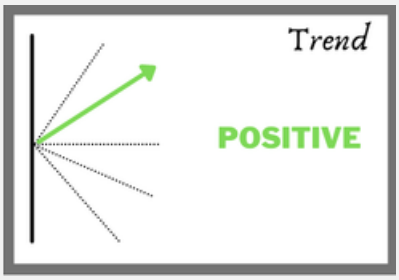
# CAPSS Nuclear Tracker

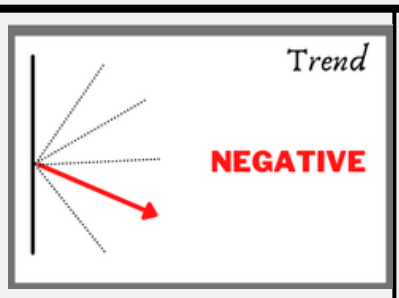
**Issue 20 : April-June 2026**

In mapping nuclear trends in the second quarter of 2026, the NukeNerds at CAPSS observed continuity in the steady pace of nuclear modernisation and expansion across all nine nuclear-armed states, as also described in the latest SIPRI Yearbook. The quarter also reinforced the continuing challenges facing multilateral nuclear arms control and disarmament. Discussions at the 2026 NPT Review Conference (RevCon) failed to beget a final document for the third consecutive review cycle, reflecting persistent divisions over non-proliferation and disarmament, safeguards, and regional security issues. Ongoing developments around Iran's nuclear programme further illustrate the complex interaction of military escalation, diplomacy, and safeguards challenges. Concerns also heightened over the attacks on nuclear facilities in West Asia and Ukraine by missiles and drones. Meanwhile, nuclear energy continued to show encouraging progress. This quarter, we introduce a new section on non-power applications of nuclear technology, as these are growing worldwide. We look forward to your comments and suggestions.

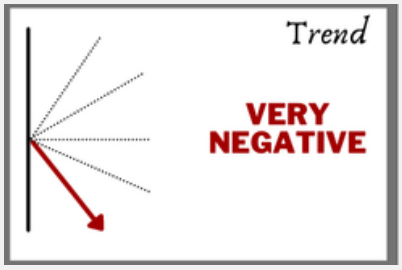
## TREND OVERVIEW




- **Nuclear Energy**
  Ms Bhawna Budhwar
- **Non-Power Applications of Nuclear Technology**
  Ms Sanaa Alvira




- **Missile Developments**
  Dr Javed Alam
- **Vertical Nuclear Proliferation**
  Dr Javed Alam
  Mr Prahlad Kumar Singh
- **North Korea**
  Dr Niraj Kumar Das
- **Nuclear Security**
  Ms Sanaa Alvira
- **Nuclear Non-Proliferation**
  Dr Niraj Kumar Das

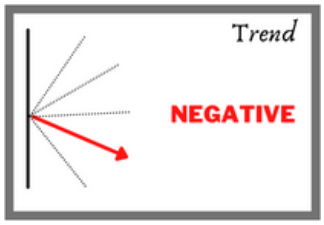



- **Iran**
  Dr Niraj Kumar Das

**Missile Developments**

Dr Javed Alam

*Previous Trend: Negative*




Right at the start of the second quarter, **North Korea** conducted three back-to-back tests of its short-range ballistic missiles. On April 07, 08, and 09 North Korea test-fired the KN-25, KN-23 and KN-23, respectively. The tests come as a top North Korean diplomat repeated in a statement that Pyongyang sees South Korea as "the most hostile enemy state" that "can never change." Further, on April 20, North Korea tested another short-range ballistic missile, the Hwasong 11D/KN-31. North Korea conducted this test to evaluate the characteristics and power of the cluster bomb warhead and the fragmentation mine warhead applied to the surface-to-surface missile. North Korea again tested the Hwasong 11D SRBM on May 26.

In South Asia, testing activity gathered pace, particularly with respect to existing missile systems. On April 15, **Pakistan** tested its SMASH/P282 Anti-Ship Ballistic Missile. The P282 is a ship-launched missile that carries a single warhead and has a range of 350 km. This was the third test of the P282 since November 2024. On May 01, **India** tested the long-range hypersonic anti-ship missile (LR-AShM). Designed for versatility, the LR-AShM can carry multiple payloads over distances beyond 1,500 km. Built on a two-stage solid rocket system with a hypersonic glide vehicle, it delivers what the Indian defence ministry earlier described as a "carrier-killer" capability during its first test on November 14, 2024. In a major boost to its nuclear deterrence capability, India, on May 09, successfully tested the advanced Agni V missile with a multiple independently targeted re-entry vehicle (MIRV) system. It was in March 2024 that India first test-fired this MIRV technology on Agni 5. On May 22, India successfully conducted the test launch of Agni I ballistic missile, with a range of 700km to 1200km, which is capable of delivering nuclear warheads.

**Russia** also kept the momentum on missile testing. On May 12, the Russian Strategic Rocket Forces successfully tested the Sarmat ICBM. This is the second successful test of the missile. The first one took place in April 2022. Sarmat is a silo-based ICBM capable of carrying

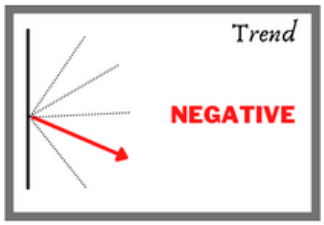
MIRVs. On May 21, at the end of a strategic exercise, Russia launched a Yars missile, also known as SS-27 M0d/SS-29. This is both silo-based and road-mobile ICBM with MIRV capability. During the same exercise, Russia also launched the SS-N-23/R-29 RMU Sineva missile, which is a submarine-launched ballistic missile with a range of 12,000 km and is capable of carrying MIRVs. On May 21, Russia also launched the KH-47M2/Kinzhal, an air-launched ballistic missile, and the SS-26/Iskander-M short-range ballistic missile.

