclusion of sex and gender into biomedical and health-related research, and into data collection of public health systems. While beyond the scope of this article, further research and best practices with other multilateral arms control and disarmament treaties should be encouraged. The Ninth BWC Review Conference, scheduled for this year, would offer the

## VERTIC Publication

VERTIC researches and publishes analysis of BWC and CWC related court cases to help identify best practices for creating or improving legislative frameworks to control biological agents, toxins, toxic chemicals and their precursors, and related materials. In *Judicial Enforcement of BWC and CWC implementing legislation*, [VERTIC Brief No.34](#), February 2022, Thomas Brown details three court cases, from the US, Germany and the UK and identifies a number of overarching lessons that can be learned from them. He also provides several recommendations for stakeholders to enhance the drafting and adoption of national legislation to implement the BWC and the CWC.

ideal opportunity for States Parties to incorporate a gender perspective in the adoption of the future work programme and to fill leadership positions with women.

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### Endnotes

1. Adapted from the Biological Weapons Convention [text](#): “Determined, for the sake of all mankind, to exclude completely the possibility of bacteriological (biological) agents and toxins being used as weapons”.
2. Renata Hessmann Dalaqua, Kjølvs Egeland and Torbjørn Graff Hugo, [Still behind the curve: Gender balance in arms control, non-proliferation and disarmament diplomacy](#), UNIDIR, 2019, p.5ff.
3. Renata Hessmann Dalaqua, James Revill, Alastair Hay and Nancy Connell, [Missing Links: Understanding sex and gender-related impacts of chemical and biological weapons](#), UNIDIR, 2019, p.vii
4. Ibid.

## Verification Watch

### Eliminating the use of highly enriched uranium for civil purposes: losing momentum?

Noel Stott

Since at least 2006, there has been a concerted effort to eliminate the use of highly enriched uranium (HEU) for civil purposes and to promote non-HEU alternatives. ‘Civilian’ HEU can be defined as HEU that has been fabricated into fuels for power and research reactors or for marine propulsion. In other words, for non-weapon purposes. Norway, for example, organised two symposia—one in 2006 and another in 2012—and the International Atomic Energy Agency (IAEA) has initiated programmes to support Member States who request assistance in transitioning away from HEU.

The idea to minimize the use of civilian HEU and converting to low enriched uranium those civilian facilities that use HEU was further built on through the Nuclear Security Summit process initiated by US President Barack Obama, in 2009. Four summits were held in: Washington, D.C. (2010), Seoul, South Korea (2012), the Hague, Netherlands (2014) and Washington, D.C. (2016).

Action 61 of the 2010 Non-Proliferation Treaty (NPT) Review Conference Action Plan, also encouraged “States concerned, on a voluntary basis, to further minimize highly enriched uranium in civilian stocks and use, where technically and economically feasible”. This is similar language to that of the Communiqué issued at the end of the first Summit, in which the participating States:

*“Recognize that highly enriched uranium and separated plutonium require special precautions and agree to promote measures to secure, account for, and consolidate these materials, as appropriate; and encourage the conversion of reactors from highly enriched to low enriched uranium fuel and minimization of use of highly enriched uranium, where technically and economically feasible.”*

There is little doubt that in the recent past a considerable amount of HEU has been down-blended to low-enriched uranium (LEU) and separated plutonium converted to mixed

oxide fuel. However, currently, according to estimates published by the International Panel on Fissile Materials (IPFM), as of late 2015, there were over 150 nuclear-powered submarines and ships that continue to use HEU as fuel; about 100 research reactors fuelled with HEU (although others put the figure at 72 research reactors); and, several countries [still use](#) HEU neutron ‘targets’ for medical radioisotope production. More recently, the IPFM [notes](#) that as of May 2022, 22 countries had at least 1kg of HEU in their civilian stocks.

Hence, has minimizing and securing civilian HEU to strengthen the global nuclear security architecture and non-proliferation regime lost its momentum? Whether the forthcoming NPT Review Conference will again call on states to further minimize HEU in civilian stocks and whether stronger language than “where technically and economically feasible” can be agreed remains to be seen. At the same time, maintaining momentum requires greater clarity on what exactly is meant by HEU. Examining the various estimates put forward with regards to South Africa’s HEU holdings illustrates the complex nature of this endeavour.

