



**JOINT STATEMENT – NPT RevCon 2022**

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**Joint Statement on FIRST Program Cooperation**

1. Our countries share a strong commitment to realize the benefits of nuclear energy for peaceful purposes consistent with the NPT. We reiterate the inalienable right of NPT States Parties to use nuclear energy for peaceful purposes without discrimination and consistent with the Articles I, II, III, and IV of the NPT.

2. We also reaffirm the undertaking in Article IV to facilitate the fullest possible exchange of equipment, materials, and scientific and technological information for the peaceful uses of nuclear energy.

3. We remain committed to broadening access of NPT States Parties to peaceful uses of nuclear energy, science, and technology, and to cooperating among ourselves and with other States Parties and relevant international organizations to that end. We respect each country's choice to develop a civil nuclear power program pursued in a manner consistent with the highest international nuclear safety standards, guidance for nuclear security, and in compliance with the State's obligations under the NPT, including those relating to safeguards.

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**The responsible use of nuclear technology is key to building the public support that is critical to the success and sustainability of its implementation, and to the confidence needed for international cooperation and commerce to thrive. The NPT provides a legal framework for advancing this objective by ensuring that international cooperation on nuclear energy is conducted in a safe and secure manner consistent with the goals of the Treaty.**

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success and sustainability of its implementation, and to the confidence needed for international cooperation and commerce to thrive. The NPT provides a legal framework for advancing this objective by ensuring that international cooperation on nuclear energy is conducted in a safe and secure manner consistent with the goals of the Treaty.

5. Our countries are engaged in new capacity building projects under the Foundational Infrastructure for the Responsible Use of SMR Technology (FIRST) program. Partners in this project work collaboratively to facilitate the safe and secure utilization of civilian

nuclear reactors, especially SMRs. The FIRST program provides the foundation for partner countries to take advantage of advanced nuclear technologies and upcoming innovations in reactor design to meet their energy security and climate goals and to do so consistent with the highest international standards of and guidance for safety, security, and nonproliferation.

6. The FIRST program is supportive of, and complementary to, the IAEA's Milestones Approach, and uses it as a baseline for infrastructure development and nuclear security support. This approach is an important benchmark designed to ensure the sustainability and credibility of a country's nuclear program and to facilitate financing of a proposed reactor project.

7. Our countries welcome safe and secure growth in nuclear power and we recognize that nuclear energy not only provides clean energy supply, but also supports local job growth, energy security, air pollution and carbon reduction goals, and global clean technology innovation. This growth in economic prosperity is another compelling reason why our countries remain fully committed to supporting those States that wish to develop civil nuclear energy programs to access the benefits of nuclear technology, particularly SMR technology, and demonstrates the success of the strong nuclear nonproliferation regime in making those benefits possible.

8. We reiterate the importance that our countries place on the peaceful uses of nuclear energy to help meet UNSDG. We will continue to support access to the peaceful applications of nuclear energy, science, and technology in conformity with and as facilitated by the NPT.

Source: <https://www.state.gov/joint-statement-on-first-program-cooperation-at-the-2022-npt-review-conference/>, 25 August 2022.

OPINION – Jacinda Ardern

**The World Stands on a Nuclear Precipice –We Must Avoid Catastrophe**

The world can still step back from the abyss. The nuclear weapon states – the US, Russia, China, France and the UK – must lead the way. In 1945 nuclear weapons were used in armed conflict for the first and only time. 355,000 people were killed in Hiroshima and Nagasaki by two nuclear bombs. That number alone puts in stark perspective the world's current arsenal of about 13,000 nuclear weapons. And yet in many ways the 13,000 weapons held globally represents progress; it's less than a quarter of the more than 63,000 weapons in circulation in 1985 during the cold war. But what President Kennedy said in 1961 at the UN is as urgent now as it ever was: "We must abolish these weapons before they abolish us."

Over the more than 50 years since the inception of the NPT it's played an important role in lowering the risk of these weapons abolishing us. In addition to the near 80% reduction in nuclear weapons, the treaty has also contributed to keeping a lid on the number of countries acquiring them. More countries have ratified the treaty than any other arms limitation and disarmament agreement. Right now in New York, there is an opportunity to go even further. And we must. Our world is at greater risk of nuclear catastrophe than at any time since the height of the cold war. Growing superpower tensions and two decades of stalled progress on arms control have pushed the risk of these weapons closer to reality.

Currently 191 countries are meeting at the UN to renew the NPT and negotiations are going down to the wire. These talks offer a chance to breathe new life into nuclear disarmament at a time when the world needs that more than ever. Nuclear catastrophe is not an abstract threat but a real-world risk. Nuclear weapons could be deployed in

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a conflict, as Russian President Putin, has intimated, or they could be deployed by miscalculation or mistake – real possibilities in times of heightened tension.

New Zealand is calling on the nuclear weapons states – the US, Russia, China, France and the UK

– to step back from the nuclear abyss, and provide that leadership by committing to negotiate a new multilateral nuclear disarmament framework. But from one of the best geographical positions in the world to be should nuclear fallout occur, why

does New Zealand feel so strongly about this issue? We are a Pacific nation. Our region bears the scars of decades of nuclear testing, on both the people and the lands and waters of our region. That's why for 35 years New Zealand has been proudly nuclear-free and an international advocate for a world free of nuclear weapons. This does

not mean we are naive to real world dynamics, nor does our geographic location mean we have the luxury of a moral stance that others do not. In fact, New Zealand's message – that nuclear weapons do not make anyone safer and no longer have a place in our world – reflects the view of the overwhelming majority of countries. We just need to believe a different approach is possible. We only have to

look back in our history to map a path to a safer future. The lessons of Hiroshima and Nagasaki, and of testing in the Pacific, are reminder enough that there is never justification for the deployment of nuclear weapons.

The challenges of agreeing multilateral nuclear disarmament can seem overwhelming. But it's not a task that can be put off indefinitely. Right now,

the treaty is under stress. It is affected by geopolitical developments including tension between the nuclear weapon states. But, more fundamentally, there is growing scepticism and frustration about the intention of the nuclear weapon states to ever fully implement their

nuclear disarmament commitments under the treaty, with those states arguing the global security environment makes doing so too difficult. If this continues, there is a real prospect of countries losing faith in the treaty – putting at risk both the treaty's role in progressing nuclear

disarmament, and in preventing the spread of nuclear weapons material.

There is a lot at stake in New York this week. Some might say that in the current global environment a new nuclear arms race is inevitable, and with it a further undermining of our nuclear disarmament

and non-proliferation efforts. But I cannot accept a logic that suggests insecurity and instability render us incapable of doing the very thing that would help make the world less insecure and less unstable – an idea that the history of the treaty itself shows is false. There can and should be a different trajectory – one of urgent leadership, of recognition of the nuclear precipice on which we are all standing,

and of continued progress in our efforts to rid the world of nuclear weapons. It's not only possible – it's necessary.

Source: <https://www.theguardian.com/commentisfree/2022/aug/25/the-world-stands-on-a-nuclear-precipice-we-must-avoid-catastrophe>, 24 August 2022.

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OPINION – Scott Roecker, Nickolas Roth

### Why al-Zawahiri's Death should Focus Attention on Nuclear Terrorism—Foreign and Domestic

The news that Ayman al-Zawahiri, the leader of the al-Qaeda terror group, was killed in a drone strike is not just a counterterrorism victory, but also a win for those seeking to prevent catastrophic nuclear terrorism. Al-Zawahiri's role in the September 11, 2001 attack on the World Trade Center is well known, but his role in supporting al-Qaeda's elaborate attempts to acquire a nuclear weapon is less well publicized.

The threat of nuclear terrorism is not hypothetical. Government officials over many decades have agreed that a relatively sophisticated, well-financed violent group could build a nuclear weapon if it acquired sufficient quantities of weapons-usable nuclear material. Also, there have

already been successful attempts to sabotage of nuclear facilities. For example, in August 2014, an insider at the Doel-4 reactor in Belgium sabotaged one of the plant's turbines leading to the plant's shutdown for months.

Al-Qaeda's nuclear program began in 1998 following Osama bin Laden's fatwa that called on Muslims to "kill the Americans and their allies—civilians and military" and his ascension as leader of the global Jihadist movement. Under the direction of al-Zawahiri—who served as al-Qaeda's second in command when bin Laden was alive and advocated for destroying US "history, power balances, strategic and military doctrines, and global order"—al-Qaeda attempted to acquire nuclear weapons and considered targeting nuclear power plants in the United States. Bin Laden and al-Zawahiri specifically discussed nuclear weapons with two senior Pakistani scientists they tried to recruit. Public reports indicate the program went as far as conducting explosive tests in Afghanistan, consistent with the development of a nuclear weapon. Some might assume that al-Zawahiri's death and the decline of al-Qaeda over the past two decades means that

nuclear terrorism threats are no longer a concern. Or people may think that the apocalyptic ideology and rhetoric that provided the justification for al-Qaeda's nuclear ambitions are unique to Islamic jihadism. Those would be wrong conclusions.

This type of extreme, apocalyptic thinking exists among domestic terrorists in the United States today and needs more attention. There is a growing threat of politically motivated violent extremists in the United States, and some of those domestic extremists have ambitions similar to al-Qaeda's. These extremists, often known as accelerationists, view societal collapse as inevitable and seek to ignite a "total revolution"

that would level the existing system of governance.

Brandon Russell, a former Florida National Guard member and co-founder of the accelerationist group Atomwaffen Division (which translates from German to "the nuclear weapons division"), was

arrested in 2017 while heavily armed en route to the Turkey Point nuclear power plant. Several years before Ashli Babbitt was killed while storming the U.S. Capitol as part of a right-wing uprising on January 6, 2021, she was an employee of the Calvert Cliffs nuclear plant, where she exhibited violent behavior. Matthew Gebert, then a State Department employee, secretly headed a chapter of the white supremacist group The Right Stuff.

In May 2018, while working for the State Department, Gebert said on a white nationalist podcast that "[w]e need a country founded for white people with a nuclear deterrent. And you watch how the world trembles." Although they were not backed by al-Qaeda's combination of apocalyptic ideology, resources, and technical sophistication and appeared unlikely to succeed, these people and incidents linked to them likely do not provide a complete picture of the threat. Like al-Zawahiri's nuclear ambitions, those demonstrated by domestic US terrorists underscore why policymakers should support programs and policies designed to protect nuclear facilities from theft and sabotage. In particular,

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the US government should redouble efforts to eliminate vulnerable nuclear weapons-useable material in any country or facility, at home and abroad, and increase funding for US programs that strengthen security at nuclear facilities worldwide.