Meanwhile, on May 20, the **U.S.** Air Force Global Strike Command conducted a test launch of an unarmed Minuteman III intercontinental ballistic missile.

**Vertical Nuclear Proliferation**

**Dr Javed Alam & Mr Prahlad Kumar Singh**

*Previous Trends: Negative*




In April 2026, a CNN report based on satellite imagery indicated that **China** was undertaking extensive modernisation work at nuclear weapons-related facilities in Sichuan province, including Sites 906 and 931. The investigation also revealed significant expansion at one of the complexes, including the construction of a massive dome-shaped structure near the Tongjiang River over the past five years. The facility appeared to remain under development, with equipment still being installed. These developments point to continued investment in nuclear infrastructure and are widely seen as part of China's broader efforts to modernise and expand its strategic capabilities.

On April 26, the **U.S.** Navy commissioned its 26th Virginia-class fast-attack submarine, USS Idaho (SSN 799). As the newest submarine to join the fleet, Idaho (SSN 799) brings cutting-edge warfighting capability to the U.S.'s undersea forces. Virginia-class submarines feature enhanced stealth, sophisticated surveillance capabilities, and special warfare enhancements to meet the U.S. Navy's multi-mission requirements. These submarines weigh 7,800 tons, are 377 feet long, and have a beam of 34 feet. They are powered by a nuclear reactor plant that will not require refuelling during the ship's planned life, reducing lifecycle costs and increasing operational availability.

On May 26 2026, **North Korean** leader Kim Jong Un supervised tests of new modular missile launch systems, including a launcher for Hwasong-series short-range ballistic missiles and a multiple tactical cruise missile system. According to state media, the systems are designed to enhance the precision, range, and responsiveness of North Korea's missile forces. Kim described the tests as part of efforts to strengthen deterrence and develop strike capabilities capable of imposing unacceptable costs on an adversary. Later on June 4 2026, **North Korea** publicly unveiled a new nuclear material production facility during a visit by Kim Jong Un,

who called for the country's nuclear forces to expand at an "exponential rate." South Korean authorities assessed the facility to be a uranium enrichment plant, indicating continued efforts by Pyongyang to increase its capacity to produce fissile material for nuclear weapons.

On June 8, the Stockholm International Peace Research Institute (SIPRI) released its latest assessment of global nuclear forces. The report noted that all nine nuclear-armed states continued to modernise their arsenals in 2025, with most deploying new nuclear-capable systems. **China** remained the fastest-growing nuclear power, increasing its estimated stockpile to 620 warheads and continuing the construction of new missile silo fields. While most Chinese warheads are believed to remain in storage, SIPRI assessed that Beijing may now have deployed a limited number of warheads with operational forces, possibly up to 34, representing a departure from its long-standing practice of keeping warheads and launchers separated in peacetime.

**India's** stockpile was estimated at around 190 warheads and continued to support a maturing nuclear triad. SIPRI noted that India's increasing reliance on canisterized missiles and sea-based deterrence patrols suggests a possible shift towards mating some warheads with launchers during peacetime. The report claims that **India,** for the first time, deployed 12 nuclear warheads.

The SIPRI report has noted that **Pakistan** is continuing on its path to develop its nascent nuclear triad. While Pakistan's land and air capabilities are well established, its sea-based capabilities are still in development and testing. Pakistan's development of several new delivery systems and accumulation of fissile material suggest, as noted by SIPRI, that its nuclear weapon arsenal and fissile material stockpile are likely to continue to expand over the next decade. However, forecasts vary considerably due to limited publicly available official data. On June 08, it was reported that the first **Pakistan**i Hangor-class submarine had reached its home port in Karachi. The submarine, named PNS Hangor, is the first of eight submarines of this class to be inducted into the Pakistani Navy by 2028, with four of these submarines to be built in Karachi. The Hangor-class submarine is a derivative of the Chinese Type-29A attack submarine.

**North Korea** was estimated to possess around 60 assembled warheads and enough fissile material to produce at least 90 warheads potentially. Continued fissile material production and the development of new missile systems indicate that its arsenal is likely to

continue expanding. Pakistan also continued developing new delivery systems and advancing its nascent sea-based deterrent, suggesting further growth in its arsenal over the coming decade.

The **U.S.** is continuing on its path of nuclear modernisation, and the programme includes the LGM-35A Sentinel intercontinental ballistic missile (ICBM) to replace the LGM-30G Minuteman III ICBM; the Columbia-class nuclear-powered ballistic missile submarine (SSBN) to replace the Ohio-class SSBN; and the B-21 Raider heavy bomber aircraft to replace the B-2A. The SIPRI report also noted that the USA is modernising each of these delivery systems associated with nuclear warheads. The report also stated that the USA is also modernising its non-strategic nuclear forces, which include the new B61-12 bomb, production of the nuclear-capable F-35A combat aircraft, upgrades to bases in Europe, and development and production of the new nuclear sea-launched cruise missile.

The report on **Russia's** nuclear programme noted that it is moving closer to completing the replacement of Soviet-era strategic nuclear forces with modern systems, including the fixed and mobile versions of the Yars ICBM, the Avangard hypersonic glide weapon system, the Sarmat heavy ICBM, and the Borei-class SSBN. In addition, Russia is developing follow-on ICBM systems, including the Kedr, Osina and Yars-M. Russia is also modernising its airborne and sea-based strategic nuclear weapon systems and non-strategic nuclear forces, as well as developing the infrastructure for deploying nuclear weapons in Belarus.

The **United Kingdom** maintained its modernisation programme under its continuous at-sea deterrence policy and is expected to increase its warhead stockpile in line with the higher ceiling announced in 2021. London has also reduced transparency regarding the size of its arsenal and plans to reintroduce an air-delivered nuclear role through the acquisition of nuclear-capable F-35A aircraft.

