

# Nuclear, Missile & Space Digest

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## **A. India**

### **Gaganyaan: Unmanned Mission Likely To be Delayed Due To COVID, Reports Say**

*NDTV, August 16, 2020*

The launch of India's unmanned space mission under the first leg of Gaganyaan, planned for December 2020, has been hit the coronavirus pandemic and is likely to be delayed, sources said. The unmanned mission was a part of the two unmanned missions to be undertaken by the Indian Space Research Organisation ahead of the planned launch of India's maiden human spaceflight under 'Gaganyaan' in December 2021. The likely delay in the first unmanned mission was recently conveyed to the Space Commission, the top policy making body on issues related to space.

The Space Commission is headed by ISRO Chairman and Department of Space Secretary K Sivan. Two years ago, Prime Minister Narendra Modi had announced the human space mission in his Independence Day address. The Gaganyaan mission aims to send a three-member crew to space for a period of five to seven days by 2022 when India completes 75 years of Independence. The ISRO had started planning for the mission accordingly. The first and the second unmanned missions were planned for December 2020 and June 2021 respectively.

<https://www.ndtv.com/india-news/gaganyaan-unmanned-mission-planned-for-december-2020-likely-to-be-delayed-due-to-covid-reports-say-2280372>

### **India's First Prototype Fast Breeder Reactor Has a New Deadline. Should We Trust It?**

*R. Ramachandran*

*The Wire, August 20, 2020*

On March 5, in response to a question in Parliament, the Union minister of state for atomic energy Jitendra Singh said that India's first prototype fast breeder reactor (PFBR) will be "commissioned and operationalised" in December 2021.

The PFBR is a nuclear power reactor currently under construction at the Madras Atomic Power Station in Kalpakkam, Tamil Nadu. Fast breeder reactors, or FBRs, in general produce more fissile material than they consume. The PFBR in Kalpakkam will use a mixed oxide of plutonium-239 – derived from reprocessed spent fuel from the thermal pressurised heavy water reactors – and uranium-238 as fuel to generate energy in a nuclear reaction. This reaction will also produce – or 'breed' – more plutonium-239. This is possible because the reaction converts both uranium-238 in the fuel mix as well as a blanket of depleted uranium surrounding the core into plutonium.

This plutonium will then be processed and used as nuclear fuel in a chain of commercial FBRs that constitutes stage II of the nuclear programme. The stage will also include FBRs that will use thorium-232, mined in India, as a blanket. Thorium will get converted to uranium-233, which will serve as the fuel for advanced reactors in stage III. Ultimately, these reactors will burn uranium-233 and convert thorium-232 to more uranium-233, creating a self-sustaining cycle of nuclear power generation.

<https://science.thewire.in/the-sciences/prototype-fast-breeder-reactor-dae-bhavini-npcil-liquid-sodium-coolant-purchase-orders/>

### **India, South Korea deliberate on disarmament, non-proliferation issues**

*Business Standard, August 20, 2020*

India and South Korea on Thursday exchanged views on global developments and contemporary issues of mutual interest in the field of disarmament and non-proliferation. The India-Republic of Korea Consultations on Disarmament and Non-Proliferation were held virtually, with the Indian delegation led by Indra Mani Pandey, Additional Secretary (Disarmament and International Security Affairs), Ministry of External Affairs, and the South Korean delegation headed by II Park, Director-General, Non-Proliferation



and Nuclear Affairs, Ministry of Foreign Affairs. "During the consultations, the two sides exchanged views on global developments and contemporary issues of mutual interest in the field of disarmament and non-proliferation," the MEA said in a statement. Both the sides agreed to take forward their fruitful discussions and to hold the next round of consultations on a mutually convenient date, it said.