### Estimating South Africa’s stock of HEU

Following South Africa’s dismantlement of its nuclear weapons programme, its entire inventory of HEU was subjected to IAEA safeguards. The exact content of South Africa’s initial declaration is not in the public domain nor is South Africa’s present fissile material inventory. Both are only known to the IAEA and the officials who manage South Africa’s State System of Accounting for and Control of Nuclear Material. South Africa does not participate in the voluntary [INFCIRC/549](#) declaration process, under which countries declare their civil unirradiated plutonium and may include information on their civil HEU holdings.

The amount of weapons grade HEU held by South Africa is considered sensitive information and its disclosure would be viewed as a national security risk. It is seen as having strategic value—both economic and political/diplomatic. For instance, its disclosure could impact on South Africa’s positions at various international negotiating fora, including the

discussions taking place on the possibility of a future Fissile Material [Cut-off] Treaty. However, given South Africa's nuclear disarmament, while weapons grade HEU could be of strategic value in the context of a nuclear weapons programme, this is not something that South Africa entertains as a NPT States Party.

Despite this, nuclear scholars remain concerned about South Africa's HEU stocks and have attempted over the years to estimate South Africa's past Y-Uranium Enrichment Plant's (Y-Plant) HEU production, as well as the current stockpile of civil HEU holdings. These estimates are limited by insufficient information on South Africa's processes and operations to manufacture nuclear fuel, its irradiation in nuclear power or research reactors and storage, and the reprocessing or disposal of the irradiated fuel. Factors that ought to be taken into account include the type of reactor, the fuel used and whether the irradiated fuel was reprocessed and the nuclear material recycled.

For example, Roy Horton [states](#) that "production estimates have ranged from 400 – 1200 kg", while [other experts](#) estimate that some 800 kg of HEU was declared and placed under safeguards with 350 kg reportedly enriched to more than 90% U-235. The 2010 Global Fissile Material [report](#) published by IPFM estimated South African stocks at between 100 and 1000 kgs. The IPFM also [states](#) that, "... South Africa today maintains an estimated 400–450 kg of unirradiated HEU stocks".

According to [David Albright](#), "the IAEA . . . arrived at a final estimate [of the Y-Plant's production] within about 5-10 kilograms of South Africa's declaration". However, it is also known that the reconstruction of the operating histories of certain facilities—especially the Y-Plant—were complicated by limited record-keeping at that time. Albright, [estimates](#) the Y Plant to have produced in total about 990 kilograms of HEU with an average enrichment of 68%. He further states that "when South Africa signed the NPT in 1991, it had an HEU inventory of over 800 kilograms with an average enrichment of about 70 percent".

Estimating the remaining stock from the weapons programme is further complicated by the fact that some of the HEU from the weapons programme was used to fuel the research reactor and/or to make medical isotopes for an unknown period of time. This was halted by Thabo Mbeki during his tenure as the country's president (June 1999 – September 2008). How much was utilised in this way has also not been made public.

Albright [claims](#) that in total, from 1994 through 2014, South Africa is estimated to have irradiated 185 to 315 kilograms

of 45 percent HEU (initial mass) in targets to make the medical isotope Mo-99. He concludes by stating that South Africa has "remaining fresh 80 or 90 percent HEU, which amounts to about 220-250 kilograms".

According to [Joseph Cirincione](#), "South Africa is estimated to have about 330 kilograms of weapons-grade uranium and another 55 kilograms of 80 percent enriched uranium". Another [study](#) by the US Department of Defense states that "South Africa . . . still holds 700 kg of weapon-grade uranium".

Most scholars also assume that all the HEU processed since 1991 came from the initial inventory of the weapons grade material, whereas, in fact there was an amount of HEU of a lower enrichment grade available. South Africa had, and probably still has, various grades of enriched uranium: uranium enriched to 20% and above; weapons grade enriched uranium (uranium enriched to 90% and above); medium-enriched uranium (uranium enriched to 45%); and low-enriched uranium (uranium enriched up to 19.999%). The nuclear scholars also do not specify how they define the various grades of HEU and in particular 'weapons-grade' material. This failure undermines their concerns about its security.