With regards to **France**'s nuclear weapons, the SIPRI report has mentioned that its stockpile is believed to have remained stable throughout 2025, at approximately 290 warheads. However, the report noted that France continued to upgrade its SSBN force. It has introduced the enhanced M51.3 SLBM, which has an updated warhead, and pressed ahead with its plans for a third-generation SSBN. France has upgraded its ASMPA (air–sol moyenne portée–améliorée) air-launched cruise missile (ALCM) to the longer-range ASMPA-R (air–sol moyenne portée–améliorée rénové). It is developing a new follow-on (the ASN4G) with a significantly longer range and a new warhead (the TNA-2). The French government also plans to reactivate the nuclear mission at an airbase in eastern France by introducing two additional

squadrons of nuclear-capable Rafale combat aircraft by 2035. These plans will increase the size of the French nuclear weapon stockpile.

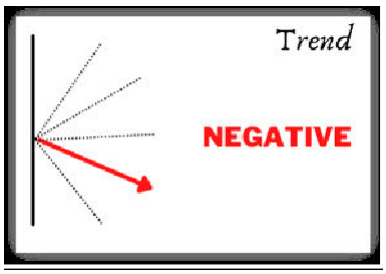
The SIPRI report about **Israel**'s nuclear capabilities has noted that Israel is believed to be modernising its nuclear arsenal, including its Jericho family of ballistic missiles. Israel has intensified construction at a new site at the Negev Nuclear Research Centre near Dimona, the purpose of which has not been publicly disclosed. Given the age of the legacy reactor at Dimona (it first went critical in the early 1960s), it is possible that Israel is building a new heavy-water reactor for plutonium production or another facility related to its nuclear mission.

On June 20, **Chinese** state broadcaster CCTV publicly aired footage of a DF-17 hypersonic missile launches for the first time since the system entered service. Besides the DF-17, CCTV reported that the intermediate-range DF-26 missile had also been fired during the exercise, although no launch footage was shown. The video further depicted several DF-17 launch vehicles simultaneously moving into firing positions, suggesting that the PLA was practising coordinated salvo launches to improve strike effectiveness and survivability. With an estimated range of 1,800–2,500 kilometres, the DF-17 can target locations across the first island chain and parts of the second island chain. The public release of the footage highlighted China's continued efforts to demonstrate and refine advanced missile capabilities as part of its broader strategic modernisation programme.

**Nuclear Non-Proliferation**

Dr Niraj Kumar Das

*Previous Trend: Negative*




The period April-June 2026 saw renewed international engagement with the NPT, as well as ongoing challenges to the global non-proliferation architecture from geopolitical competition, nuclear modernisation and disagreements over treaty implementation. The Eleventh NPT Review Conference provided an important forum for multilateral dialogue, though divisions amongst participating States continued to preclude consensus on a number of key issues pertaining to non-proliferation, disarmament and safeguards.

On April 20 2026, the North Atlantic Treaty Organization (NATO) reaffirmed its commitment to the objectives and obligations of the NPT ahead of the Eleventh NPT Review Conference. The NATO stressed the importance of full implementation of the Treaty, criticised Russia's nuclear rhetoric, called on China to be more transparent about its nuclear capabilities and expressed concern at Iran and North Korea's nuclear activities. NATO also reiterated that its nuclear-sharing arrangements remain fully consistent with its obligations under the NPT.

The NPT RevCon opened at United Nations Headquarters in New York on April 27 2026. During the initial phase of the RevCon, the European Union and some States Parties emphasised the importance of enhancing the international safeguards system, promoting universal adherence to the Treaty and preventing the emergence of additional nuclear-armed states. The statement expressed concerns about the integrity of the global non-proliferation regime in an increasingly complex international security environment and strategic competition among major powers.

Throughout April and May 2026, discussions at the RevCon focused extensively on nuclear safeguards, export control mechanisms, peaceful nuclear cooperation, nuclear risk reduction measures and implementation of disarmament obligations. Nevertheless, the

proceedings highlighted persistent differences between nuclear-weapon states (NWS) and non-nuclear-weapon states (NNWS) concerning the pace of disarmament and compliance with existing treaty commitments.

The Non-Proliferation and Disarmament Initiative (NPDI) presented a series of recommendations to strengthen safeguards implementation, increase transparency, improve accountability and advance practical nuclear risk-reduction measures. The recommendations were aimed at boosting confidence in the NPT and maintaining its effectiveness amid growing geopolitical tensions.

The RevCon concluded on May 22 2026, without consensus on the final document, for the third time, being unable to bridge differences on key issues relating to nuclear disarmament, safeguards and regional security challenges. United Nations Secretary-General António Guterres expressed disappointment at the failure of States Parties to reach consensus, warning that nuclear risks remain at an exceptionally high level.

During April 2026, a United States State Department assessment identified **Chinese** entities as the principal suppliers of equipment, technologies, and other items relevant to Iran's ballistic missile programme. The report highlighted continuing concerns regarding the transfer of dual-use technologies and underscored the challenges confronting international efforts to prevent proliferation-sensitive cooperation between commercial and industrial entities.

An analysis published in April 2026 argued that United States policies concerning uranium enrichment cooperation with **Saudi Arabia and South Korea** risked weakening the global non-proliferation regime. The research found that while Washington remained opposed to Iran's uranium enrichment program, it was simultaneously creating pathways to enrichment capabilities among allied states and thus raising wider questions about the consistency of international non-proliferation norms and the future credibility of the regime.