[https://www.business-standard.com/article/international/india-south-korea-deliberate-on-disarmament-non-proliferation-issues-120082001741\\_1.html](https://www.business-standard.com/article/international/india-south-korea-deliberate-on-disarmament-non-proliferation-issues-120082001741_1.html)

### **This is how govt plans to bring together ISRO, private players to boost India's space sector**

*Sandhya Ramesh*

*The Print, August 20, 2020*

Under the Modi government's vision of increased public-private partnership, private companies are expected to contribute to building launch vehicles and providing launch services, building satellites and providing satellite services, and providing "space-based services", said India's premier space agency Thursday. At a webinar titled 'Unlocking India's Potential in Space Sector', scientific secretary of Indian Space Research Organisation (ISRO), R. Umamaheswaran outlined the new proposed structure of this partnership, explaining the roles of different agencies and organisations involved, as well as policy updates required.

The guiding principles for involving the private sector will be based on the Space Activity Bill, satcom (satellite communications) policy, remote sensing policy and navigation policy, among others. The Department of Space (DoS) will help private players through the process and also aid in the creation IN-SPACe, which will be responsible for permitting and monitoring private sector space activities, licensing players, regulating said activities and facilitating use of ISRO facilities.

<https://theprint.in/india/governance/this-is-how-govt-plans-to-bring-together-isro-private-players-to-boost-indias-space-sector/486001/>

### **Chandrayaan-2 completes a year around Moon, adequate fuel for 7 more years: ISRO**

*The Hindustan Times, August 21, 2020*

India's second lunar mission Chandrayaan-2 completed one year in orbit around the moon on Thursday and all instruments are currently performing well and there is adequate onboard fuel to keep it operational for about seven more years, space agency ISRO said. Chandrayaan-2 was launched on July 22, 2019 and inserted into the lunar orbit on August 20, exactly one year ago.

"Though the soft-landing attempt (of the lander carrying the rover) was not successful, the orbiter, which was equipped with eight scientific instruments, was successfully placed in the lunar orbit. The orbiter completed more than 4,400 orbits around the Moon and all the instruments are currently performing well," the Indian Space Research Organisation said. The agency in a statement said the spacecraft was healthy and the performance of subsystems normal.

<https://www.hindustantimes.com/india-news/chandrayaan-2-completes-a-year-around-moon-adequate-fuel-for-7-more-years-isro/story-msz7eBAC70aIYWCHbiZMrK.html>

### **Narora joins select club of Indian nuclear power plants**

*Energy Times, August 25, 2020*

Chennai: The second 220 MW unit at the Narora Atomic Power Station (NAPS) in Uttar Pradesh on Tuesday completed 731 days of continuous safe operation, India's atomic power plant operator NPCIL said on Tuesday.

The second unit at NAPS has become the fourth Indian reactor to achieve this milestone after Kaiga Generating Station Unit 1 (962 days), Rajasthan Atomic Power Station (RAPS) Unit 3 (777 days) and Unit 5 (765 days), the Nuclear Power Corporation of India Ltd (NPCIL) said.

<https://energy.economictimes.indiatimes.com/news/power/narora-joins-select-club-of-indian-nuclear-power-plants/77742076>

## Astronomers led by Iucaa team detect UV light from galaxy 9.3 billion light-years away from Earth

*Dheeraj Bengrut*

*Hindustan Times, August 25, 2020*

A team of international astronomers led by the scientists from the Inter-University Centre for Astronomy and Astrophysics (Iucaa) in Pune has laid claim to the discovery of UV light emanating from a galaxy called AUDFs01, which, according to Iucaa, is 9.3 billion light-years away from Earth. The light was seen using "AstroSat", India's first multi-wavelength satellite. The multi-wavelength satellite has five unique X-ray and ultraviolet telescopes working in tandem. AstroSat was launched on September 28, 2015, by the Indian Space Research Organisation (ISRO) and has onboard the UltraViolet Imaging Telescope (UVIT).

The discovery was made by a team, led by Dr Kanak Saha, associate professor at Iucaa and the paper has been published on Monday by Nature Astronomy. The team comprises scientists from Switzerland, France, USA, Japan and the Netherlands, apart from India.