Nuclear scholars are also known to confuse the issue of the HEU from South Africa's enrichment process with that of the US-obligated nuclear material which had to be repatriated to the US to be safely disposed of. Between 1965 and 1975, the United States [supplied](#) approximately 33 kg of HEU for the SAFARI-1 reactor. 6.3 kg of the US obligated material (spent fuel) was returned to the USA in August 2011. There is no further US obligated material to be returned to the USA according to a [statement](#) by the US Mission in South Africa.

What appears clear today, is that South Africa has effectively eliminated its civilian use of HEU. All uranium enrichment facilities and conversion plants have been [decommissioned](#) and the conversion of the SAFARI-1 research reactor to LEU was [completed](#) in 2009. Finally, any HEU, and in particular weapons grade HEU, that South Africa holds, is under IAEA safeguards and subject to continuous monitoring.

Nevertheless it may be worthwhile further analysing existing public literature to gain further clarity on the perceived distinction between the various grades of enriched uranium: LEU; uranium enriched to 20% and above; medium-enriched uranium; and, weapons grade uranium. In this context South Africa could serve as a useful case-study.



## At the first MSP, verification is on the TPNW agenda

Alberto Muti and Noel Stott

From 21 to 23 June 2022, States Parties to the TPNW will convene under the auspices of the UN Secretary-General for their first meeting. Currently, the Treaty has 65 States Parties and 86 Signatory States. The meeting was originally planned for January 2022, but was postponed due to the COVID-19 pandemic.

According to the draft agenda of the meeting, States Parties will consider the status and operation of the Treaty and other matters important for achieving the objectives and purpose of the Treaty. These include: Declarations regarding the ownership, possession, or control of nuclear weapons (Article 2); Universalization (Article 12); Deadlines for the removal from operational status and destruction of nuclear weapons and other nuclear explosive devices, and their removal from national territories (Article 4); Victim assistance, environmental remediation and international cooperation and assistance (Articles 6 and 7); and, importantly, in this context, Competent international authority, including verification (Article 4).

Of the above, the decision on the deadlines for removal from operational status and destruction of nuclear weapons is set to be one of the key outcomes of the meeting, and one of the firm commitments expected from TPNW State Parties at this stage. While no detailed proposals have been circulated at the time of writing, it is understood that some States Parties will argue for a legally binding, time-bound plan with a relatively short timescale, possibly of 10 years.

Any discussion of Article 4 of the Treaty and of the process intended for the elimination of nuclear weapons under the auspices of the TPNW will bring to the forefront the issue of verification within the Treaty structure.

Article 4 of the Treaty, titled ‘Towards the total elimination of nuclear weapons’, states that the States Parties “shall designate a competent international authority or authorities to negotiate and verify the irreversible elimination of nuclear-weapons programmes”; in addition, the same article commits States Parties which are in the process of eliminating their nuclear weapons to join the IAEA safeguards regime.

As stated in *Trust and Verify 167*, a major criticism of the Treaty is that its text lacks detailed verification and compliance

provisions, and so may not provide assurances to maintain a world without nuclear weapons. Building the technical and procedural means to verify nuclear disarmament is a complex, long-term endeavour, and several States Parties have recognised the need to begin working on it within the TPNW framework, as evidenced by references to this kind of work in working papers, statements and public proposals.

Under Article 4, a number of potential verification tasks have already been specified for this competent international authority. These include:

- To verify that a States Party that, after 7 July 2017 owned, possessed or controlled nuclear weapons or other nuclear explosive devices has indeed eliminated them and/or irreversibly converted all of their nuclear-weapons-related facilities;
- In co-operation with each State Party that has nuclear weapons, to ensure that they are removed from operational status;
- In co-operation with each State Party, to develop a time-bound plan for the verified and irreversible elimination of the nuclear-weapon programme as a whole; and
- To submit such plans to annual meetings of States Parties or review conferences for approval.

It is believed that the first meeting of States Parties will agree on an intersessional process by which informal working groups further discuss a number of issues relevant to the Treaty, including the establishment of such a competent international authority or authorities. Discussions will need to focus on its potential mandate, lessons and best practices from other similar organisations, as well as the expertise required by the staff who are employed, and other organisational matters.