Between 18 and 21 May 2026, **Russia** conducted an unannounced strategic nuclear exercise with Belarus, the first surprise nuclear exercise involving Belarusian participation since 2024. According to reports, Belarusian forces have drilled procedures for delivering nuclear munitions from positions inside Belarus. Ukraine said the exercise violated Articles I and II of the NPT, while NATO members called the exercise destabilising and warned of its impact on regional security and strategic stability in Europe.

On 2–3 June 2026, the **United States and South Korea** held their first working-level consultations on uranium enrichment, spent fuel reprocessing, and issues associated with South Korea's nuclear-powered submarine ambitions. The discussions were part of wider consultations on possible amendments to the bilateral 123 Agreement for nuclear cooperation between the two countries. The consultations attracted considerable interest from the international non-proliferation community, due to the proliferation sensitive nature of enrichment and reprocessing technologies.

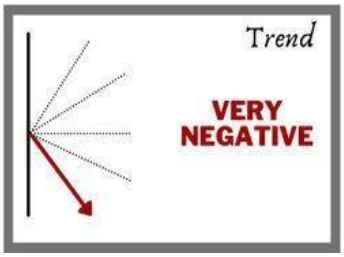
In June 2026, SIPRI reported that the global nuclear arsenal stood at around 12,187 nuclear warheads and pointed out that all nine nuclear-armed states continued to modernise or expand their nuclear forces. The report warned that the decades-long decline in global nuclear stockpiles appeared to be reversing, highlighting China's rapidly expanding arsenal and noting that both Russia and the United States could increase deployed warheads following the expiration of New START limitations. The assessment reinforced concerns expressed throughout the Review Conference regarding the widening gap between international disarmament commitments and prevailing strategic realities.

Overall, developments during April–June 2026 suggested that while the international community remained actively engaged in strengthening the global non-proliferation regime through multilateral diplomacy and institutional initiatives, growing geopolitical rivalry, continued nuclear modernisation, and persistent disagreements over treaty implementation continued to challenge the effectiveness and credibility of the existing non-proliferation architecture.

**Iran**

Dr Niraj Kumar Das

*Previous trend: Very negative*




Developments concerning **Iran's** nuclear programme during April–June 2026 reflected a complex interplay of military escalation, diplomatic engagement, and persistent safeguards concerns. A projectile hit near the Bushehr Nuclear Power Plant in Iran on April 4 2026. This incident sparked concern about the safety and security of nuclear facilities in times of armed conflict. The IAEA said one person died from impact fragments, but radiation levels did not increase. The reactor itself was not damaged, but the incident revived international concerns over the risks of military operations near civilian nuclear infrastructure.

On April 8 2026, **Pakistan** successfully mediated a conditional two-week ceasefire between Iran and Israel-US, which was later extended and paved the way for the resumption of United States-Iran nuclear talks under Islamabad's mediation. Iran's nuclear programme remained central to these discussions, with Washington continuing to advocate a "zero enrichment" policy while negotiations focused on the future scope and limitations of Tehran's nuclear activities. The initiative signalled Pakistan's growing diplomatic clout and offered a new chance for dialogue after months of military escalation in the region.

Any future deal on Iran's nuclear programme would have to include robust verification mechanisms and comprehensive inspection arrangements, IAEA Director General Rafael Grossi said on April 15 2026. Grossi underscored that political commitments would not suffice, stressing the need for effective IAEA monitoring and verification to ensure compliance, build confidence and preserve the credibility of any future diplomatic arrangement.

On April 23 2026, the nuclear policy experts extended the pre-existing debate over Iran's nuclear programme by warning that the negotiations had been mostly about uranium enrichment and relatively little attention had been paid to the proliferation risks associated with

plutonium. In addition, the analysts identified the spent fuel from the Bushehr reactor as a possible long-term concern. While uranium enrichment is the proliferation issue of the moment, the analysts said the question of what to do with the plutonium in the spent fuel warrants continued international attention.

Despite continuing military tensions involving the United States and Israel, Iran maintained its participation in the 2026 NPT RevCon throughout April and May 2026. Tehran's ongoing presence has been seen as a sign of Iran's formal commitment to the international non-proliferation regime and has given Iranian officials an opportunity to engage in discussions on safeguards, treaty implementation, and broader issues of global nuclear governance.

Iranian officials also indicated growing dissatisfaction with the current international security atmosphere by threatening to pull out of the NPT. Just before the NPT Review Conference was to convene, and after military strikes by the United States and Israel, legislation supporting withdrawal was introduced in the Iranian parliament. While no formal withdrawal occurred during the reporting period, the proposal raised considerable concern among diplomats and non-proliferation experts about the future of Iran's treaty commitments.

In May 2026, the IAEA DG Grossi had said that the majority of Iran's stockpile of highly enriched uranium (HEU) had likely survived previous military strikes. Iran possessed approximately 440.9 kilograms of uranium enriched to 60 percent, including close to 200 kilograms thought to be stored at the Isfahan nuclear complex, some of which may have been moved to underground tunnels, the assessment said. The Agency also noted that inspectors had not resumed on-site verification, leaving uncertainty regarding the precise location and condition of the remaining stockpile despite substantial damage to nuclear infrastructure.

During the same month, U.S. intelligence assessments concluded that Iran remained approximately nine to twelve months away from acquiring a nuclear weapon. Military operations in the period from February to April 2026 reportedly damaged the enrichment facilities at Natanz, Fordow and Isfahan, and facilities associated with weaponisation activities. Nevertheless, intelligence assessments continued to conclude that Iran retained significant nuclear capabilities. The findings renewed debate regarding the effectiveness of military action in delaying Iran's nuclear programme.

On June 1 2026, discussions intensified at the UN concerning the future management of Iran's nuclear stockpile. Against a backdrop of months of conflict and diplomatic uncertainty, discussions focused on sanctions mechanisms, the implementation of United

Nations Security Council resolution 2231, safeguards compliance, future verification arrangements and wider oversight of Iran's nuclear programme.