<https://www.hindustantimes.com/cities/astronomers-led-by-iucaa-team-detect-uv-light-from-galaxy-9-3-billion-light-years-away-from-earth/story-qft7LFciEtrVqJg3K7ASKL.html>

## India, France in talks for Mission Alpha-like equipment for Gaganyaan astronauts

*Kanishka Sarkar*

*Hindustan Times, August 30, 2020*

Space agencies of India and France are in an advanced stage of discussions for providing necessary equipment to 'Gaganyaan' astronauts, similar to the one to be used by French astronaut Thomas Pesquet for Mission Alpha next year, officials said. A senior official of the National Centre for Space Studies (CNES), the space agency of France, said work on the equipment for Mission Alpha is on.

French astronaut Thomas Pesquet, as part of the European Space Agency (ESA), will be returning to the International Space Station (ISS) while flying on Crew Dragon spacecraft early next year. "Discussions are in the final stage. An announcement is likely to be made soon. Work on the instrumentation for Mission Alpha is on," the CNES official said without elaborating on the details of the equipment.

<https://www.hindustantimes.com/india-news/india-france-in-talks-for-mission-alpha-like-equipment-for-gaganyaan-astronauts/story-xbBBBD3HBzRkHDN4EvjfaL.html>

## B. China

### 2020 China Space Conference set for Fuzhou in September

*Zhao Lei*

*China Daily, August 18, 2020*

The 2020 China Space Conference will be held in Fuzhou, capital of East China's Fujian province, in mid-September, according to the Chinese Society of Astronautics. The society, part of the State-owned space giant China Aerospace Science and Technology Corp, said in a statement. that the conference will open on Sept 18 and last four days. It will be hosted by the society and the China Space Foundation and will consist of 16 events, such as forums and themed exhibitions. Academicians from the Chinese Academy of Sciences and the Chinese Academy of Engineering, distinguished researchers and industry representatives will discuss various topics, such as China's development strategy for its space sector after the COVID-19 pandemic, breakthroughs in key technology fields and the space-based information industry's future, as well as global space cooperation, the statement said.

Chinese researchers will announce the 10 most challenging subjects in space science and

technology at the conference. In addition, State-owned space enterprises will ink agreements about cooperation in aviation

and space industries with Fujian province, the statement said.

<https://www.chinadaily.com.cn/a/202008/18/WS5f3bc736a3108348172611c4.html>

### **China exports first batch of independently developed zirconium sponge, key material for nuclear reactor**

*Global Times, August 18, 2020*

The first batch of nuclear-grade zirconium sponge independently produced by a Chinese company was recently shipped to Russia, it was announced on Monday by China National Nuclear Corporation (CNNC) on its official WeChat account. For a long time, zirconium alloy material used for fuel assembly in domestic nuclear power plants depended on imports, according to CNNC. This is the first time that China has sent nuclear-grade zirconium sponge of its own in bulk overseas, marking a breakthrough in the country's nuclear-grade zirconium material exports. It also signals that China's nuclear-grade zirconium sponge manufacturing has reached the international level, CNNC said.

In the nuclear industry, zirconium sponge is used to produce zirconium alloys for nuclear reactor components, such as the cladding for fuel rods, according to the Zircon Industry Association. Zirconium alloy material is known as the "first safety barrier" in nuclear reactors. It is vital for the safe operation of nuclear power plants and is one of the important indexes by which to evaluate the research and development level of fuel assembly. Nuclear-grade zirconium sponge is an important raw material for the manufacture of zirconium alloy materials. A subsidiary of CNNC signed a contract for export of nuclear-grade zirconium sponge with a subsidiary of Russia's TVEL Fuel Company in May. The zirconium materials are expected to arrive in Russia in early September.