Insider threats need to be reevaluated, as well. Although US nuclear facilities have elaborate programs to screen candidates and to monitor employees who could potentially pose a threat, there is reason to question whether those programs are sufficient to the threat. The January 6th attack on the Capitol revealed critical vulnerabilities in the US government's security systems. In response, the Biden administration released the first ever National Strategy for Countering Domestic Terrorism in June 2021. Since then, many departments within the US government, and in particular the Defense Department, have taken important steps to enhance monitoring of extremist activities amongst employees.

Despite the clear need for action, both commercial nuclear plants and government-run nuclear facilities responsible for weapons research, production, and deployment in the United States have not revealed what, if any, steps they have taken in recent years to enhance their protection against insider threats. Neither regulators nor political leaders have called for or required greater security. Ayman al-Zawahiri is dead, but the violence he perpetrated, the apocalyptic ideology he promoted, and the nuclear threat he posed lives on in a new generation of terrorists—here and abroad. As long as nuclear weapons and materials exist,

governments must vigilantly defend against this threat and policymakers, like those in Congress, must provide the oversight and resources needed to adequately protect US nuclear facilities.

Source: <https://thebulletin.org/2022/08/why-al-zawahiris-death-should-focus-attention-on-nuclear-terrorism-foreign-and-domestic/>, 15 August 2022.

**OPINION – Abhiroop Chowdhury**

**How Nuclear Energy Can Aid India's Net-Zero Journey**

**Ayman al-Zawahiri is dead, but the violence he perpetrated, the apocalyptic ideology he promoted, and the nuclear threat he posed lives on in a new generation of terrorists—here and abroad. As long as nuclear weapons and materials exist, governments must vigilantly defend against this threat and policymakers, like those in Congress, must provide the oversight and resources needed to adequately protect US nuclear facilities.**

India has committed to reduce Green House Gas (GHG) emission to 'net Zero' by 2070 and obtain capacity to support 50 per cent of national energy demand through renewable power by 2030, at The UN Climate Change Conference in Glasgow (COP 26).

Our nation is currently facing a big challenge - rapidly scaling up generation capacity to meet the rising energy demand while also framing policies for reducing the carbon emission to honor climate pledges. This entails reducing coal-based power generation, which currently forms around 75 per cent of India's total energy basket, and shifting the focus on increasing green energy capacity. In the domain of popularising green energy sector, there have been some encouraging developments.

According to the Global Status Report (2022), India added the third-largest renewable power capacity in the world, following China and the United States.

**In the 2021-2022 fiscal year, the country's investment in green energy have skyrocketed to 125 percent, amounting to total 14.5 billion dollars. However, according to a new report by BloombergNEF, even this increase in pace of investment will not be enough to achieve the country's green energy targets of 2030. It states that India needs to invest around \$223 billion to achieve its renewable energy targets of 500 GW by 2030.**

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India's plans to scale up renewables is plagued by regulatory, project and financial risks. A report by the Council of Energy, Environment and Water (CEEW) and the Indian Institute of Sustainable Development (IISD) highlighted that India's stipulated subsidies for renewable energy plummeted by 59 per cent since 2017. Further, with inconsistent policies and uncertain future, the private sector does not see an opportunity to consider renewable projects as a viable alternative to conventional carbon emission intensive energy sources.

This is particularly a concern in Uttar Pradesh, Haryana and Punjab which remain way behind their 2022 renewable targets. With the current pace of growth in green energy capacity, adding on an average 8GW per year, except in 2020 — India added 12 GW of capacity, the country will not be able to achieve the target of adding 40 GW renewable capacity per annum.

World has accepted that climate change and global warming is not a mere myth but a harsh reality. India, this year, witnessed unrelenting heatwaves for 86 days with hottest month of 'March' in the history of 120 years. This led to an unprecedented surge in the use of air-conditioning.

With increased power demand, coal inventories were overburdened for power generation that lead to shortage of its supplies by 100 million units for more than 8 days, this summer. The situation forced Coal India, for the first time in years, to import coal and the centre had to invoke the

emergency Section 11 of the electricity act, to direct all coal-based industries to generate power at full capacity.

To achieve a renewable future and adhere with the international emission reduction pledges, India should look for energy alternatives that are reliable, scalable, and sustainable. Solar, wind and hydro based power-generation capacity demand specific climatic conditions and topographical specifications, limiting its reliability and scalability. Land requirement is another major roadblock for large scale economic viability of both solar and wind power.

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current times adopt robust safety standards and procedures to ensure that the power generated is cheap and environment friendly.

Unlike solar or wind energy, it does not come with the challenges of grid stability. In addition, the land requirement for per megawatt-hour of electricity generation for nuclear is significantly lower than any other green (or for that matter, conventional) energy sources, requiring 0.7 m2 per Mwh. Cost is often cited as one of the primary concerns in undertaking big nuclear projects. However, as the BloombergNEF report shows, renewables are appearing to be more costly while a lot less reliable as compared to nuclear.

For India, rather than chasing the 'miracle cure' to balance the energy demand and achieving carbon neutrality, nuclear is the best solution. The country has experience in building and operating nuclear reactors of more than 50 years. It has the technical capabilities and expertise to scale up nuclear power projects in order to meet the expectant demand.

While India needs to significantly increase the scope of big nuclear power projects, the emergence of SMR can be a cost-effective, compact and powerful bridging option to increase green energy supply in the country. Installing SMRs on industrial sites replacing coal plants will generate employment, reduce construction costs, transmission issues and air pollution.

India also needs to pave the way, and encourage, private investment in nuclear energy sector. The country's policy to link the startup ecosystem to the nuclear sector through tech-development and incubation centre is a positive initiative in the direction of a green future. Further efforts need to be made to increase the capacity of power generation.

By creating a favorable policy environment for private sector investment and re-orienting public investment from the costly and unreliable energy sources to nuclear, India can soon achieve the emission targets as well as energy self-sufficiency.

Source: <https://www.businessworld.in/article/How-Nuclear-Energy-Can-Aid-India-s-Net-zero-Journey/30-08-2022-444501/>, 30 August 2022.

**OPINION – Scott Foster**

**Japan's Nuclear Revival in a Race Against Time**

Japanese Prime Minister Kishida has expressed support for investigations that will probably lead to the first construction of new nuclear power plants in Japan in over a decade. The obvious goal is to reduce reliance on imported fossil fuels and exposure to the wild vacillations of oil and

gas prices. But also behind the move is the need to reactivate nuclear power plant construction before the manufacturing expertise that makes it

possible is lost. If the decision is ultimately taken, it would mark a fundamental shift in the policy to reduce Japan's dependence on nuclear power that has prevailed since the Fukushima disaster in 2011.

Speaking to the Ministry of Economy, Trade and Industry's (METI) Green Transformation Project on

August 24, Kishida said Japan should restart more of the nuclear power plants shut down after Fukushima, extend their operating lifetimes and make a political decision regarding the development and construction of new next-generation nuclear power plants. Kishida told the

Green Transformation Project's executive council to present a report on its conclusions by year-end, of which METI is expected to fill in the details. The policy change appears to be coming just in time to avoid the loss of Japan's technical expertise in generating nuclear power.

In July, the president of the Japan Atomic Industrial Forum (JAIF), Shiro Arai, met

with media representatives to talk about the organization's "proposal on maintaining and strengthening [nuclear power] supply chains" and to convey the results of a survey of 154 suppliers conducted in the second half of 2021.

...Compared with 2010, only 22% of survey respondents said that their nuclear power-related sales had been increasing, while 48% said they had been decreasing. Around 56% said that the suspension of nuclear power plant operations had made it difficult to maintain their technological capabilities. According to a JAIF statement, Arai

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himself noted that “resumed construction [of nuclear power plants] could not be carried out within budget and according to schedule... if construction... had been suspended for a decade...” It went on: “...the longer the blank period becomes, the longer it would take to recover technological capabilities.”

Japan last put a nuclear power plant – the Tomari 3 reactor in Hokkaido – into commercial operation 13 years ago, in 2009. Since then, Japan’s nuclear power industry has survived on maintenance work and decommissioning. According to JAIF, R&D spending has dropped by about half and more than 20 suppliers have exited the business. Senior engineers have retired, the number of young trainees has declined and none of them have gained experience from working on reactor construction projects. Japan has three nuclear power plant general contractors: Toshiba, Mitsubishi Heavy Industries (MHI) and Hitachi.

Toshiba’s prolonged and difficult restructuring has dominated news about the company but it retains its nuclear technologies, which include design, construction, maintenance, decommissioning, fuel reprocessing, waste treatment and next-generation reactor R&D. It is working on a small mobile reactor for local utilities and a small sodium-cooled reactor.

In early June, Toshiba announced a collaboration with American engineering company Bechtel to supply turbines and generators for Poland’s first nuclear power plant. MHI specializes in pressurized (light) water reactors, 24 of which have been built in Japan and which are reportedly favored in METI’s draft plans for future nuclear power plant construction. It is also exploring advanced technologies including fusion energy.

MHI has exported nuclear power plant components to the US, Brazil, Europe, Korea and

China. An MHI-led nuclear power plant construction project in Turkey was canceled in 2018 due to cost overruns. Hitachi has a long-term commitment to nuclear power that is reinforced by its joint ventures with General Electric, Hitachi-GE Nuclear Energy in Japan and GE Hitachi Nuclear Energy (GEH) overseas. In addition to GE, Hitachi is working with Bill Gates’s Terra Power.

Like Toshiba and MHI, Hitachi has a wide range of nuclear power technologies, but its next-generation projects are more advanced. Hitachi was forced to abandon a nuclear power plant construction project in the UK in 2020 due to insufficient government and private sector financial support.

In addition, Japanese engineering company JGC and industrial machinery maker Ishikawajima-Harima Heavy Industries (IHI) have invested in and are working with NuScale Power, the US designer of small modular nuclear reactors. JGC will provide engineering, procurement and construction services for small modular reactors in cooperation with its long-standing American partner, Fluor Corporation, which is NuScale’s majority shareholder. IHI will provide containment structures for reactor cores and other components.

Japan also has a venture company spun out of Kyoto University that is dedicated to solving global warming through the development of nuclear fusion energy. Kyoto Fusioneering develops fusion reactor technologies including materials, components and power generation systems, and provides engineering and design support to customers in Japan and overseas.

Japan’s private sector is well ahead of its politicians with the technology and experience needed to revitalize and upgrade the nation’s nuclear power industry and is already playing a significant role in developing next-generation nuclear energy technologies. It would be a shame if the Japanese government moves too slowly for this expertise to

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Source: <https://asiatimes.com/2022/08/japans-nuclear-revival-in-a-race-against-time/>, 30 August 2022.

**OPINION – Frank Miller**

**The Mystery of the Missing Nuclear Posture Review**

One of the most important national security policy statements any U.S. administration issues sets forth its nuclear deterrence policy. Yet, 18 months after taking office, the Biden administration has failed to accomplish this vital task. The key document, the 2022 Nuclear Posture Review (NPR), has been completed: A classified version was sent to the Congress last March, and shortly afterward the Defense Department published a five paragraph, largely substance-free, “fact sheet” acknowledging that. But the unclassified version of the NPR has not yet been released. It is crucial that allies covered by our nuclear shield understand what our policy is; equally, potential enemies, particularly nuclear-armed ones, must comprehend our deterrence policy. Inexplicably, the administration remains silent.