Moreover, it is understood that States Parties to the TPNW will be considering the establishment of a Scientific Advisory Group (SAG) to identify additional measures to strengthen the treaty and to make concrete progress towards global nuclear disarmament. This could also be a crucial body to provide advice on all of the scientific and technical aspects of the Treaty’s implementation, including verification methodologies, techniques and measures—which need to take into account the need to prevent the disclosure of proliferative information, while also providing assurance that a nuclear programme will not be re-constituted or acquired in the future.

Developing robust, credible approaches to nuclear disarmament verification is a long-term endeavour, which currently sees contributions by a range of initiatives, institutions and networks, including experts from governments, academia and civil society. Some of the debates slated to take place at the meeting may see the TPNW community take steps towards joining this effort.

## Prospects for an ASAT Treaty

Grant Christopher

On 18 April, US [Vice President Kamala Harris](#) announced that the United States would refrain from conducting destructive, direct-ascent anti-satellite (ASAT) missile testing. Moreover, the United States would seek to establish this as an international norm, supporting responsible behaviour in space. Is it likely that this norm will be adopted by other states and is there any prospect for a legally binding treaty?

Only four states have conducted a direct-ascent ASAT test: the United States, most recently in 2008, China in 2007, India, in 2019, and Russia, most recently in 2021. A 'direct-ascent' is like a ballistic missile test in that the missile is launched from Earth. Such an ASAT test is a risky demonstration of state capability. In addition to any escalatory risk, a kinetic test, or a 'fly-by' test that goes wrong, will create [space debris](#). Debris will typically remain in orbit as hazard to any other satellites in a proximate or overlapping orbit. Space debris travels at such high speeds that even a flake of paint is a concern. ASAT testing is not the only type of event that can create debris: any collision such as the 2009 collision between a defunct Russian spacecraft and a US commercial Iridium spacecraft will create debris. If a critical amount of space debris is created, Kessler syndrome will occur where cascading debris creation will destroy all satellites in low earth orbit and render the environment inoperable for all.

Direct ascent systems are not the only type of ASAT weapon. The earliest ASAT weapons were nuclear-tipped interceptors, developed by both the United States and Soviet Union, which would have destroyed most satellites in the same orbit and caused long term degradation to orbits, due to radiation damage. To prevent this, the 1967 Outer Space Treaty was agreed which included a provision to ban orbiting nuclear weapons. ASAT development continued with co-

orbital weapons, which would remain in orbit until required. The earliest versions of these were tipped with conventional explosives. This type of system was tested by the Soviet Union intermittently from 1963-1982, although the system was discontinued after 1993. Direct ascent ASATs are seen to have the advantage of not requiring an object already in orbit and thus a decreased response time, and the US developed a system that included debris-generating tests in the 1980s. Non-kinetic means of ASAT have also been developed that include cyber operations, laser blinding and electronic interference which can be conducted remotely or from so-called Rendezvous Proximity Operations (RPOs). Laser-based systems have been developed since the 1980s and electronic interference/cyber disruption since the 2000s.

To prevent the threat to the orbital environment, several UN member states are promoting a responsible behaviours in outer space agenda through UN General Assembly Resolution [A/76/77](#) (passed in July 2021) and the Open-ended Working Group (OEWG) established by UN General Assembly resolution [A/RES/76/231](#) in December 2021. The responsible behaviours agenda seeks to preserve Earth's orbit for current and future use via norms, rules and principles of responsible behaviours. This '[sustainability](#)' agenda involves tracking current assets and debris, refraining from behaviour that could lead to miscalculation or destabilise the environment such as ASAT testing, ensuring the ability to de-orbit defunct systems and developing methods to remove space debris.

Even with support and momentum from the responsible behaviours agenda, transitioning the ASAT testing norm into a legally binding treaty is challenging and was unlikely, even before the Russian invasion of Ukraine. China and Russia have previously proposed the Prevention of Arms Race in Outer Space (PAROS) treaty, which has always been [opposed](#) by the United States, inter alia, on security grounds and its verifiability. This has resulted in a decades long deadlock in the Conference on Disarmament and a similar lack of progress at the UN Committee on Peaceful Uses of Outer Space (COPUOS). Hence, the responsible behaviours agenda and the emphasis on norms, rules and principles of good behaviour is a push via the UN for progress in an area where pursuit of a treaty has been deadlocked.