On June 4 2026, the IAEA released its quarterly safeguards and verification reports, highlighting ongoing difficulties related to monitoring activities, verification access and unresolved safeguards issues related to nuclear material. The Agency stressed that significant cooperation from Iran was still needed to resolve outstanding issues and build confidence in the peaceful nature of its nuclear programme.

On June 10 2026, the IAEA Board of Governors adopted a resolution calling upon Iran to provide additional information regarding its uranium stockpiles and to cooperate more fully with its safeguards obligations. The resolution was a reflection of the mounting concern among member states about unaddressed verification issues and further cemented the Agency's key role in monitoring Iran's nuclear activities while stepping up diplomatic pressure on Tehran.

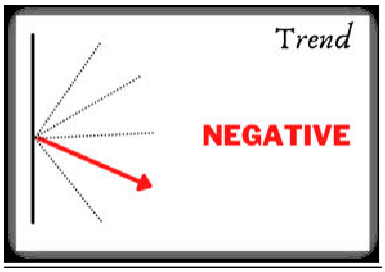
On June 17 2026, a major diplomatic breakthrough occurred when the United States and Iranian Presidents signed the Islamabad Memorandum of Understanding (MOU), officially reaching a ceasefire and setting a framework for renewed nuclear negotiations. Under the deal, Iran pledged not to seek nuclear weapons, agreed to pursue the dilution of its stockpile of HEU under IAEA supervision and to continue negotiations on its future enrichment work.

Soon, there were disagreements over how to implement the Islamabad MOU. Under the interim arrangement, inspectors would visit Iranian enrichment facilities, the IAEA said on June 24, 2026. But an Iranian diplomat challenged this interpretation, saying that inspections of enrichment sites would only occur after a final agreement. The dispute highlighted the continued sensitivity of verification arrangements and inspection access in the negotiations.

**North Korea**

Dr Niraj Kumar Das

*Previous trend: Negative*




In April 2026, James Adams, the Director of the Defence Intelligence Agency, told the United States House Armed Services Committee that North Korea appeared to be constructing an additional uranium enrichment facility at the Yongbyon Nuclear Complex. The new facility would likely enhance Pyongyang's ability to produce enriched uranium and increase its stockpile of fissile material, the assessment said. The testimony supported earlier findings from IAEA satellite imagery showing that North Korea continued to expand its nuclear infrastructure despite ongoing international sanctions and diplomatic efforts.

IAEA DG warned on April 15 2026, that North Korea had made "very serious" progress in its nuclear weapons production capabilities. The Agency also reported increased activity at the Yongbyon Nuclear Complex and the presence of a new uranium enrichment facility. Developments have raised international concerns that North Korea is steadily expanding the size and sophistication of its nuclear programme and improving its ability to produce fissile material for nuclear weapons.

Between April 27 and May 22 2026, at the Eleventh Review Conference of the NPT, North Korea's nuclear programme remained one of the most contentious issues. The EU, the United States, Japan and South Korea reiterated their commitment to the complete, verifiable and irreversible denuclearisation of the Korean Peninsula. The talks highlighted continued international concern over North Korea's growing nuclear capabilities and reaffirmed that Pyongyang's program remains one of the biggest threats to the global non-proliferation regime.

Between 7 and 10 May 2026, South Korea's National Intelligence Service released details of a constitutional amendment reportedly adopted by North Korea's Supreme People's

Assembly in March 2026 to enable an automatic, immediate nuclear strike in case of an outside attack incapacitating the country's leadership or its nuclear command structure. The amendments to North Korea's nuclear policy law, Article 3, is reported to have been made, and believed to have been influenced by concerns prompted by the assassination of Iran's Supreme Leader in Operation Epic Fury. The amendment was a manifestation of Pyongyang's continued attempts to bolster the credibility of its nuclear deterrent by reducing uncertainty on retaliation under leadership-targeted scenarios.

Major diplomatic differences emerged over references to North Korea's nuclear weapons programme in the draft outcome document at the 2026 RevCon. Reports said Russia opposed any language on denuclearisation, calling the issue effectively "closed" and demanding the removal of any references to North Korea's nuclear status. The European Union, Japan, South Korea and several other states criticised the position, saying that omitting such language would weaken long-standing international non-proliferation objectives. The row exposed increasing splits among major powers over how to deal with North Korea's nuclear programme and made it more difficult to build consensus at the Review Conference.

On May 26, 2026, the foreign ministers of the United States, Japan, Australia and India, meeting in New Delhi under the Quad framework, reaffirmed their commitment to the full denuclearisation of North Korea. In a joint statement, they said they condemned Pyongyang's nuclear programme and stressed the importance of addressing the regional security challenges posed by North Korea's nuclear activities. Observers noted that China refrained from employing similar language during the same period, a development interpreted by some analysts as potentially strengthening North Korea's efforts to gain recognition as a legitimate nuclear weapons state.

On June 3 2026, North Korea publicly revealed what analysts assessed to be a newly developed uranium enrichment facility, most likely associated with the Yongbyon Nuclear Complex. The disclosure appeared to confirm earlier intelligence assessments and IAEA observations indicating expansion of the country's enrichment capabilities. Analysts viewed the unprecedented public unveiling as an effort by Pyongyang to demonstrate technological progress, reinforce its status as a nuclear-armed state, and showcase continued advancement of its nuclear infrastructure.

Between 8 and 9 June 2026, Chinese President Xi Jinping visited Pyongyang for the first time in seven years, marking an important diplomatic development in Northeast Asia.