What we do know about the Biden nuclear policy, largely inferred from congressional testimony, is that the fundamental tenets of longstanding U.S. policy appear unchanged: Deterrence rests on the ability to convince an enemy leadership that our retaliation will impose costs that will outweigh any gains they hope to make through aggression; to be credible, we must have a modern retaliatory force that can clearly

impose the costs our policy requires—even under the worst-case conditions of a surprise attack; our retaliation must focus on assets the enemy leadership values—not on what we value. This means we must study potential enemy leaderships to understand their value structures.

We also know that—with two exceptions—the nuclear modernization program that the administration inherited from its two predecessors will continue. This includes the new Sentinel ICBM, a land-based system; a minimum of 12 Columbia class missile submarines and the life-extended Trident II missile they will carry; the B-21 bomber; and a replacement air-launched cruise missile. The low-yield submarine warhead, much needed to provide a credible response—and therefore a deterrent—to potential enemy use of a low yield (non-strategic/ battlefield sized) weapon, will remain deployed.

The administration did decide to terminate two new starts from the Trump administration: the life extension of the B-83 bomb (which the Obama administration had wanted to retire) and the proposed nuclear sea-launched cruise missile program—although it seems that Congress may have a different view on the latter. The warhead programs to support nuclear modernization, with the exception of the B-83, will also proceed. We also thought we knew that after major debate both in public and behind closed doors, and after many intense consultations with key congressional leaders and with our allies, the administration—much to the dismay of progressives—backed away from its early intention to institute a “no first use” policy. According to

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the fact sheet, the compromise U.S. policy that emerged from the NPR is: “the fundamental role of US nuclear weapons is to deter nuclear attack on the United States, our allies and partners. The United States would only consider the use of nuclear weapons in extreme circumstances to defend the vital interests of the United States or its allies and partners.”

Translated from bureaucratic jargon, this appears to mean the nuclear umbrella remains intact: We would, if necessary, use nuclear weapons to respond to a massive non-nuclear attack on our allies. And so we avoid a dangerous and destabilizing no-first-use policy that not only would have disheartened allies and possibly spurred proliferation, but would have been regarded by our potential enemies as meaningless. That the review remains classified, however, is causing concerns among allies who are wondering why it has not been shared. This has raised questions about whether the administration is concealing other language casting doubt on the hard-fought compromise.

This concern was amplified on August 5 when a senior Defense Department official said “we retain the goal of moving towards the sole purpose declaration [that is, nuclear weapons are useful to deter only nuclear attack but not massive conventional assault—which our allies worry about] in the future and the NPR makes that clear.” So much for reassuring allies and warning those who threaten them. The DoD fact sheet also raises a number of other points that require urgent explanation: It underscores the administration’s “commitment to reducing the role of nuclear weapons,” a mantra that administration officials continue to repeat. It is completely unclear, however, what this means....

*Source: <https://thedispatch.com/p/the-mystery-of-the-missing-nuclear>, 25 August 2022.*

**OPINION – Yaakov Katz**

**Lapid’s Iran Approach is Softer than Netanyahu’s, and it might Work**

Let us start from the end. If there is a new nuclear deal with Iran, we can be certain of one thing – it will become the centerpiece of Benjamin

Netanyahu’s election campaign. He will use it to claim that the Americans, the Europeans and the Iranians all conspired to pass a bad deal for one reason and one reason only – because Yair Lapid is currently the prime minister of the State of Israel. The truth will not make a difference. Netanyahu will use the deal to hammer away at Lapid and try to claim that if he had been prime minister, he would have stopped it from passing. Some people have already started pushing this narrative.

One prominent Israeli military analyst wrote this week that in his view, the situation is not being managed. Lapid, he argued, needed to get on a plane, fly to Washington, meet with the president and make Israel’s case. Nothing else, he said, would work. It’s quite amazing. Netanyahu has been out of office for almost a year-and-a-half, but his mark on the way things are supposed to be done remains in place. A prime minister needs to be aggressive, needs to fly to the US and meet the president. If only that were to happen, all of Israel’s problems would be solved. The problem is that I am old enough to remember a time when a prime minister did exactly that. It was March 2015 and the prime minister at the time – Netanyahu – got on a plane, flew to Washington, DC, and even gave a speech before a joint session of Congress. Did any of that stop the deal? Of course not. What it did do was cause damage to the Israel-US relationship that is still being felt today.

***Something Worth Thinking about, No?:*** Despite the past, there is no doubt that a new deal will present a challenge for Lapid even if he will have the events of 2015 to use to hit back. As seen over four election campaigns, there is almost nothing off limits in the Likud’s quest for power – even matters like Iran that strike at the core of Israel’s national security interests. The way this situation is being portrayed in some circles, though, illustrates something else – how Israelis have been conditioned to believe that there is only one way to do things. It is hard, for example, for people like the aforementioned military analyst to consider another course of action, one that is not as loud and not as in-your-face as the way Netanyahu did things.

This approach can be described as the “Lapid Style.” Iran is today one of the issues that take up most of Lapid’s time and attention. This past week alone, he spoke with German Chancellor Olaf Scholz, French President Emmanuel Macron and others. He dispatched his national security adviser, Eyal Hulata, to Washington; authorized a trip to Washington for Defense Minister Benny Gantz; and briefed the international media. In the meantime, Ambassador Mike Herzog has spent a lot of time in recent weeks roaming the halls of Hart, Dirksen and Russel – the three senate office buildings – speaking to members on both sides of the aisle and explaining Israel’s reservations against the deal.

**There is no hiding the fact that Lapid’s style is different. He might speak daily with the Americans to place pressure where he can, but he does so in a way that gets the point across without blowing up the relationship, like what happened in 2015. On 24 August, for example, Lapid spoke out against the deal in one of his first public appearances on the issue, but he kept things civil.**

**Lapid’s Different Style:** There is no hiding the fact that Lapid’s style is different. He might speak daily with the Americans to place pressure where he can, but he does so in a way that gets the point across without blowing up the relationship, like what happened in 2015. On 24 August, for example, Lapid spoke out against the deal in one of his first public appearances on the issue, but he kept things civil. It wasn’t about blowing up, but rather working hard to get his point across – that the deal that seems to be coming down the pipeline is not the one that President Joe Biden promised to achieve. Instead, Lapid said, it was far worse.

While the chances of stopping a deal are slim, the government has reason to believe that it can impact the process. A few months ago, for example, when the administration was leaning toward lifting the terror designation from the IRGC, Naftali Bennett and Lapid succeeded in changing the White House’s mind. Then too, it was not easy, but the objective was achieved without leading to a blow-up. This style – of keeping the situation below the threshold of an outright conflict with the US – fits into the strategy that Lapid brought with him in June to the

Aquarium, as the suite of offices where the prime minister and his team sit in the Prime Minister’s Office is called. The overarching strategy was to stay quiet, focus on work, and provide stability, security, and basically a sense of calm after such a long period of political havoc and coalition craziness. By staying quiet, Lapid tried to prove two ideas. The first is that a leader doesn’t always have to be in people’s faces, scaring them, warning them of imminent danger or showing them how great he or she is. In addition, it was meant to get people accustomed to the idea of

having Lapid as their prime minister, something forces on the Right had warned for years would be a disaster.

What Lapid wanted to show was that having him in the chair did not automatically mean that everything was bad. On the contrary: the country seems today to be managed – ministers talk about serious cabinet issues without the political bickering characteristic of the past, relations with Turkey have been restored, and even the recent operation in Gaza seems to have been the most successful in recent memory. And while Likud will have you believe that it has nothing to do with Lapid, it seems that it actually did. The prime minister gave a lot of thought in the run-up to the Gaza operation, how he wanted to see it end, and ensured that the process was smooth and included all of the relevant and necessary players. Somehow that was possible without the nightly press conferences that we used to have from the past prime minister, full of pathos eliciting fear. So far, the strategy has paid off. According to recent polls, Lapid has closed the gap between Yesh Atid and Likud to only a seven-to-eight seat lead. Considering that just a few months ago Lapid seemed to have a ceiling of 20 seats, that means something is clearly working.

**The Challenge Remains:** What remains is the political challenge – how will Lapid form a

coalition? Even if Netanyahu fails to reach the 61 seats he has fought to get for three years, there is skepticism that Lapid has a path to form an alternative government. From Lapid's perspective, while another election is bad for the country, it is not necessarily bad for him politically. If no one can form a government, then the country will go to another election and in the meantime, he will remain prime minister, giving him more time to gain credibility and voters. On the other hand, it would be a mistake to dismiss the possibility that Lapid will, in fact, succeed in forming a government. For now, Lapid is working hard to get Labor Party leader Merav Michaeli to agree to a merger with Meretz. The problem is that Michaeli has so far refused to hear about the idea, even if it will mean that Meretz fails to cross the threshold, thereby boosting Netanyahu's chances of success.

In addition, some people claim that there is a sea change among the ultra-Orthodox parties – both United Torah Judaism and Shas – and that, if Netanyahu fails to form a government, they will not go automatically to additional time in the opposition. Lapid is banking on that. He hopes that if he can deny Netanyahu getting to 61, Shas and UTJ will recalculate their allegiance to Likud and be willing to enter into a Lapid-led government. Is this realistic? Hard to tell. On the one hand, the haredim have openly hinted at their willingness to review alternatives after the election. On the other hand, there is no way they are going to say that publicly out of fear of losing votes to Itamar Ben-Gvir's far-right party. The resignation of UTJ leader Ya'acov Litzman is seen as helping the chances since he was one of the main obstacles to any reconciliation with Lapid.

The following story might also be telling: A couple of months ago, during one of the more heated debates in the Knesset, the deputy religious services minister, Matan Kahana – formerly of

Yamina and now part of Gantz's National Unity Party – took to the podium to address the plenum. Several MKs from Shas and UTJ began heckling Kahana, and at one point called him "Antiochus," the name of the Greek Hellenistic king who conquered Jerusalem and desecrated the Temple. Lapid was in the plenum, heard the name, walked over to the group of MKs and asked what had happened. "Antiochus used to be my name," he said, smiling to the ultra-Orthodox MKs who until recently used to yell names like that at him. They laughed in return which does not yet mean that they are willing to enter into a coalition with him, but it does create options and that is something that Netanyahu fears. In the end

though, there is really only one answer to the question of how Lapid can potentially form a coalition after the next election, and that is by looking at where he is right now and considering the near-impossible path that got him there and how many people thought it would never happen. Can he do that again? We will find out soon enough.

Source: <https://www.jpost.com/opinion/article-715611>, 26 August 2022.