A manageable and realistic goal in place of a binding treaty would be a normative framework against kinetic ASAT

testing, promoted by a variety of states, and supported through the responsible behaviours in outer space agenda. Multiple states can track Space Situational Awareness with sufficient accuracy for verification of this norm.

The OEWG has just commenced. China has [indicated](#) qualified support for the US moratorium on ASAT testing giving a “welcome to all arms control initiatives that truly contribute to PAROS”. The qualifier is that China had declared it is wary of the United States seeking space supremacy and using

even a normative measure to cement unilateral advantages. Russia did not support the US moratorium in its [statement](#) to the OEWG and made appeals to the PAROS formulation. Nevertheless, the norm against further direct ascent ASAT testing may hold: China, Russia and India each have a demonstration test under their belt so may tacitly accept the norm and refrain from further testing. While there appears to be little prospect of a binding treaty, a verifiable norms-based regime may be achievable.

## Implementation Watch

### Man on trial in Germany for chemical weapons-related transfer

Thomas Brown

On 9 February 2022, the German Federal Public Prosecutor brought charges at the Dresden Higher Regional Court against a man for several alleged offences resulting from a business relationship with a company based in Russia. He was arrested by police on 18 May 2021 in Leipzig and has been held in custody since then.

The man, the sole managing director of a trading company in Saxony, was charged with attempting to encourage the manufacture of chemical weapons, in violation of section 20(1)1 and 2 of the War Weapons Control Act after allegedly arranging the delivery of a piece of equipment that could be used for this purpose. Germany ratified the Chemical Weapons Convention (CWC) on 12 August 1994 and the treaty entered into force on 29 April 1997. The War Weapons Control Act helps to implement Germany’s obligations under the Convention by criminalising activities with chemical weapons. Revisions to the Act in 1990 added sections 18 and 20, which prohibit and penalise the use, development, manufacture, possession, transfer or acquisition of chemical weapons in line with Article 1(1) of the CWC.

He was also charged with violating sections 18(5)2 and 18(7)2 of the Foreign Trade and Payments Act for exporting goods without a decision by the competent authority on whether a licence is necessary or without obtaining a licence from the competent authority. The provisions prohibit and penalise actions that contravene Article 4(2) of EU Regulation 2021/821 setting up a Union regime for the control of exports, brokering, technical assistance, transit and transfer of dual-use items (recast).

Through the Foreign Trade and Payments Act and EU Regulation 2021/821, Germany implements transfer control related provisions of non-proliferation treaties and related obligations under United Nations Security Council Resolution 1540 by creating controls over transfers for certain materials, equipment, technology and software. Since November 2017, the man is alleged to have exported without permission dual-use goods valued at a total of around 1 million euros. It is claimed he falsified export documents in order to disguise the end destination of the goods.

The main hearing of the trial opened on 24 May 2022, and the case is expected to continue throughout June and July.

## Compliance Watch

### No consensus in the Security Council on North Korea

Cristina Rotaru

On 11 May, the UN Security Council (UNSC) convened a [meeting](#) to discuss the efficacy of its sanctions regime against North Korea in the light of an uptick in ballistic missile tests by the regime in Pyongyang, including one thought to be its largest intercontinental ballistic missile (ICBM).

The most recent UNSC Resolution on North Korea, [Security Council Resolution 2397](#) (2017), contained a provision on further consequences in the event of another ICBM launch. As a result of the alleged ICBM tests on 24 March, 4 May and 7 May, a new [draft resolution](#) was proposed by the United States, that [according to a senior US official](#) would “further restrict North Korea’s ability to advance its unlawful WMD [weapons of mass destruction] and ballistic missile programmes” and would “streamline sanctions implementation and further facilitate the delivery of humanitarian aid to those

in need”. The official added that it would further restrict exports of tobacco, crude oil and fuel to North Korea, and expand a ban on ballistic missile launches to apply to cruise missiles or “any other delivery system capable of delivering nuclear weapons”. Although 13 members of the UNSC voted to adopt the resolution, it was opposed and vetoed by Russia and China.