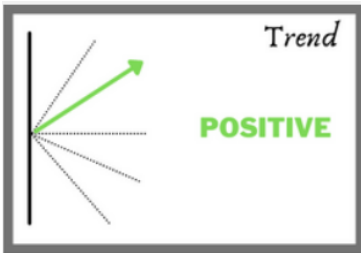
Chinese state media reported that President Xi reaffirmed support for each country's "sovereignty, security, and development interests," notably without publicly calling for North Korea's denuclearisation. Analysts interpreted the omission as evidence that Beijing may increasingly prioritise strategic stability and bilateral relations over denuclearisation objectives, thereby strengthening North Korea's diplomatic position in future negotiations with the United States.

On June 18, 2026, Kim Yo Jong dismissed a fresh call from the G7 nations for North Korea to denuclearise, saying such demands were an infringement of the country's sovereignty. Denuclearisation was now an "irreversibly finalised agenda", and North Korea's nuclear weapons were the country's "core interest" and a "irreversible line", she said, reiterating Pyongyang's long-standing stance that its nuclear weapons programme was not up for discussion and highlighting the growing divide between international denuclearisation goals and North Korea's strategic position.

**Nuclear Energy**

Bhawna Budhwar

*Previous Trend: Positive*




In the second quarter of the year 2026, in South Asia, **India's** nuclear energy sector witnessed significant progress, reflecting the country's growing commitment to clean energy, energy security and technological self-reliance. A major milestone was achieved when the indigenously developed 500 MWe Prototype Fast Breeder Reactor (PFBR) at Kalpakkam attained first criticality on April 6, 2026. This progress officially marked India's entry into the second stage of its three-stage nuclear power programme envisioned by Dr Homi J. Bhabha. Once PFBR is fully operational, India will become the second country after Russia to operate a commercial fast breeder nuclear power plant. On April 8, 2026, NTPC Limited signed a non-binding Memorandum of Understanding (MoU) with France's Électricité de France (EDF) to explore cooperation in developing new nuclear power projects in India. The agreement establishes a framework for assessing the feasibility of deploying EDF's EPR reactor technology in India. It will also examine localisation opportunities, economic viability, workforce development, site selection and technical collaboration. The partnership reflects India's growing openness to international nuclear cooperation. Simultaneously, India's nuclear expansion gained momentum through new capacity addition plans and infrastructure development. On May 10, 2026, it was reported that NTPC Limited is preparing to submit its first standalone nuclear power project feasibility study, with plans to explore multiple states for future reactor deployment. Some reports estimated that achieving India's target of 100 GW of nuclear capacity by 2047 would require investments of nearly INR 23-25 lakh crore. All these developments in India are underscoring the scale of opportunities for domestic manufacturing, engineering industries and foreign companies. On May 7, 2026, the restart of Tarapur Atomic Power Station (TAPS) Unit-2 also recorded an important achievement after extensive

refurbishment and safety upgrades. After these upgrades, TAPS operational life is extended to another 10 years. In parallel, on June 15, 2026, the India-Russia nuclear partnership reached a key milestone with the installation of the 320-tonne reactor pressure vessel at Kudankulam Unit-5, while construction of Units 3-6 continues to advance. Together, these developments support India's ambitious roadmap to expand nuclear capacity. Complementing these efforts, India is promoting greater public-private participation, innovation and research-driven growth to build a resilient and self-reliant energy ecosystem.

In Central Asia, on May 28, 2026, **Russia and Kazakhstan** signed an intergovernmental agreement for the construction of the Balkhash Nuclear Power Plant, establishing the legal framework for Kazakhstan's first large-scale nuclear power project. The plant will comprise two Russian-designed VVER-1200 reactor units and will be developed with support from Rosatom. The agreement also covers long-term cooperation in reactor operation, fuel supply, technical support and maintenance. This agreement further strengthens nuclear energy cooperation between the two countries. On June 4, 2026, **Uzbekistan** marked a major milestone in its nuclear energy programme with the commencement of construction of the first power unit of an integrated nuclear power plant in the Jizzakh Region. The project, being implemented by Rosatom, represents the world's first export contract for a small modular nuclear power plant (SMR). The integrated facility will combine two large-scale VVER-1000 reactor units with two RITM-200N small modular reactors, each generating 55 MW of electricity, reflecting Uzbekistan's commitment to diversifying its energy mix and enhancing long-term energy security.

In East Asia, **China** continues to strengthen its position as a global leader in nuclear energy expansion. Between 2016 and 2024, the country increased its nuclear generation capacity to 76% by adding 24 GW. As of May 2026, China operated 60 nuclear reactors with a combined installed capacity of 58.7 GW across 18 sites, while an additional 36 reactors were under construction, accounting for nearly half of all nuclear reactors currently being built worldwide. The country added 2.2 GW in the first five months of 2026. These reactors are concentrated primarily along China's eastern coastline. China's nuclear fleet is dominated by pressurised water reactors (PWRs). In March 2026, China launched the 15th Five-Year Plan (2026–2030). Under this plan, China has set ambitious long-term nuclear energy targets, aiming to expand its operational nuclear power capacity to 110 GW by 2030 and to 335 GW

by 2050. If the 2030 target is achieved, China is expected to surpass the United States and become the world's largest producer of nuclear-generated electricity.

In Southeast Asia, on June 15, 2026, **Russia and Laos** signed an agreement on cooperation in the field of nuclear energy, paving the way for discussions on a potential Russian-designed nuclear power plant in Laos. As part of the initial phase, Rosatom will conduct a preliminary feasibility study to assess the integration of nuclear power into Laos's energy system. This will focus on identifying suitable project configurations and potential sites and support the country's consideration of a future national nuclear energy programme. On June 18, 2026, at the **ASEAN-Russia** Commemorative Summit held in Kazan, Indonesia reaffirmed its interest in expanding nuclear cooperation with Russia as part of its strategy to achieve energy self-sufficiency within the next three years. Indonesia is currently engaged in discussions with Rosatom regarding the potential deployment of floating nuclear power plants, a technology viewed as particularly suitable for Indonesia's archipelagic geography due to its flexibility and efficiency. The initiative also reflects a broader effort to strengthen ASEAN–Russia strategic cooperation in the fields of energy, technology and infrastructure development.