<http://www.globaltimes.cn/content/1198061.shtml>

### **Two marine satellites to hit orbit shortly**

*Zhao Lei*

*China Daily, August 19, 2020*

China plans to launch two satellites in the coming months for marine research and observation, according to a project insider. Jiang Xingwei, an academician of the Chinese Academy of Engineering and former director of the National Satellite Ocean Application Service, said in a statement published by the China Aerospace Science and Technology Corp on Monday that one of the satellites will be launched in September and the other in November. In 2021, two oceanographic research satellites will be launched, he said, adding that Chinese scientists are also developing seven new satellites for marine science and applications. So far, the nation has deployed eight marine satellites to space, including one jointly made by Chinese and French researchers, according to Jiang. Sources close to the satellite programs said that the one to be launched in September will be the HY-2C, the third in the HY-2 series observation fleet developed by the China Academy of Space

Technology in Beijing, the satellite will be tasked with studying the marine dynamics, like its two predecessors. It will be lifted by a Long March 4B carrier rocket at the Taiyuan Satellite Launch Center in Shanxi province, according to sources. HY-3A, the first in the HY-3 series, will be lifted in November by a Long March 4B at the Jiuquan Satellite Launch Center in the Inner Mongolia autonomous region. It will be used to conduct marine surveillance operations with its advanced radar, sources said. Their service will extensively foster China's oceanographic research and marine development capabilities, scientists have said.

<https://global.chinadaily.com.cn/a/202008/19/WS5f3c7feaa310834817261341.html>



## China's Gaofen-7 satellite put into service

*Xinhua, August 20, 2020*

The China National Space Administration announced on Thursday that the Gaofen-7 Earth observation satellite has been put into service, representing significant progress for the country's surveying and mapping capabilities. Launched on Nov. 3, 2019, Gaofen-7 is China's first civil-use optical transmission 3D surveying and mapping satellite that reaches the sub-meter level. Equipped with two line-scan cameras and a laser altimeter, the satellite can provide 1:10,000 scale satellite 3D mapping for users in China and countries participating in the Belt and Road Initiative. During in-orbit tests, satellite functions such as the monitoring of geographical conditions, agricultural surveys, and road constructions have been verified, said Zhang Kejian, head of the administration. "Gaofen-7 will further meet the needs of users in basic mapping, global geographic information, monitoring, and evaluation in urban and rural construction, etc.," said Zhang. Enditem

[http://www.xinhuanet.com/english/2020-08/20/c\\_139305526.htm](http://www.xinhuanet.com/english/2020-08/20/c_139305526.htm)

## China's Mars probe over 8m km away from Earth

*Xinhua, August 20, 2020*

China's Mars probe Tianwen-1 has traveled more than 8 million km away from Earth and is functioning normally, according to the Lunar Exploration and Space Program Center of the China National Space Administration. Starting from 10:20 pm Wednesday, multiple payloads on the Mars probe, including Mars Magnetometer, Mars Mineralogy Spectrometer and High-resolution Camera, have completed self-check to confirm that they are in normal condition. Medium and high-resolution cameras will be used for imaging the Mars surface and conducting research on the topography and geological structure of the planet's surface.

The Magnetometer will detect the magnetic environment on Mars, and the Mineralogy

Spectrometer will be used to analyze the composition and distribution of minerals on Mars. China launched the Mars probe on July 23, designed to complete orbiting, landing and roving in a single mission, thus taking the first step in its planetary exploration of the solar system. The Mars probe is expected to reach the red planet around February 2021. After entering the orbit, it will spend another two to three months surveying the candidate landing sites before landing.

<https://www.chinadaily.com.cn/a/202008/20/WS5f3e7d7ea310834817261b68.html>

## No safety concerns in China-Saudi nuclear energy cooperation: Chinese FM

*Global Times, August 20, 2020*

The Chinese Foreign Ministry said there is no cause for concern toward the nuclear energy cooperation between China and Saudi Arabia, at Thursday's media briefing. "China has been

actively promoting the development of peaceful uses of nuclear energy globally in a responsible manner," Chinese Foreign Ministry spokesperson Zhao Lijian said. China and Saudi Arabia have established a comprehensive strategic partnership. In recent years, bilateral relations have been developing steadily and healthily. The two sides have conducted fruitful cooperation in various fields and maintained normal energy cooperation, he said.