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## NUCLEAR STRATEGY

### CHINA

#### PLA Adopts Nuclear Deterrence to Stop Foreign Intervention on Taiwan

The PLA has adopted nuclear deterrence to try to stop the US and Japan from directly intervening in a possible clash over Taiwan, but would exercise caution to avoid full-blown conflict.... Beijing kicked off unprecedented war games near Taiwan in the wake of US House Speaker Pelosi's Taipei tour in August, video footage of two vehicles carrying the two-stage liquid-fuel Dongfeng 5B ICBM circulated on mainland social media platforms Weibo and WeChat. Videos



showed other Dongfeng nuclear-capable missiles – including the road-mobile DF-27, DF-16 and DF-15B – moving through city streets.

All Dongfeng-series missiles are capable of delivering nuclear warheads, while the DF-5B ICBM has a range of up to 15,000km (9,321 miles), enabling it to hit North America. “It is aimed at warning the US and its close ally Japan not to intervene in the Taiwan issue, reminding them Beijing has the most powerful weapon that could give [them] a deadly strike,” said Yue Gang, a retired PLA colonel...“Putin’s experience inspired Beijing that it’s a workable strategy to stop the US and Japan’s possible intervention in a future Taiwan contingency,” Yue said.

Zhou Chenming, a researcher from the Yuan Wang military science and technology think tank in Beijing, said China would not change its long-standing “no-first use” nuclear policy....Beijing had stated that the military exercises were against Taiwan’s “pro-independence” camp. “The missiles displayed on streets and those fired in war games are all conventional weapons ... aimed at preventing the Taipei government from turning the Taiwan problem into an international issue, something similar to a ‘Ukraine issue’ for Beijing”....

Source: <https://www.scmp.com/news/china/military/article/3189597/pla-adopts-nuclear-deterrence-stop-foreign-intervention-taiwan>, 21 August 2022.

## **UK**

### **Britain’s Next Prime Minister Liz Truss Says She is Ready for Global Nuclear Annihilation**

Foreign secretary Truss...has declared that she would launch a nuclear strike on Russia, even though the result would be “global annihilation.” During a Tory Party leadership hustling in Birmingham on August 23 to determine who will

replace Boris Johnson, John Pienaar of Times Radio told Truss that if she became prime minister, she would be quickly shown the procedures for launching nuclear missiles from Britain’s Trident submarines. “It would mean global annihilation,”

Pienaar said. “I won’t ask you if you would press the button, you’ll say yes, but faced with that task I would feel physically sick. How does that thought make you feel?”...Truss replied, “I think it’s an important duty of the Prime Minister and I’m ready to do that.”...Truss had recently told Sky News, “If we don’t stop Putin in

Ukraine, we are going to see others under threat: the Baltics, Poland, Moldova, and it could end up in a conflict with NATO”....

Source: <https://www.wsws.org/en/articles/2022/08/26/jfvn-a26.html>, 26 August 2022.

## **BALLISTIC MISSILE DEFENCE**

### **RUSSIA**

#### **Russian Army to Receive S-500 Air Defense Systems**

Russia’s Defense Ministry and the Almaz-Antey defense manufacturer signed a contract on the delivery of the latest S-500 air defense systems to the Russian troops at a ceremony held at the Army 2022 international military-technical forum on August 16...“A state contract is being signed on the delivery of the S-500 long-range surface-to-air missile system,” it was announced at the ceremony....The S-500 is designed to destroy all existing and future aerospace attack weapons of a potential enemy across the entire range of altitudes and speeds.

Source: <https://en.mehrnews.com/news/190315/Russian-army-to-receive-S-500-air-defense-systems>, 16 August 2022.

### **USA–SOUTH KOREA–JAPAN**

#### **US, South Korea and Japan Conduct First Combined Ballistic Missile Exercise Since 2017**

The US, South Korea and Japan have conducted

**Videos showed other Dongfeng nuclear-capable missiles – including the road-mobile DF-27, DF-16 and DF-15B – moving through city streets. All Dongfeng-series missiles are capable of delivering nuclear warheads, while the DF-5B ICBM has a range of up to 15,000km (9,321 miles), enabling it to hit North America.**

their first combined BMD exercise since 2017 amid concerns about North Korea and China. The exercises were conducted off Hawaii's coast in second week of August.... Combined drills were brought to a halt after 2017 due to a deterioration in relations between Seoul and Tokyo.... However, South Korea's conservative President Suk-yeol vowed to improve relations with Japan after he entered office in May. He also pledged to strengthen ties with Washington to deter action from Pyongyang. The exercise, which is said to have been a missile warning and ballistic missile search and tracking test, took place between August 8 and 14. The ministry of defence in Seoul also confirmed the exercise on August 16. It revealed troops would resume long-suspended live field training. South Korea's ministry of defence also said further joint military drills would be held between August 22 and September 1.

The news comes after both nations scaled back combined military drills in recent years due to COVID-19. The three nations reportedly shared tactical data link information which is in accordance with a trilateral information sharing agreement.... However, combined exercises have previously proved to frustrate Beijing. South Korea's decision in 2016 to host an American military THAAD battery resulted in economic consequences for Seoul. It has been reported Russian President Putin has sent a letter to his North Korean counterpart Kim Jong Un looking to strengthen the bond between the two countries. In the letter sent to Kim for North Korea's Liberation Day, which falls on August 15, President Putin stated

**It has been reported Russian President Putin has sent a letter to his North Korean counterpart Kim Jong Un looking to strengthen the bond between the two countries. In the letter sent to Kim for North Korea's Liberation Day, which falls on August 15, President Putin stated that "closer ties would be in both countries' interests, and would help strengthen the security and stability of the Korean peninsula and the Northeastern Asian region.**

**MDA was still finalising the new military technology needed on Guam - including radar sensors, interceptor weapons and command and control systems...the US military was aiming to install new defences by 2026 and they would provide comprehensive coverage.**

that "closer ties would be in both countries' interests, and would help strengthen the security and stability of the Korean peninsula and the Northeastern Asian region". Relations between Russia and North Korea go back to the days of the Soviet Union when the USSR supplied its ally with aid.

Source: <https://www.express.co.uk/news/world/1655750/us-south-korea-japan-china-north-korea-ballistic-missile-ont>, 16 August 2022.

## **USA**

### **US Military Wants to Expand Missile Defences on Guam**

The strategically-vital US island of Guam is set for a major boost to its missile defences amid rising tensions in the Asia Pacific region. New defence capabilities on the island will be needed to combat an "evolved" threat of advanced weapons from China and North Korea.... The head of the US Missile Defence Agency (MDA), Vice Admiral Jon Hill, told...they included hypersonic weapons, ballistic and cruise missiles as well as potential space systems.... MDA was still finalising the new military technology needed on Guam - including radar sensors, interceptor weapons and command and control systems...the US military was aiming to install new defences by 2026 and they would provide comprehensive coverage....

Guam lies 3000km south-east of Shanghai in China and is the closest US military base to the Chinese mainland. There are two major bases on Guam: Andersen Air Force Base in the north and Naval Base Guam in the south. Altogether, 7000 US military personnel are stationed on Guam. The

small but strategically important island has been the subject of past threats by foreign powers. North Korea in January announced it test-launched an IRBM capable of reaching Guam. The Hwasong-12 missile is a nuclear-capable ground-to-ground weapon with a maximum range of 4500km when it's fired on a standard trajectory....

Source: <https://www.9news.com.au/world/guam-missile-defences-major-upgrade/78d0923a-70ea-4a91-9df5-2401e76054b1>, 24 August 2022.

## **NUCLEAR ENERGY**

### **INDIA**

#### **Narendra Modi's Nuclear Power Push Gains Traction as NTPC Eyes New Plants**

India's largest power producer is looking to develop another massive nuclear project just weeks after announcing its entry into the sector, a sign that Prime Minister Modi's expansion into atomic energy is gaining momentum. A venture between NTPC Ltd., which relies mostly on coal to supply energy to the world's fastest growing population, and India's monopoly nuclear developer is in advanced talks with the government to develop two 700-megawatt reactors in the central state of Madhya Pradesh.... That comes on the heels of an announcement earlier in August 2022 from NTPC, which said it's seeking to make its nuclear power debut with two reactors at Gorakhpur in the northern state of Haryana. The country is currently building six gigawatts of nuclear capacity, the most after China, which has nearly three times that volume under construction....

Prime Minister Modi is aiming to more than triple India's nuclear fleet over the next decade to expand

the share of electricity from cleaner sources, as the nation seeks to zero out carbon emissions by 2070. The country currently generates about 70% of its electricity using coal and around 3%

from nuclear, and has opened its atomic industry to state-controlled firms beyond Nuclear Power Corp. of India Ltd. in a bid to speed adoption of nuclear energy....

India emerged from a nuclear exile in 2008 following an agreement with the U.S. that allowed it to access foreign technology and raw materials for its civil program for the first time in three decades. But resistance to the country's nuclear liability law – which holds equipment suppliers liable for accidents – along with anti-nuclear concerns following the 2011 Fukushima disaster in Japan have thwarted expansion plans. The nation has 6.8 gigawatts of nuclear power, barely 1.7% of its total generation fleet. New Delhi-based NTPC currently runs 92% of its capacity on fossil fuels and plans to reduce that to about a half by 2032.

Source: [https://www.business-standard.com/article/economy-policy/pm-modi-s-nuclear-power-push-gains-traction-as-ntpc-looking-at-new-plants-122082400084\\_1.html](https://www.business-standard.com/article/economy-policy/pm-modi-s-nuclear-power-push-gains-traction-as-ntpc-looking-at-new-plants-122082400084_1.html), 24 August 2022.

**A venture between NTPC Ltd., which relies mostly on coal to supply energy to the world's fastest growing population, and India's monopoly nuclear developer is in advanced talks with the government to develop two 700-megawatt reactors in the central state of Madhya Pradesh.**

**Ten nuclear plants have already resumed power production while PM Kishida plans to restart another nine by the time winters begin and demand shoots up. The government plans to restart more by 2023. Looking at the global energy crisis caused by the Russian attack on Ukraine as well as the fact that Japan has to reduce its carbon footprint, the country has decided to go nuclear. It is also staring at the winter months when power consumption would rise.**

Source: [https://www.business-standard.com/article/economy-policy/pm-modi-s-nuclear-power-push-gains-traction-as-ntpc-looking-at-new-plants-122082400084\\_1.html](https://www.business-standard.com/article/economy-policy/pm-modi-s-nuclear-power-push-gains-traction-as-ntpc-looking-at-new-plants-122082400084_1.html), 24 August 2022.