In Europe, on June 3, 2026, ten **European Union** member states, Croatia, the Czech Republic, Finland, France, Hungary, Italy, Romania, Slovakia, Slovenia, and Sweden, urged the European Commission to classify nuclear energy as a sustainable source within the EU's proposed framework for powering data centres and artificial intelligence. In a joint letter, the countries argued that excluding nuclear energy from the sustainability criteria of the revised Energy Efficiency Directive violates the principle of technological neutrality and overlooks nuclear power's low-carbon credentials. The initiative reflects a broader shift in European energy policy, with growing recognition of nuclear power's role in supporting decarbonisation, energy security and the rapidly increasing electricity demands of digital infrastructure and AI technologies.

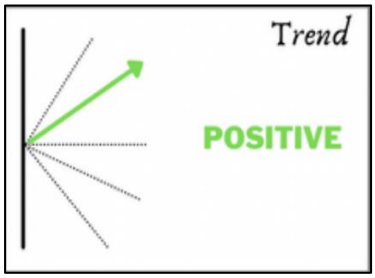
In North America, on May 14, 2026, the **U.S.** Department of Energy (DOE) selected eight companies to receive over $94 million in cost-shared funding to accelerate the deployment of advanced light-water Small Modular Reactors (SMRs). The initiative aims to address challenges related to licensing, supply chains and site preparation, strengthen domestic nuclear manufacturing capabilities and support the deployment of Gen III+ SMRs in the 2030s as part of the Trump administration's broader agenda to expand nuclear energy and enhance

U.S. energy security. On June 4, 2026, the U.S. marked a significant advancement in nuclear innovation. The microreactor being developed by Antares Nuclear Inc. at the Idaho National Laboratory achieved criticality. In the U.S., for the first time, a privately developed advanced reactor has reached this milestone under the Trump administration's pilot programme. The achievement demonstrates the reactor's ability to sustain a controlled nuclear chain reaction and represents an important step toward the future commercial deployment of advanced microreactor technology in the U.S. On June 22, 2026, **Canada** unveiled a national strategy to accelerate nuclear energy development, targeting up to 10 new large-scale reactors, with two expected to begin construction by 2035 and five more planned by 2040. The initiative aims to streamline project approvals and strengthen nuclear power's role in Canada's low-carbon electricity mix, where it currently provides about 13% of total generation.

In Africa, on May 19, 2026, **Rwanda** signed a Memorandum of Understanding with Russia at the Nuclear Energy Innovation Summit in Kigali, advancing its ambition to become a regional hub for nuclear technology, innovation and advanced healthcare. Alongside its cooperation with Russia, Rwanda is actively pursuing nuclear partnerships with South Africa, Austria and the United States to strengthen scientific research, develop a skilled nuclear workforce, expand nuclear medicine applications and attract investment. The initiative reflects a broader trend in East Africa, where countries such as Kenya, Uganda, and Ethiopia are also exploring nuclear energy as a pathway to economic development, technological advancement, and energy security. At the 2026 International Conference on Nuclear Energy (ICoNE) held in Nairobi in March 2026, **Kenyan** President William Ruto reaffirmed the country's commitment to nuclear energy as part of its long-term energy strategy. Kenya aims to increase its electricity generation capacity from 3,300 MW to 10,000 MW over the next five to seven years, with approximately 3,000 MW expected to come from nuclear power. A key component of this plan is the proposed 2,000 MW nuclear power plant in Siaya County, with construction scheduled to begin in 2027 and commercial operations targeted for 2034.

**Non-Power Applications of Nuclear Technology**

Sanaa Alvira




The second quarter of 2026 saw significant positive momentum across civilian, military, and agricultural applications of nuclear technology beyond conventional power generation.

The Nuclear Non-Proliferation Treaty (NPT) Review Conference concluded in New York after four weeks of negotiations. Despite not adopting a final substantive outcome document, the review cycle saw the broad recognition of the importance of upscaling and promoting the benefits of non-power applications of nuclear technologies, and this was identified as an area of potential convergence among States Parties. Several countries reaffirmed the importance of promoting access to such technologies in their national statements and also submitted working papers in this regard.

The most prominent multilateral development was the IAEA's announcement of a new initiative to support the maritime industry's exploration of small modular reactors (SMRs) to power civilian ships and to provide offshore energy. The Atomic Technologies Licensed for Applications at Sea (ATLAS) initiative will be formally unveiled at a ministerial-level event hosted by Washington, D.C., on August 26-27. ATLAS is designed to help the maritime industry explore SMRs to power civilian ships and provide offshore energy, addressing a significant gap in existing international regulatory frameworks, which were built around land-based plants rather than vessels. IAEA DG, Rafael Grossi, described nuclear energy as "fast emerging as a potential game-changer for both the shipping and offshore industries," capable of enabling cleaner, faster maritime transport without frequent refuelling. The initiative will engage the International Maritime Organisation and maritime industry stakeholders to develop the safety, security, and safeguards frameworks necessary for deployment.

A related development in agriculture saw the Joint Food and Agricultural Organisation (FAO)/IAEA Centre of Nuclear Techniques in Food and Agriculture launch a five-year, $1 million Coordinated Research Project to address the re-emergence of the New World screwworm across Central America, Mexico, and the United States. The pest was confirmed in

the USA in early June 2026, the first occurrence in more than 40 years, following a breach of the biological containment barrier in the Darien Gap in 2022. The project relies on the Sterile Insect Technique, which uses radiation to sterilise mass-reared male flies before release into wild populations, gradually suppressing reproduction. The IAEA estimates that up to 600 million sterile flies per week would be needed to control the outbreak, against a current production capacity of around 100 million per week. The USA separately announced a $1.5 million extrabudgetary contribution to support the IAEA's sterile insect technique efforts just one week before the project launch.