Zhao noted that China will continue to strictly abide by its international non-proliferation

obligations, cooperate with other countries on the peaceful use of nuclear energy on the basis of mutual respect and benefit, and make contributions to global sustainable development. It came after reports that Israel and the US were concerned about China-Saudi Arabia cooperation in nuclear power, citing possible safety issues. Some Western media, without proof, even claimed the cooperation shows Saudi Arabia's

ambitions for nuclear weapons with China's help.

<http://www.globaltimes.cn/content/1198396.shtml>

## **China, Russia confront US-dominated world order over 'unreasonable' sanction threats on Iran**

*Zhang Hui*

*Global Times, August 20, 2020*

Chinese analysts called the US' threat to sanction China and Russia "farcical" and "unreasonable," following the US' rare but embarrassing loss last week at the UN Security Council (UNSC) for trying to extend an arms embargo on Iran that expires in October. China and Russia's firm opposition to the embargo extension indicated that the two countries will play an increasingly important role in improving the US-dominated world order, analysts said.

Regarding the US' threat, Zhao Lijian, spokesperson of Chinese Foreign Ministry, said at the ministry's routine media briefing that because the US has withdrawn itself from the 2015 Iran nuclear deal, it was not in a position to ask the UNSC to "snapback" sanctions, instead the overwhelming majority of the Security Council members and broad consensus of the international community will determine the relevant matters. He said that China firmly opposes the unilateral sanctions and the so-called "long arm jurisdiction" imposed by the US on other countries.

<http://www.globaltimes.cn/content/1198417.shtml>

## **US-China relations: Chinese submarines put through their paces in promotional video**

*Minnie Chan*

*South China Morning Post, August 23, 2020*

Chinese state television has broadcast a video showing off the capabilities of the country's submarines, in what defence analysts say is a response to the United States' increased

naval activity in the Indo-Pacific region. The eight-minute film, shown by China Central Television, included footage of the Type 093B submarine – a modified version of the Type 093 – simulating an engagement with an enemy ship and firing a torpedo at it. Its release came two days after the USS Mustin – an Arleigh Burke-class guided-missile destroyer – sailed through the Taiwan Strait, a strategically significant waterway that separates Taiwan from the Chinese mainland.

Macau-based military observer Antony Wong Tong said the timing of the video's release was clearly intended to send a message to Washington. "The Type 093B is powerful enough to be a threat to US warships because it is equipped with YJ-18 anti-ship cruise missiles," he said. "They are combat-ready to deal with an American opponent."

<https://www.scmp.com/news/china/military/article/3098424/us-china-relations-chinese-Submarines-put-through-their-paces>

## **Rise of Chinese AI and quantum computing threatens American military tech, says report for US Congress**

*Kristin Huang*

*South China Morning Post, August 23, 2020*

China is the United States' strongest competitor in cutting edge military technologies such as artificial intelligence and quantum computing, according to a US report. But security experts said the location of a conflict remained a major constraint for China to exercise its power as the nation's advantages diminished the further from China's shores that its military operated. The report – "Emerging Military Technologies: Background and Issues for Congress" by the US Congressional Research Service – said the US was the leader in developing many of the advanced technologies. However, China and Russia were making steady progress in this area.

"China is widely viewed as the United States' closest competitor in the

international AI market ... Recent Chinese achievements in the field demonstrate China's potential to realise its goals for AI development ... Such technologies could be used to counter espionage and aid military targeting," said the report, which was released in early August.