### **JAPAN**

#### **Japan Sets Eyes on Nuclear Energy Production as Part of Go Green Agenda**

In a major policy shift that will have international ramifications, Japan has decided to restart its inactive nuclear power plants as well as develop the next-generation reactors to avert an energy

crisis and go green. At a conference on industrial transformation and decarbonisation, Prime Minister Kishida said: "The government will take the lead in various measures to restart our nuclear power plants".... For Japan, this would be a big policy turnaround as it had turned its back on nuclear power after the disaster at the Fukushima nuclear plant in 2011. ...

The country has already taken its first steps towards energy security through nuclear power. Ten nuclear plants have already resumed power production while PM Kishida plans to restart another nine by the time winters begin and demand shoots up. The government plans to restart more by 2023. Looking at the global energy crisis caused by the Russian attack on Ukraine as well as the fact that Japan has to reduce its carbon footprint, the country has decided to go nuclear. It is also staring at the winter months when power consumption would rise.

Japan is also trying to extend the life of the existing reactors beyond 60 years besides developing new technologies. This is a development where public opinion will have to be managed as people harbour concerns over the safety of old nuclear reactors which could be prone to accidents.... The country has set a target of nuclear power generation of nearly 20 per cent of its total power supply by 2030. Japan has been fast off the blocks to tackle the looming energy crisis. The third largest global economy after the US and China, it cannot afford to be lax over shortage of energy coupled with mounting prices. It is also confronting a rising China that has forced Tokyo to up its defence budget and look afresh at its security architecture in the region.

Source: [https://www.business-standard.com/article/international/japan-sets-eyes-on-nuclear-energy-production-as-part-of-go-green-agenda-122082600471\\_1.html](https://www.business-standard.com/article/international/japan-sets-eyes-on-nuclear-energy-production-as-part-of-go-green-agenda-122082600471_1.html), 26 August 2022.

## **IRAN**

### **Iran Plans to Become Hub for Building Nuclear Plants: AEOI Head**

Mohammad Eslami, the chief of Iran's Atomic Energy Organization (AEOI), vowed on August 25 that his country intends to quickly become a center for developing nuclear power plants.... "The world is currently experiencing a fuel crisis, and nearly every nation—and European ones in particular—have turned to building nuclear facilities. We are several years behind in that regard".... He continued

**Iran had a 20-year strategy for using nuclear energy to generate power. "What is of very great significance to us is to be able to grow the applications of nuclear technology in the country by the day.... Eslami emphasized that Iran should become a powerhouse for developing and building nuclear facilities with the implementation of that strategy.**

that Iran had a 20-year strategy for using nuclear energy to generate power. "What is of very great significance to us is to be able to grow the applications of nuclear technology in the country by the day.... Eslami emphasized that Iran should become a powerhouse for developing and building nuclear facilities with the implementation of that strategy.

He went on to highlight that "by God's favor, the development of the use of radiation was put on the agenda in the first year of the current government. At the national level, the comprehensive development document was researched, created, and put on the agenda. Twelve locations in the country that may be exploited for agriculture were selected based on this study." The nuclear chief stated that just one radiation system was utilized in a small portion of this region...Iran intends to construct a number of additional nuclear power facilities around Iran....

Source: <https://www.tehrantimes.com/news/476078/Iran-plans-to-become-hub-for-building-nuclear-plants-AEOI-head>, 26 August 2022.

## **USA**

### **What the Climate Bill does for the Nuclear Industry**

The sweeping Inflation Reduction Act that President Joe Biden signed includes \$369 billion



in funding to help combat climate change. As part of that, the law includes significant help for the nuclear energy industry. Overall, the provisions in the law could decrease greenhouse gas emissions by 37% to 41% under 2005 levels by the year 2030, according to an analysis by Energy Innovation, a policy modeling company. Some of the most widely touted provisions in the IRA include electric vehicle tax credits, and rebates for heat pump installation in homes and solar panel installation on home roofs.

It also includes significant benefits for the nuclear industry, as energy generated with nuclear reactors generates no greenhouse gases. Nuclear advocates are celebrating the law as a win. ... "The IRA creates a new future for clean energy technologies, including nuclear energy, that is a more level playing field and allows for technologies to compete on a more even basis as well as on their unique characteristics. This is definitely a win for nuclear energy." Here's an overview of how the climate bill will impact the nuclear sector.

***Production Tax Credit for Existing Nuclear Power Plants:*** Starting in 2024 and

running through 2032, utilities will be able to get a credit of \$15 per megawatt-hour for electricity produced by existing nuclear plants. If the price of power rises above \$25 per megawatt-hour, then the credit will gradually decrease, but it doesn't phase out completely until energy prices reach around \$44 per megawatt-hour, explained Matthew Crozat, the executive director of strategy and policy at the Nuclear Energy Institute, a Washington, D.C.-based trade group.

... To be eligible for the full \$15 per megawatt-hour base tax credit, a nuclear power plant

operator has to pay workers operating and doing maintenance on the power plant "prevailing wage requirements," according to the Nuclear Energy Institute.

***Production Tax Credit for Advanced Nuclear Power Plants:*** Several companies in the United States are working to commercialize new nuclear power plant

designs that are meant to be safer and with a smaller capacity, making them ideally cheaper to build and maintain as well. For example, Bill Gates' nuclear innovation company, TerraPower, is developing a couple of advanced reactor designs, one of which is going to be built at a retiring coal facility in Wyoming as part of a demonstration program in partnership with the U.S. government.

**The IRA creates a new future for clean energy technologies, including nuclear energy, that is a more level playing field and allows for technologies to compete on a more even basis as well as on their unique characteristics. This is definitely a win for nuclear energy.**

**The investment tax credit allows a nuclear power plant to get a tax credit for 30% of what was invested in building the zero-emissions energy production facility, which includes nuclear power plants, according to the Nuclear Energy Institute. The investment tax credit is increased by 10% for locating the zero-emissions power source where a coal plant previously lived. It starts to phase when carbon emissions from the sector are 75% lower than 2022 levels.**

Advanced nuclear reactors could benefit from the IRA by way of the Clean Electricity Production Tax Credit, a technology-agnostic production credit, which can be applied toward emissions-free power generation that goes online after 2025. The clean energy production credit is for at least \$25 per megawatt-hour for the first ten years the plant is in operation, adjusted for

inflation. The credit phases out in 2032 or when carbon emissions coming from electricity have fallen by 75% below the level of 2022, according to the Nuclear Energy Institute. The tax credit is increased by 10% for locating the zero-emissions power source where a coal plant previously lived.

Worth noting, there's another Advanced Nuclear Production Tax Credit already on the books. That tax credit was established in the Energy Policy Act of 2005 and is for \$18 per megawatt-hour for the first eight years that a nuclear power plant is operating, provided the nuclear power plant had

not begun construction when the 2005 bill was signed into law, Crozat told CNBC. The third reactor unit of the Vogtle Power plant being constructed in Georgia will be the first power plant to take advantage of the 2005 Advanced Nuclear Production Tax Credit, according to Crozat.

A company cannot take advantage of both tax credits — it has to pick. Going forward, the tax credits in the IRA just signed into law will be more attractive. “Since the new production tax credit has been indexed to inflation and last for two additional years, it will be considerably more valuable than the older version,” Crozat told CNBC.

**Investment Tax Credit for New Nuclear Power Plants:**

New nuclear power plants are eligible for claiming an Investment Tax Credit made available through the new law for facilities that generate energy with zero emissions and that go into service in 2025 or after. The investment tax credit allows a nuclear power plant to get a tax credit for 30% of what was invested in building the zero-emissions energy production facility, which includes nuclear power plants, according to the Nuclear Energy Institute. The investment tax credit is increased by 10% for locating the zero-emissions power source where a coal plant previously lived. It starts to phase when carbon emissions from the sector are 75% lower than 2022 levels.

**Loan Guarantees:** The IRA provides funding for the Department of Energy to guarantee up to \$250 billion worth of loans to update, repurpose, and revitalize energy infrastructure that has stopped working, or that will enable energy infrastructure to keep operating if the upgrade will avoid the release of greenhouse gasses. Nuclear infrastructure projects could be eligible for this loan guarantee program. While many of the other components of the IRA law help incentivize the construction of new projects, this loan guarantee program is important to keep a project moving

forward, and that’s important too.... The Department of Energy loan guarantee program “provides the capital needed to move forward with a project, reduce finance risk enabling lower interest rates, and thereby reduce overall project costs”.

**Money to Spur Innovation:** The law includes \$700 million that will go towards the research and development of high-assay low enrichment uranium (HALEU) fuel sources in the United States through 2026.... That’s important because the

advanced, next-generation reactors which are currently being developed by 20 companies in the United States, according to the U.S. Department of Energy, depend on HALEU fuel to operate.

The existing fleet of nuclear power reactors in the United States operate on uranium that has been enriched up to 5%. HALEU fuel has been enriched between 5% and 20%.

Many advanced reactor designs are smaller builds than conventional nuclear reactors and so to make a nuclear reactor smaller, they need to get more power from smaller quantities of fuel, the Department of Energy says.

... The nuclear industry needs multiple billions of dollars to invest in HALEU production over the next ten years. The IRA also includes \$150 million for the Office of Nuclear Energy through 2027, according to the Bipartisan Policy Center. That money is for the Department of Energy to invest in its nuclear innovation research at its network of National Laboratories.

**Production Tax Credit for Producing Clean Hydrogen:**

The IRA includes a tax credit for the clean production of hydrogen worth up to \$3 per kilogram of hydrogen produced in a way that does not emit any greenhouse gasses. The tax credit would be available for 10 years, according to the Nuclear Energy Institute. Hydrogen generates no

**The law includes \$700 million that will go towards the research and development of high-assay low enrichment uranium (HALEU) fuel sources in the United States through 2026.... That’s important because the advanced, next-generation reactors which are currently being developed by 20 companies in the United States, according to the U.S. Department of Energy, depend on HALEU fuel to operate.**

carbon dioxide when burned, and therefore could be useful in sectors that would otherwise be hard to decarbonize, like trucking, shipping, and air travel. However, creating hydrogen and transforming it into a form that can be used for fuel requires a lot of energy. If the energy that is used to make hydrogen emits greenhouse gasses, then its benefit is nullified. Nuclear energy can be used to produce hydrogen with no carbon emissions, Crozat told CNBC. ...

To be eligible for the maximum tax credit, the facility has to be under construction before 2033 and generate no more than 0.45 kilograms of carbon dioxide equivalent per kilogram of hydrogen produced and that must be measured and tracked with a lifecycle assessment, the Nuclear Energy Institute says. The tax credit phases out if a hydrogen production facility generates more than 6 kilograms of carbon dioxide equivalent per kilogram of hydrogen.

Also, to be eligible to receive the maximum value of the tax credit, a facility has to meet "prevailing wage requirements" or the maximum credit is \$0.60 per kilogram of hydrogen produced, according to the Nuclear Energy Institute.