In a separate initiative highlighted on World Bee Day in May, the Joint FAO/IAEA Centre showcased its collaboration with Chile's Nuclear Energy Commission and the University of Chile to authenticate honey using isotopic fingerprinting techniques. Working through the Centre, scientists are building a national database of stable isotopic profiles for Chilean honey, enabling the detection of sugar additives and the verification of geographical origin. As Dongxin Feng, director of the Joint FAO/IAEA Centre, noted, developing this kind of scientific capacity is "at the core of enabling countries to address complex challenges such as food fraud," with knock-on benefits for the long-term credibility of national food systems.

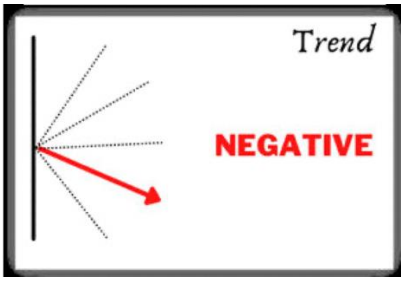
Satellite imagery of the Dalian Shipyard from June has indicated rapid progress on China's first nuclear-powered Type 004 aircraft carrier, with internal hull layouts suggesting a double nuclear reactor configuration. If confirmed, this would represent the first application of the People's Liberation Army Navy (PLA-N) nuclear propulsion technology from submarine platforms to major surface combatants. The vessel is expected to surpass the FUJIAN, which entered service in November 2025, in both size and operational capability. The U.S. Department of Defense's 2025 report assessed for the first time that China aims to field six additional aircraft carriers by 2035, which would bring its total to nine and significantly narrow the gap with the U.S. Navy's eleven-carrier fleet.

Kazakhstan and Russia signed a Memorandum of Understanding at the St. Petersburg International Economic Forum in June to expand cooperation in nuclear medicine, reactor technologies, and workforce development. The agreement, concluded between Kazakhstan's Atomic Energy Agency and Russia's National Research Centre Kurchatov Institute, covers priority areas including fusion research and the digitalisation of scientific infrastructure. The signing accompanied a separate agreement on conditions for cooperation on the construction of Kazakhstan's first nuclear power plant, with Rosatom as the prospective partner.

**Nuclear Security**

Sanaa Alvira

*Previous trend: Negative*




The negative trend identified in the previous quarter persisted through April-June 2026, with active conflict zones continuing to generate nuclear security risks while other related developments also raised concerns.

The most significant safeguard development of the quarter involved Iran, where the IAEA Board of Governors passed a censure resolution on June 11, demanding that Tehran immediately allow inspectors to verify the state and location of its uranium inventory. The motion passed with a 60 percent majority, with China and Russia opposing. The resolution reflects a deepening accounting crisis: before the June 2025 US-Israeli strikes and the renewal of fighting in 2026, Iran's uranium stockpile was subject to weekly IAEA inspection. Inspections plummeted by more than half after Iran imposed new restrictions following the 12-day war, and monitors have yet to return to the damaged sites at Fordow, Isfahan, and Natanz, where 440.9 kilograms of highly enriched uranium and 8,599.6 kilograms of lower enriched uranium were last recorded. Iran rejected the resolution as "hypocritical," and the Board's previous censure in June 2025 was followed within 24 hours by Israeli strikes on the country, a precedent that lent the latest resolution additional weight.

These concerns were compounded by the situation at Iran's Bushehr nuclear power plant, where Rosatom completed the near-total evacuation of its workforce following the US-Israeli military campaign that began on February 28. Over 600 Russian employees were withdrawn in multiple waves through March and April, with only 20 volunteers remaining on-site by late April. The Bushehr premises were struck at least three times during the conflict, though Iran's atomic energy organisation and Rosatom stated the plant itself had not been damaged.

Conflict-related nuclear risks remained acute in Ukraine, where a drone struck the Central Spent Nuclear Fuel Storage Facility in the Chernobyl exclusion zone on June 8, causing

significant structural damage to the fuel reception building, including the IAEA safeguards office. Spent fuel was stored in casks just a few hundred metres from the damaged building, though radiation levels remained within normal limits. DG Grossi told the Board of Governors that attacking a facility with large amounts of nuclear material "is extremely dangerous" and "must not happen." At a press briefing after the Board session, he outlined the actions the IAEA is taking to ensure the safety and security of the plants and the region.

A domestic regulatory development in the United States added to concerns. In April, the Nuclear Regulatory Commission voted to phase out its agency-led force-on-force security drills at nuclear power plants, transitioning to company-led exercises with independent NRC oversight by 2028. The force-on-force inspections, mandatory at every U.S. nuclear plant every three years since being strengthened after the September 11 attacks, simulate commando-style attacks to probe plant security. The NRC framed the change as reflecting the strong safety and security already in place, while shifting the programme from a pass/fail to a training-focused model. Critics warned the move was particularly concerning given ongoing security threats to U.S. infrastructure, including those arising from the Iran conflict.

A related concern emerged when the U.S. Federal Bureau of Investigation (FBI) and the House Oversight Committee announced investigations into the deaths and disappearances of at least 10 individuals connected to sensitive U.S. nuclear and aerospace research. Authorities have not established any links between the cases, and some families attributed specific deaths to pre-existing medical conditions. FBI Director Kash Patel indicated the Agency would investigate possible connections to classified access and foreign actors.

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CAPSS research faculty comprises senior retired and serving Armed Forces officers from the three services besides academic scholars from national universities and retired members from the diplomatic community. CAPSS also conducts nuclear strategy capsules for the Armed Forces and officers of security and technological organisations.