In the UNSC discussion participating delegates expressed concern at North Korea’s ongoing nuclear and missile programmes, including the surge of its launches using ballistic missile technology, and the consequences this may pose for international security. Several States urged further action by the Council, including an updating of the sanctions regime.

The Russian representative responded that the UN sanctions posed a threat to the citizens of North Korea, and carried “unacceptable humanitarian consequences”, while the Chinese representative stressed that sanctions were not constructive, and a new draft resolution expanding the sanctions UN’s existing regime against North Korea was not “the appropriate way to address the current situation”.

## Centre News

### National Implementation Measures

Sonia Drobysz, Yasemin Balci, Thomas Brown and Suzanna Khoshabi

The National Implementation Measures (NIM) team has continued to implement a number of global projects.

#### Legislative assistance for national implementation of the BWC, CWC and UNSCR 1540

Under a project funded by the Norwegian Ministry of Foreign Affairs the NIM team provides legislative assistance for national implementation of the Biological Weapons Convention (BWC) and the Chemical Weapons Convention, alongside activities under the Extended Assistance Programme of EU Council Decision in Support of the BWC. Engagement continued with several countries in cooperation with international partners,

including the BWC Implementation Support Unit (BWC ISU), to conduct awareness-raising, legislative analysis and drafting.

Thomas Brown, Legal Officer, presented on BWC implementing legislation at an online workshop hosted by the BWC ISU in December 2021 for CARICOM (Caribbean Community) BWC States Parties. Thomas further published a [legislative analysis brief](#) focusing on CB court cases in February 2022. Suzanna Khoshabi, Associate Legal Officer, attended a virtual workshop on Botswana’s UN Security Council Resolution (UNSCR) 1540 National Implementation Action Plan during 8-9 February 2022. She further presented on national implementation of the BWC during a session on ‘Inter-agency cooperation and national legislative implementation of the BWC’ for another country also organised by the BWC ISU on 14 March 2022.

VERTIC's Co-Programme Director for National Implementation Sonia Drobysz and Thomas also attended the Preparatory Committee for the Ninth BWC Review Conference in Geneva, from 4–8 April 2022, where Thomas delivered VERTIC's [statement](#) during the informal NGO session.

Yasemin Balci, VERTIC Co-Programme Director for National Implementation, participated in a workshop on the BWC during 10–12 May 2022 in Croatia, organised by the BWC ISU and RACVIAC, the Centre for Security Cooperation in the South Eastern Europe region. Yasemin also participated in the open consultations on the Comprehensive Review of the implementation of UNSCR 1540 in New York during 31 May–2 June, delivering VERTIC's [statement](#).

As part of EU CBRN CoE Project 81 on Enhanced Biosecurity in South East Asia, the NIM team continued to provide biosecurity legislative analysis and met virtually with state representatives in the region and project partners. The team discussed the partner countries' legislative response to the COVID-19 outbreak, as part of Work Package 7 addressing the response to COVID-19 in South-East Asia, during a regional webinar on 27 January 2022.

The team made significant progress with implementation of Work Package 1 on the legislative aspects of chemicals management under EU CBRN CoE Project 61 in South East Asia. In collaboration with partner countries, we have now completed work on legislative analyses for a number of international instruments for chemicals management, and developed a number of reports, guidelines and manuals, including on lists of high-risk chemicals, engagement with the Sustainable Development Goals on chemical issues, legislative enforcement, regulating chemical waste, and a manual of best practice on the legislative control of chemicals.

### **Universalisation and implementation of ICSANT**

The NIM team has further progressed with a project to promote universalisation and implementation of the International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT), implemented by the UN Counter-Terrorism Centre of the UN Office of Counter-Terrorism (UNOCT) and the UN Office on Drugs and Crime. In coordination with UNOCT, the team sent a questionnaire developed under the project to states on their experience of joining ICSANT (or not doing so) and is now in the process of analysing the results.