**Tax Credits for Making Component Parts:** The IRA includes a manufacturing production provision that allows for a tax credit for component parts produced and sold after 2022, according to a summary of the benefits of the IRA for the nuclear industry from the law firm Morgan Lewis. This credit is not only for the nuclear industry, but it can be applicable, according to Morgan Lewis' analysis of the new law. The specific credit depends on the type of component part produced and sold. For some parts, there is a gradual phase-out of

the credit from 2030 through 2033, Morgan Lewis writes.

Similarly, the IRA law includes an extension of the Advanced Energy Project Credit tax credit program, which is not specific to the nuclear industry either but also could be applicable to the nuclear industry, according to Morgan Lewis. Under the program, the U.S. Treasury can authorize a maximum of \$10 billion of these tax credits and they can go towards a slew of clean energy manufacturing and facilities production.

**The IRA law includes an extension of the Advanced Energy Project Credit tax credit program, which is not specific to the nuclear industry either but also could be applicable to the nuclear industry, according to Morgan Lewis. Under the program, the U.S. Treasury can authorize a maximum of \$10 billion of these tax credits and they can go towards a slew of clean energy manufacturing and facilities production.**

Source: Article by Catherine Clifford, <https://www.cnbc.com/2022/08/22/what-the-climate-bill-does-for-the-nuclear-industry.html>, 25 August 2022.

## **NUCLEAR COOPERATION**

### **RUSSIA-HUNGARY**

Hungary's nuclear regulator has granted a construction license for two new reactors at the Paks nuclear power plant, which are to be built by Russia's Rosatom under a 2014 deal signed between Budapest and Moscow. Despite serious delays, the project, awarded without a tender to Rosatom, has often been cited as evidence of warm ties between Hungarian Prime Minister Viktor Orban and Russian President Vladimir Putin.

In a decision on its website, the Hungarian Nuclear Energy Authority said the existing Russian-built 2-gigawatt plant at Paks can be expanded with two new reactors, pending further licenses. Hungary's approval of Rosatom's new reactors has been cited as evidence of the close relationship between Putin and Orban. Hungary aims to expand Paks with two Russian-

**Hungary aims to expand Paks with two Russian-made VVER reactors, with capacity of 1.2 gigawatts each. Nuclear energy is not subject to European Union sanctions. The plans for the two new blocks at Paks serve Hungary's strategic interests, Foreign Minister Péter Szijjártó said.**

made VVER reactors, with capacity of 1.2 gigawatts each. Nuclear energy is not subject to European Union sanctions. The plans for the two new blocks at Paks serve Hungary's strategic interests, Foreign Minister Péter Szijjártó said after a meeting in May with Rosatom's chief executive. The Paks plant now has four small Russian-built VVER 440 reactors with a combined capacity of about 2,000 megawatts that started operating between 1982 and 1987.

Source: <https://edition.cnn.com/2022/08/27/europe/hungary-russia-nuclear-reactors-intl/index.html>, 27 August 2022.

**NUCLEAR PROLIFERATION**

**IRAN**

**Iran Responds to EU Draft Text to Save 2015 Nuclear Deal, Seeks US Flexibility**

Iran responded to the EU's "final" draft text to save a 2015 nuclear deal on August 15...as the Iranian foreign minister called on the United States to show flexibility to resolve three remaining issues. After 16 months of fitful, indirect U.S.-Iranian talks, with the EU shuttling between the parties.... On Aug 8 EU had laid down a "final" offer and expected a response within a "very, very few weeks." While Washington has said it is ready to quickly seal a deal to restore the 2015 accord on the basis of the EU proposals, Iranian negotiators said Tehran's "additional views and considerations" to the EU text would be conveyed later.

The EU official on August 15 provided no details on Iran's response to the text. "There are three

**The US said the deal could only be revived if Iran dropped "extraneous" issues, an apparent reference to Tehran's demands the U.N. nuclear watchdog close a probe into unexplained uranium traces in Iran and that its Revolutionary Guards come off a U.S. terrorism list.**

issues that if resolved, we can reach an agreement in the coming days," Iranian Foreign Minister Amirabdollahian said earlier on August 15, suggesting Tehran's response would not be a final acceptance or rejection.... The US said the deal could only be revived if Iran dropped "extraneous" issues, an apparent reference to Tehran's demands the U.N. nuclear watchdog close a

probe into unexplained uranium traces in Iran and that its Revolutionary Guards come off a U.S. terrorism list.... The stakes are high, since failure in the nuclear negotiations would carry the risk of a fresh regional war with Israel threatening military action against Iran if diplomacy fails to prevent Tehran from developing a nuclear weapons capability. Iran, which has long denied having such ambition, has warned of a "crushing" response to any Israeli attack. "Like Washington, we have our own plan B if the talks fail," Amirabdollahian said....

Source: <https://www.france24.com/en/middle-east/20220815-iran-responds-to-eu-draft-text-to-save-2015-nuclear-deal-seeks-us-flexibility>, 16 August 2022.

**Iran's Pivot to China and Russia Means a Nuclear Deal would Now Look Very Different**

A new version of the Iran nuclear deal...would be very different from the original..."JCPOA version two is very different from version one. Version one was being implemented by a moderate government that was on the whole, very much oriented towards the global economy, towards rapprochement with the West".... Under the original agreement in 2015, implemented during the Obama administration, Iran would dismantle much of its nuclear program and allow more international inspections in exchange for

**Under the original agreement in 2015, implemented during the Obama administration, Iran would dismantle much of its nuclear program and allow more international inspections in exchange for economic sanctions relief. Other world powers, such as the U.K., France, Germany, Russia and China, were also signatories. Iran's current president, Raisi, is seen as more hardline and anti-West than his predecessor Hassan Rouhani, who oversaw the signing of the 2015 deal.**



economic sanctions relief. Other world powers, such as the U.K., France, Germany, Russia and China, were also signatories. Iran's current president, Raisi, is seen as more hardline and anti-West than his predecessor Hassan Rouhani, who oversaw the signing of the 2015 deal. The deal "aimed to normalize Iran's relations with the West, [given that] Rouhani's team and his political base — Iran's modern middle class — were very western oriented and opposed to Iran getting into the Sino-Russian orbit".... "A new JCPOA, if it happens, is going to be in a very different environment [as] Iran is actually shifting its attention from the West towards the East. So it needs a different deal."

**Iran's Pivot to the East:** In February 2018, Iran's Supreme Leader Khamenei, ahead of the U.S. withdrawal from the JCPOA, said a preference for "East to the West" was a priority for the country...Under Raisi, Iran has sought to deepen ties with Russia and China. In September 2021, President Raisi made his first official trip as Iran's president to Tajikistan for a SCO summit. Iran has observer status in the SCO, a regional security grouping led by China and Russia. Iranian and Russian foreign ministers also recently held consultations in Tehran, in the face of international condemnation of Russia's invasion of Ukraine. On taking office, Raisi also reiterated Iran's commitment to its 25-year comprehensive cooperation program with China.

**'Not a Very Good Plan B':** Whatever deal is achieved, Western businesses will now be less likely to work with Iran...This is because of the legacy of sanctions and the difficulty of conducting

"know-your-customer" due diligence to ensure that certain Iranian firms aren't linked to its military...."While China is buying Iranian crude and selling supplies and factory input, most Chinese firms don't have the same risk appetite concerning U.S. sanctions ... They will not be willing to engage with the Iranian economy in a major way until the sanctions risks are eased." This applies to many of the Asian economies that Raisi's administration wants to build stronger ties with...

**Obstacles:** Though Iran appears the most optimistic it's been in years about finally clinching an agreement on a renewed version of the 2015 nuclear deal, several important obstacles remain. The EU has submitted a "final text" for the deal, but Iran negotiators have highlighted issues that may prove impossible to reconcile. Iran, for example, wants a guarantee that the deal will be binding, so that no future U.S. administration can renege on a renewed agreement... Renewed deal is unlikely, given that it is politically unpopular in the United States and a "tough sell" in Iran.

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**Tensions between the two Koreas have been building this year, with US military and intelligence agencies warning that North Korea appears to be preparing for a nuclear test—which would be its first in nearly five years," said CNN. At a press briefing on August 22, US State Department Spokesperson Ned Price told reporters that "over the course of many months now, we have conveyed publicly, we've also conveyed repeatedly privately, to the North Korea that we are ready and willing to engage in that dialogue and diplomacy".**

Source: <https://www.cnn.com/2022/08/24/jcpoa-2point0-will-be-different-from-predecessor-virginia-tech-professor.html>, 23 August 2022.

## NORTH KOREA

### US Remains Restrained Over North Korea's Missile Tests & Nuclear Threats

The US response to North Korea's continued missile tests—and occasional nuclear threats—has been surprisingly restrained. The reaction has

been summed up in two words: dialogue and diplomacy. On August 17, North Korea fired two cruise missiles toward the sea off its west coast. And, according to a CNN, military officials from South Korea and the US have been analyzing the launch for “further details”. “Tensions between the two Koreas have been building this year, with US military and intelligence agencies warning that North Korea appears to be preparing for a nuclear test—which would be its first in nearly five years,” said CNN. At a press briefing on August 22, US State Department Spokesperson Ned Price told reporters that “over the course of many months now, we have conveyed publicly, we’ve also conveyed repeatedly privately, to the North Korea that we are ready and willing to engage in that dialogue and diplomacy”.

The DPRK, he pointed out, has more recently heard that same message from the new administration in South Korea. “We believe it is incumbent on the DPRK to respond, and to respond affirmatively to that, knowing that and believing that we can achieve progress towards what is a collective goal,” said Price. In the meantime, he said, “we’re going to continue to stand by our treaty allies—the ROK, Japan, other allies in the Indo-Pacific—and to ensure that we are postured appropriately through defense and deterrence against any threats or provocations we may collectively face from the DPRK”. ...

Gerson said that with the priority being given to fighting the proxy war in Ukraine and to containing China’s rise, it will likely take more than predictable missile and nuclear tests to move the Biden

Administration from the failed policy of benign neglect toward Pyongyang. Neglect doesn’t remove a potential danger, he argued. But with its increasingly advanced missiles, South Korea, Japan, and ultimately the United States could be targeted with these genocidal weapons, and the history of the nuclear era is strewn with a record of miscalculations and nuclear accidents. “Thus, we have had a series of UN resolutions and sanctions designed to lead to North Korean nuclear disarmament.

The draft final statement of the Nuclear Nonproliferation Treaty Review Conference that calls for “the complete, verifiable and irreversible denuclearization of the Korean Peninsula, and reiterates concern over the DPRK’s nuclear weapons and delivery systems programs,” said Gerson. Meanwhile, in a March 22 statement, Secretary-General António Guterres called the missile test “another breach” of DPRK’s 2018 self-imposed moratorium that is in “clear violation of Security Council resolutions”. North Korea has reportedly

conducted 13 weapons launches this year, prompting concern in the United States, that leader Kim Jong-Un, is determined to make progress on developing weapons capable of carrying nuclear warheads to the US mainland. According to news reports, South Korean and Japanese flight data indicated that the long-range missile flew higher and longer (670 miles, or 1,080 km) than any of North Korea’s previous tests before crashing into the sea west of Japan.