### **Other activities**

NIM staff also participated in several other activities. Suzanna attended the EU Non-Proliferation and Disarmament (EUNPD) Conference on 6–7 December, and the EUNPD Next Generation Workshop on 15 December 2021. She also attended the civil society consultations with Izumi Nakamitsu, the UN High Representative for Disarmament Affairs, on 15 February 2022. Yasemin Balci was invited to give a lecture on nuclear security at the 2022 Fundamentals of International Nuclear Law school, hosted by the Nuclear Energy Agency and OECD, on 16 February. Yasemin and Sonia also gave a presentation on 'Universalisation, implementation and strengthening of the BWC: Legal perspectives ahead of the 9<sup>th</sup> Review Conference' at the US Defense Threat Reduction Agency Strategic Forum on 23 February 2022. In addition, Sonia spoke at the Global Partnership Signature Initiative Wilton Park Conference on Wednesday 20 April 2022. Finally, Thomas [presented](#) on legislative implementation of the nuclear security instruments at the first IAEA International Conference on Nuclear Law in Vienna on 26 April 2022.

## **Verification and Monitoring**

Alberto Muti, Grant Christopher and Noel Stott

### **Building capacity for nuclear disarmament verification**

This project, funded by the Norwegian Ministry of Foreign Affairs and which aimed to build countries' capacity for contributing to nuclear disarmament verification (NDV), concluded on 1 December 2021. Project activities included research and engagement in Argentina, Brazil, Kazakhstan and South Africa and the development of a NDV hub in each region. The project also explored how to take forward the work of the two UN Groups of Governmental Experts on NDV and make progress on the issue globally. In November 2021, the project held the first (online) Trilateral meeting that included participants from all the hubs. At the conclusion of the project the three emerging disarmament verification hubs provided Action Plans to continue the initiative beyond this phase.

### **Open-source monitoring of the North Korean nuclear programme**

The objective of this project, funded by Global Affairs Canada, is to undertake an in-depth study of North Korea's WMD

programme using only open-source information. By developing and implementing innovative technical methodologies, the project aims to develop a credible assessment of the country's capabilities that can be interrogated and used by a range of stakeholders. The focus of the project is to develop a methodology and analysis on the nuclear weapons programme. In parallel, we are exploring the applicability of the model to biological and chemical issues. Key staff departures from RUSI (Royal United Services Institute), CNS (Centre for Non-proliferation Studies) and VERTIC occurred in this period, including the co-project leads for RUSI and CNS.

### **UN Secretary General Mechanism – increasing participation and strengthening practical knowledge bases**

This project expanded on VERTIC's recent activities on bio-forensic investigations in the context of the UN Secretary-General's Mechanism (UNSGM). The project delivered an adapted version of VERTIC's 2019 UNSGM tabletop exercise (TTX) in a regional context in Central Asia (carried out remotely through videoconferencing tools). The event aimed to serve both as an awareness-raising event on UNSGM and as an opportunity to look at region-specific dynamics and challenges. The TTX was held online on 7 and 8 March 2022. Participants had little to no prior knowledge of the UNSGM but expressed interest in the concept and in future work on the topic. VERTIC partnered with Kazakhstan-based International Science and Technology Centre (ISTC) for logistical and outreach support.

### **Capacity-building and remote assistance on IAEA Safeguards implementation**

This project, funded by the UK Government, relaunched our assistance activities on International Atomic Energy Agency (IAEA) Safeguards and ran from October 2021 to March 2022. The team studied the approaches taken by other assistance providers including the IAEA and the International Nuclear Safeguards Engagement Programme to remote, online Safeguards training and reviewed the programme's existing corpus of training material for online use. The team also conducted a legislative survey and a mapping of states that may require Safeguards implementation assistance for outreach in future years. Under this grant, outreach to countries is carried out

in coordination with the UK Government, which wanted to ensure they would approach prospective recipients of assistance first. Due to delays from the funder and the movement of NPT Review Conference some planned project activities were not conducted.

### **UN Secretary General Mechanism on alleged use – Mapping resources**

This project will see VERTIC engage directly with a range of international organisations to identify resources that could be leveraged in a future investigation of alleged biological weapons use. Organisations include the World Health Organisation, the World Organisation for Animal Health, and the UN Food and Agriculture Organisation. In addition to identifying resources in these organisations the project will also investigate challenges in making them available due to logistical, legal or institutional issues, as well as appropriate mitigation strategies.