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**The launch of the long-range missile risks a significant escalation of tensions in the region,” the top UN official said, urging the DPRK to “desist from taking any further counter-productive actions”. Guterres reaffirmed UN’s commitment to working with all parties “in seeking a peaceful diplomatic solution for the complete and verifiable denuclearization of the Korean Peninsula.**

appeared to involve a “new type” of ballistic missile, according to the UN. Although North Korea had announced that it put its ICBM and nuclear tests on hold, the country has since defended their use as weapons of self-defence. “The launch of the long-range missile risks a significant escalation of tensions in the region,” the top UN official said, urging the DPRK to “desist from taking any further counter-productive actions”. Guterres reaffirmed UN’s commitment to working with all parties “in seeking a peaceful diplomatic solution for the complete and verifiable denuclearization of the Korean Peninsula”.

In a statement issued August 17, North Korea’s Permanent Mission to the UN said the US has no right to single out Pyongyang when speaking about nuclear threats, since the country is in fact the “*main offender in nuclear proliferation*”. “*Given the fact that the US is the main offender in nuclear proliferation, the fact that it is making allegations about anyone’s ‘nuclear threats’ is the peak of audacity,*” the statement reads, as quoted by the Korean Central News Agency (KCNA). The US keeps contributing in the proliferation of nuclear weapons as part of a strategy to ensure its “*hegemony*”, the North Korean statement said. It also noted that “*the United States cannot deny it has transferred nuclear-powered submarine technology to Australia, nor that it has given its consent for Israel acquiring nuclear weapons*”.

Gerson said: “We should learn from history, even recent history. Pyongyang’s first nuclear weapons test in 2006 followed the refusal of the George W. Bush’s government to embrace the comprehensive agreement negotiated in the final months of the Clinton Administration and in the wake of the implied threat to North Korea when

President Bush labelled North Korea as the third member of the ‘Axis of Evil’ along with Saddam Hussein’s Iraq and Iran—both regime-change targets.” ... Gerson argued that diplomacy can take many paths and can be the fruit of disparate initiatives. In addition to the urgent need for the US and China to pull back from the brink of an “avoidable war”, without their cooperation, existential threat of the climate emergency will not be addressed. The two great powers, he said, also share a common interest in denuclearization of the Korean peninsula. Rational actors would understand that these existential threats should trump the dangerous contest for Indo-Pacific hegemony.

Similarly, scholars and leading political figures from Japan, South Korea and even Mongolia believe that the Korean nuclear crisis could be resolved by creating a Northeast Asian Nuclear Weapons Free Zone (NEA-NWFZ), and models for such a treaty have emerged from serious study and numerous conferences and seminars. “Whichever diplomatic effort is ultimately achieved, three things are clear. Nuclear weapons and humanity cannot indefinitely coexist. Denuclearization of the Korean Peninsula can only be the result of mutual step by step diplomacy. And such diplomacy must begin with a U.S. commitment to finally end the Korean War,” he declared.

Source: Thalif Deen, <https://www.indepthnews.net/index.php/armaments/nuclear-weapons/5548-us-remains-restrained-over-north-korea-s-missile-tests-nuclear-threats>, 22 August 2022.

#### **USA–UK–AUSTRALIA**

#### **China Urges U.S., Britain, Australia to Reverse Decisions on Nuclear Submarine Cooperation**

A Chinese defense spokesperson on August 25 urged the US, Britain and Australia to fulfill their

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**Nuclear submarine cooperation among these three countries poses severe nuclear proliferation risks, challenges the international framework for nuclear non-proliferation, escalates the arms race and undermines regional peace and stability, said Tan Kefei, spokesperson for the Ministry of National Defense.**

obligations concerning nuclear non-proliferation and revoke their decisions on nuclear submarine cooperation. Nuclear submarine cooperation among these three countries poses severe nuclear proliferation risks, challenges the international framework for nuclear non-proliferation, escalates the arms race and undermines regional peace and stability, said Tan Kefei, spokesperson for the Ministry of National Defense.... The US and Britain would openly violate the purposes and principles of the NPT if they transfer weapons-grade nuclear materials to non-nuclear-weapon states....

**Source:** <http://en.people.cn/n3/2022/0826/c90000-10140035.html>, 26 August 2022.

**NUCLEAR SAFETY**

**GENERAL**

**Enhancing Regulatory Infrastructure for Radiation Safety and Security of Radioactive Material: New IAEA Service**

A new IAEA service has been launched to support countries in developing their regulatory infrastructure for the safety of radiation sources and the security of radioactive material used in fields ranging from medical and industry to food and agriculture. The IAEA Advisory Mission on Regulatory Infrastructure for Radiation Safety and Nuclear Security (RISS) is specifically designed to provide countries with recommendations on how to establish or strengthen their national regulatory infrastructure based on the IAEA safety standards and the IAEA nuclear security guidance....

Since its launch in early 2022, two RISS missions have already been completed, and the IAEA is preparing to carry out eight more missions in 2022 and 2023. A RISS mission, supported by a team of international experts and IAEA staff, can be tailored to country needs – whether limited or well-established regulatory infrastructure exists – and can include, on request, emergency preparedness and response. The RISS also helps countries meet the provisions of the IAEA safety standards and nuclear security guidance, and the IAEA Code of Conduct on the Safety and Security

of Radioactive Sources and its Supplementary Guidance.

During the first 2022 RISS mission, which took place in the Democratic Republic of the Congo (DRC) in March 2022, experts reviewed documentation about the country’s regulatory infrastructure, met with and interviewed more than 50 senior officials and staff members of the Comité National de Protection contre les Rayonnements Ionisants (CNPRI), the Commissariat de l’Energie Atomique (CGEA) and the Ministry of Health.... Each RISS results in a mission report that includes an action plan with specific measures considered fundamental for strengthening the national regulatory infrastructure....

The second RISS mission, which took place in May 2022, was to the Seychelles, and focused specifically on radiation safety, at the request of the country. Discussions covered radiation safety regulations for facilities and activities using radiation sources, and the importance of the role

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of national authorities in establishing a regulatory infrastructure to enhance the benefits of the peaceful use of radiation while guaranteeing the protection of people and the environment from any harmful effects from its unintentional or malevolent misuse. Recommendations included finalizing the on-going work to establish a national policy and strategy on radiation safety and security of radioactive material and two specific policies, one for orphan sources recovery and another on enforcement of regulatory decisions....

*Source:* <https://www.iaea.org/newscenter/news/enhancing-regulatory-infrastructure-for-radiation-safety-and-security-of-radioactive-material-new-iaea-service>, 16 august 2022.

**RUSSIA**

**Russians Prepare 10 Chemical Laboratories to Avoid Consequences of Possible Accident at Zaporizhzhia Nuclear Power Plant Mayor**

... According to the mayor, he became aware that with the aid of these chemical laboratories, the Russians plan to save their officers and generals



in the event of radiation emissions at the ZNPP. According to Fedorov, the laboratories are currently located in a local hospital...his is further proof of Russia's readiness to commit an act of nuclear terrorism, by provoking a nuclear accident at the captured ZNPP.

On 25 August, the actions of the Russian occupiers resulted in the first-ever instance of the ZNPP being disconnected from Ukraine's power grid. Satellite imagery showed fires near the ZNPP in Enerhodar, which is temporarily occupied by Russia.

Source: *Ukrainska Pravda*, [https://news.yahoo.com/russians-prepare-10-chemical-laboratories-134619030.html?guccounter=1&guce\\_referrer=aHR0cHM6Ly93d3cuz29vZ2xlLmNvbS8&guce\\_referrer\\_sig=AQAAAFLC3JgQinmWQ4B2kHi8c17WUcKcHmZ3CSHxN UbxHUS2K3IINTQvpMvAk8Jd5ChsoUI1iPyy07XEi6W1no8jZyLqGUoVIugPE1ORVxw7RNbSWPxQnhICaJmePLgFFDx110G42PPx7nnxj0GNAEwaOuidoF5qpIRX8IEb4mkKQryQL](https://news.yahoo.com/russians-prepare-10-chemical-laboratories-134619030.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuz29vZ2xlLmNvbS8&guce_referrer_sig=AQAAAFLC3JgQinmWQ4B2kHi8c17WUcKcHmZ3CSHxN UbxHUS2K3IINTQvpMvAk8Jd5ChsoUI1iPyy07XEi6W1no8jZyLqGUoVIugPE1ORVxw7RNbSWPxQnhICaJmePLgFFDx110G42PPx7nnxj0GNAEwaOuidoF5qpIRX8IEb4mkKQryQL), 26 August 2022.

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## UKRAINE

### **Satellite Images Show Holes in the Roof of a Building at the Ukrainian Nuclear-Power Plant Russian Troops have been Using as a Shield**

Satellite images published show local fires and damage to a building at southern Ukraine's Zaporizhzhia nuclear-power plant, which occupying Russian troops have been using as a shield. One image, captured by Maxar Technologies and obtained by Insider, shows a handful of holes in the roof of a building at the power plant, which has suffered damage from fires and explosions amid fighting and shelling in the area. A few of the holes appear to have darkened scorch

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marks around them, but it is unclear what caused them.

Russian forces have occupied the Zaporizhzhia nuclear-power plant — the biggest in Europe — since early March. International watchdogs have constantly voiced concerns that any fighting near the plant could spark a major disaster. In recent weeks, hostilities and shelling around the plant have caused damage to the facility and disconnected it from the local power grid. Ukraine's state energy operator blamed the disconnection — which it said was the first in its decades-long history — on Russia. Shelling earlier in August also triggered a partial power shutdown at the plant.

Britain's Defense Ministry, among others, has said in intelligence updates that Russian forces appear to be using the plant's protected status as a shield, leaving Ukraine reluctant to attack because it doesn't want to risk a nuclear accident. Nuclear watchdogs, meanwhile, have been saying the plant's safety and security need to be secured. Rafael Mariano Grossi, the director general of the IAEA, said that the "day has come" for a mission to travel to the nuclear plant to ensure and inspect its stability. He said the mission would arrive later this week.

Source: *Jake Epstein, Rebecca Cohen*, <https://www.businessinsider.in/international/news/satellite-images-show-holes-in-the-roof-of-a-building-at-the-ukrainian-nuclear-power-plant-russian-troops-have-been-using-as-a-shield/articleshow/93862709.cms>, 30 August 2022.

### **IAEA Mission Reaches Kyiv to Inspect Nuclear Power Plant**

Ukrainian President Volodymyr Zelenskyy held an informal conversation with French President Emmanuel Macron, during which the leaders

discussed the IAEA mission to the Zaporizhzhia nuclear power plant, RBC-Ukraine reported, citing Zelenskyy's spokesman Serhiy Nikiforov. The IAEA expert mission headed by Director General Rafael Grossi arrived in Ukraine on 30 August to inspect the NPP. The mission consists of 13 experts without representatives from the US, the UK and Russia.