### **Other activities**

In March 2022, Co-Programme Director Alberto Muti presented at a UK Project on Nuclear Issues workshop for emerging nuclear policy specialists on 3S (Nuclear Safety, Security and Safeguards).

In April, Noel Stott was invited to provide a presentation on the benefits of On-Site Inspections to the UN Disarmament Commission's 2022 substantive session. The session marked the first time since 2018 that the Commission has been able to discuss substantive work.

In May, Co-Programme Director Alberto Muti participated in planning for the 2022 IAEA Symposium on International Safeguards, including abstract review and workshop planning. VERTIC will also present at the Symposium. Also, Dr Grant Christopher was elected a vice-chair for the ESARDA (European Safeguards Research and Development Association) Verification Technologies working group, pending board approval.

Researcher Anuradha Damale departed VERTIC in February 2022. Since then, Anuradha has taken up a position as Policy Fellow and Programme Manager at BASIC and is pursuing a PhD on space issues at the EU Funded Third Nuclear Age Project at the University of Leicester. In addition to supporting implementation of the programme's nuclear work, Anuradha substantively contributed to VERTIC's external

engagement by running its social media and facilitating online events. Before leaving, she delivered training to her colleagues on both these issues. Anuradha also made a significant contribution to efforts – both within the VM team and cross-programme – to bolster VERTIC’s reputation and raise funds in the space security and responsible space behaviours sectors.

## Compliance Mechanisms and Measures

Angela Woodward and Cristina Rotaru

### North Korean maritime sanctions

The Compliance Mechanisms and Measures (CMM) Programme’s work on implementing UN Security Council UN Security Council sanctions on North Korea continued into the first and second quarters of 2022. The team is involved in training activities with states and other relevant maritime stakeholders involving in implementing the sanctions. Operating as part of a consortium together with the James Martin Center for Nonproliferation Studies (CNS) and King’s College London, the CMM team continued to develop online training courses on sanctions implementation pertaining to due diligence in sanctions implementation and to ship registry operations.

CMM’s project mandate focuses primarily on research of UN Security Council maritime sanctions-related issues, particularly on matters related to their legal implementation, but also includes identifying new trends in sanctions evasion tactics, examining case studies of enforcement and compiling best practices of effective national implementation.

### Outreach and external relations

In light of the Covid-19 pandemic-induced travel restrictions continuing in much of the world, the CMM programme’s work during 2022 has continued to take place online. Assistance, training and similar instructional activities that would otherwise be delivered during in-person conferences and meetings have been rescoped for delivery online, and participation in network events has similarly moved to online conferencing platforms, although attendance at some in-person events gradually recommenced this period.

**Cristina Rotaru**, based in London, has continued to engage with the sanctions and compliance community through a number of online webinars and in-person events of relevance to the CMM Programme’s work. Cristina participated in a

workshop on ‘Developing an armed drone code of ethics’ hosted by the University of Southampton at the British Library in London on 3 March 2022.

**Angela Woodward**, based in New Zealand, gave the keynote [speech](#) on ‘Women, peace and security’ to the Diplomatic League youth engagement platform of the Philippines Department of Foreign Affairs webinar on 26 March. She gave a keynote [speech](#) during the launch of the Asia-Pacific branch of the Emerging Voices Network on 30 March. Angela participated in a Project Ploughshares workshop on ‘Arms Control in Outer Space: Asia-Pacific perspectives’ on 12 April. The [Nuclear Weapons Ban Monitor 2021](#), for which Angela contributed analysis on nuclear safeguards and verification issues pertaining to the Treaty on the Prohibition of Nuclear Weapons, was published in April. In May, Angela was appointed to the New Zealand Autonomous Weapons Systems Working Group, a forum of non-governmental and governmental experts to help inform policymakers as they continue to elaborate New Zealand’s [policy](#) in this area.



# building trust through verification

## Mission statement

VERTIC is an independent, not-for-profit, nongovernmental organisation. Our mission is to support the development, implementation and effectiveness of international agreements and related regional and national initiatives, with particular attention to issues of monitoring, review, legislation and verification. We conduct research, analysis and provide expert advice and information to governments and other stakeholders. We also provide support for capacity building, training, legislative assistance and cooperation.

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