The Zaporizhzhia NPP, located on the left bank of the Dnieper River, is the largest nuclear power plant in Europe in terms of the number of units and output. Since March, the facility and surrounding areas have been controlled by the Russian military. The NPP has recently been a target of intensive shelling by Ukrainian forces, raising international concerns over a possible nuclear disaster. Kiev, in turn, has blamed Russia for the shelling. ...

Source: <https://www.tribuneindia.com/news/world/iaea-mission-reaches-kyiv-to-inspect-nuclear-power-plant-427015>, 30 August 2022.

### **Int'l Nuclear Panel Urges Russia to End Ukraine Power Plant Seizure**

A panel under an ongoing major nuclear disarmament conference has effectively urged Russia to end the seizure of a nuclear power plant in southern Ukraine...The call for "the restoration of control to the competent Ukrainian

authorities" of the Zaporizhzhia plant is included in a draft expected to be finalized and combined with the reports of two other panels by the Aug. 26 end of the NPT review conference at the U.N. headquarters. According to the draft being compiled by the second main committee under the NPT conference, it also "expresses grave concern for the military activities being conducted near or at Zaporizhzhia nuclear power plant in Ukraine."

Frequent conflict on the premises of the largest nuclear power plant in Europe prompted all members of the EU as well as a total of 42 countries such as the US and Japan to issue a joint

**Frequent conflict on the premises of the largest nuclear power plant in Europe prompted all members of the EU as well as a total of 42 countries such as the US and Japan to issue a joint statement on August 16, urging Russia to immediately withdraw from the plant.**

statement on August 16, urging Russia to immediately withdraw from the plant. The draft report said the plant should be put under Ukrainian control in order to ensure its safety and security as well as "the effective implementation" of verification activities at the facility by the IAEA. The committee, which handles issues related to nuclear nonproliferation, and the first and third main committees will ultimately try to combine their draft

reports for the ongoing conference into one final document. The first committee handles nuclear disarmament, while the third addresses peaceful uses of nuclear power. The panels have worked to finalize their reports, which include, respectively, demands that nuclear weapons states refrain from pre-emptive use and concerns about the safety of nuclear facilities in Ukraine.

Source: <https://english.kyodonews.net/news/2022/08/525fcb24746b-refiling-intl-nuclear-panel-urges-russia-to-end-ukraine-power-plant-seizure.html>, 16 August 2022.

### **Russia to Allow Inspectors at Zaporizhzhia Nuclear Plant – Putin**

Russian leader Putin has said UN officials will be granted permission to visit and inspect the Zaporizhzhia nuclear complex. The Kremlin made the announcement after a call between Mr Putin and

French President Macron. It came as claims of fighting near the plant continued, with four civilians reportedly injured by Russian shelling.... President Putin had agreed to provide UN investigators with "the necessary assistance" to access the Zaporizhzhia nuclear site. The plant has been under Russian occupation since early March 2022 but Ukrainian technicians still operate it under Russian direction.... The director-general of the UN's nuclear watchdog, IAEA welcomed President Putin's statement and said he was willing to lead a visit to the plant himself.... Ukrainian President Zelenskyy welcomed the prospect of an inspection in his nightly address....

**President Putin had agreed to provide UN investigators with "the necessary assistance" to access the Zaporizhzhia nuclear site. The plant has been under Russian occupation since early March 2022 but Ukrainian technicians still operate it under Russian direction.**

**Russia Must Leave Nuclear Power Plant - UN**

**Chief:** Kyiv says Russia has turned the complex into an army base – deploying military equipment, weapons and about 500 troops who are using the site as a shield to attack towns across the Dnieper River. And in recent weeks, the area around the facility has come under heavy artillery fire, with Kyiv and Moscow blaming each other for the attacks...Despite displaying some willingness to grant access to inspectors, Russian officials have flatly refused international demands to demilitarise the site.... Meanwhile, Russia submitted a letter to the UNSC detailing the “provocations” that it accuses Ukraine of plotting at the Zaporizhzhia nuclear power plant. The Russian mission to the UN alleged that the Ukrainians want to cause “what they believe to be a minor accident”, consisting of a radiation leak, which could see Russia accused of “nuclear terrorism”. The letter denied that Russian troops are storing weapons on site. It repeated an allegation that the Ukrainians had been shelling the plant....

Source: <https://www.bbc.com/news/world-europe-62613013>, 20 August 2022.

**IAEA Support and Assistance Mission Sets Out to Zaporizhzhya Nuclear Power Plant in Ukraine**

We must protect the safety and security of Ukraine's and Europe's biggest nuclear facility, IAEA Director General Rafael Mariano Grossi said this morning as he and a team of IAEA experts and inspectors set off from the Agency's headquarters in Vienna for the IAEA Support and Assistance Mission to Zaporizhzhya (ISAMZ) in Ukraine. The IAEA mission will help ensure nuclear safety and security at the Zaporizhzhya nuclear power plant and undertake vital

safeguards activities.

Zaporizhzhya Nuclear Power Plant has been controlled by Russian forces since March but is operated by its Ukrainian staff. This month the site has come under repeated shelling, and temporarily lost connection to its last remaining operational 750 kV external power line. In the most recent update from the power plant over the weekend, Ukraine informed the IAEA that the site had come under renewed shelling but that all safety systems remain operational and there had been no increase in radiation levels. The country said it did not yet have complete information on the nature of the damage from the shelling.

The ISAMZ will bring clarity to the situation and help address any contradictory information about the status of the facility, its operation and the damage it has sustained. Speaking to the United Nations Security Council earlier this month about the deteriorating situation at Zaporizhzhya Nuclear Power Plant, Grossi said: “It is those facts, gathered during a site visit, that are needed for the IAEA to be able to develop and provide an independent assessment of the nuclear safety and security risks.”

Once reaching Zaporizhzhya, ISAMZ will assess the physical damage to the facilities, determine the functionality of the main and backup safety and security systems, and evaluate the working conditions of the control room staff. At the same time, the mission will undertake urgent safeguards activities to verify that nuclear material is used only for peaceful purposes.

Source: Michael Amdi Madsen, <https://www.iaea.org/newscenter/news/iaea-support-and-assistance-mission-sets-out-to-zaporizhzhya>

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*nuclear-power-plant-in-ukraine, 29 August 2022.*

*nuclear-waste.html, 16 august 2022.*

**NUCLEAR WASTE MANAGEMENT**

**USA**

**Nuclear Waste Recycling Startup Wants to Solve the 'Ball and Chain' Problem Holding Back Nuclear**

...A startup called Curio, founded in 2020...to develop next-generation advanced nuclear reactors. After some research, they decided there were already many companies innovating in that space, but far less competition to deal with the nuclear waste problem. The US generates about 2,000 metric tons of new nuclear waste per year, adding to the approximately 86,000 tons that are already generated. Reprocessing nuclear waste is one way to make it less radioactive, but there's only enough capacity in the world to reprocess 2,400 tons per year, and most of that is in France (1,700 metric tons) and Russia (400 metric tons). The pre-revenue, ten-person startup is still in the very early stages of a capital-intensive, long-term build out. But it aims to have a pilot facility up and running in six years and a commercial nuclear waste reprocessing facility up and running by 2035.... Curio's commercial plant will have a capacity of 4,000 metric tons when fully built out. It will cost \$5 billion to build and it will be about the size of an NFL football stadium. ...

**Turning Trash into Treasure:** Curio has developed a chemical process it calls NuCycle to turn nuclear waste into usable products, like fuel for advanced nuclear reactors, as well as isotopes that can be used for other functions, such as generating ingredients to make power sources for space missions, and power sources for tiny batteries....

Source: <https://www.cnn.com/2022/08/16/curio-led-by-energy-dept-veteran-aims-to-recycle>

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**UK**

**Survey into Potential Nuclear Waste Storage Facility Completed Off Cumbria Coast**

Geophysics specialist Shearwater Geo Services, working for Nuclear Waste Services, completed the first marine geophysical survey off the coast of Copeland, Cumbria....

The non-intrusive survey has gathered data to provide a better understanding of the rock structure in the area. It is part of the search to find a suitable site for a geological disposal facility (GDF). A GDF is a highly engineered facility constructed deep underground. It would consist of a series of vaults

and tunnels where radioactive waste can be disposed of safely, securely and permanently. UK government agency Nuclear Waste Services is now managing the delivery of the UK's GDF, after

Radioactive Waste Management became part of it at the start of the year. It also integrated the Low Level Waste Repository and the Nuclear Decommissioning Authority (NDA) group's Integrated Waste Management Programme, as well as forming a division of the NDA.

The geophysical survey took place over a period of three weeks, utilising Shearwater Geo Services' SW Bly, a 92m vessel carrying specialist acoustic equipment operating 5km to 20km from the coastline. The technology is based on sound waves, which are reflected as an echo from different geological layers. This enables a 3D picture of the underlying rocks to be gradually built up without disturbing the seabed. This first survey was focused on an area off the coast of South and Mid Copeland. Nuclear Waste Services said it is an important early step in beginning to understand the deep geology beyond the coast.



Detailed analysis of the data collected from the surveys will be carried out over the next 18 months. The conclusions will be shared with communities to support discussions about the potential of an area to host a GDF....

Source: <https://www.geplus.co.uk/news/survey-into-potential-nuclear-waste-storage-facility-completed-off-cumbria-coast-26-08-2022/>, 26 August 2022.

## **UKRAINE**

### **Chernobyl Waste Processing Operations Resume**

In order to resume a full operation of radioactive waste processing infrastructure, a number of measures were taken to verify the safe and correct operation of the equipment and systems involved in the radioactive waste processing process, according to Illia Shumkov, deputy head of SSE Chernobyl NPP's (SSE ChNPP's) radioactive waste processing department. "We checked the functional condition of all the equipment used in the technological process of forming a waste

package, as well as preparing for and sending the waste packages for disposal".... "In order to restore practical skills, all our personnel involved in waste processing have completed a training course. Training with the last shift was successfully completed on 14 August."

In addition, the Chernobyl plant has negotiated with a supplier of the cements needed for the immobilisation of liquid radioactive waste, and revised a production schedule for delivery of waste packages for disposal. "We are confident that by the end of 2022 we will fully implement

our plans"....Chernobyl was occupied by Russian forces from 24 February until the end of March, when they withdrew. The European Bank for Reconstruction and Development subsequently calculated that damage caused to buildings, equipment and infrastructure will cost at least EUR100 million (USD102 million) to

repair....

Source: <https://www.world-nuclear-news.org/Articles/Chernobyl-waste-processing-operations-resume>, 24 August 2022.

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