While the US was not known to be developing lethal autonomous weapons, some Chinese manufacturers had advertised their weapons as being able to select and engage targets autonomously, the report said. And in the hypersonic weapons field, the US is unlikely to field an operational hypersonic weapon before 2023, but China has already developed the DF-41 intercontinental ballistic missile capable of carrying a nuclear hypersonic glide vehicle, according to the report. "China has increasingly prioritised quantum technology research within its development plans. China is already a world leader in quantum technology," the report said. China has been pouring millions of dollars into researching and developing future warfare technologies for years, at a time when the US Trump administration had reined in spending.

<https://www.scmp.com/news/china/military/article/3098292/rise-chinese-ai-and-quantum-computing-threatens-american>

### **Nuclear deterrence needed to prevent cyberattacks from paralyzing China's nuclear response**

*Qin An*

*Global Times, August 24, 2020*

The US' maximum pressure campaign against China now has extended to cyberspace. After the Trump administration's ban of TikTok and the Clean Network program that aims at Chinese companies, news on Sunday said that TikTok plans to sue the Trump administration over its executive order banning the app. As the game goes viral, there are concerns about whether the US will launch a cyberattack against China. Will China and the US actually cut off the network connection between them? Such concerns do not come from nowhere. In 2019 alone, there were three major cyberattacks related to the US. In March

2019, Venezuela's national power grid collapsed.

The country's president denounced the attack as a well planned cyberattack by the US. This indicates that cyberwarfare has become a new mode of undeclared warfare - an invisible invasion of sorts. However, China must consider how to deal with "disconnection" and take primary precautions mainly in three aspects. First, it must strengthen the awareness of network crisis. With the advent of the internet age, the international structure is experiencing subversive changes. Second, we must optimize the power structure. Cyberspace has become the fifth dimensional battlefield besides land, sea, sky and space. Although ordinary users form the frontline of defense in cyberspace, cyberwarfare cannot mainly rely on "militia." The sustainable development of a "regular cyber army" has become an important option for the construction of a country powerful in cyberspace. Third, cyber deterrence needs to be showcased.

<http://www.globaltimes.cn/content/1198665.shtml>

### **Chinese military: Rocket Force drills prepare for possible US nuclear weapons attack**

*Minnie Chan*

*South China Morning Post, August 25, 2020*

The People's Liberation Army Rocket Force has stepped up its drills for chemical, biological, radiological and nuclear (CBRN) warfare, in what military experts say is preparation for a possible nuclear attack by the United States. Since April, anti-CBRN exercises have become a major training focus in the Western Theatre Command and with the PLA's Rocket Force troops, according to online reports and video footage posted on the WeChat social media accounts of the army's military mouthpiece, the PLA Daily, and the missile force. One drill video posted online on August 22 showed four first aid brigades from the Rocket Force called to rescue wounded soldiers from a base under

simulated nuclear weapons at night. The base was more than 2,000km (1,240 miles) away and the medical officers and first aid crews also needed to overcome “accidents” and “raids” on their way to the nuclear battlefield, according to the video.

<https://www.scmp.com/news/china/military/article/3098727/chinese-military-rocket-force-drills-Prepare-possible-us>

### **PLA Rocket Force develops smart playground system to promote training assessment**

*China Military Online, August 28, 2020*

In conjunction with local scientific research institute, a unit of the Chinese PLA Rocket Force recently developed an intelligent playground system that could further improve the informatization level of military training assessment and management. It is said that the system can realize whole-process surveillance, automatic judgment and performance record, as well as automatic statistical analysis through technologies including facial recognition, infrared induction, intelligent video analysis and video surveillance.

[http://english.chinamil.com.cn/view/2020-08/28/content\\_9892460.htm](http://english.chinamil.com.cn/view/2020-08/28/content_9892460.htm)

### **US has high-priority responsibility in nuclear disarmament: Chinese FM**

*Global Times, August 28, 2020*

China’s Foreign Ministry urged the US to take its responsibility in nuclear disarmament as the world’s largest nuclear-armed nation, after Kazakhstan’s first President Nursultan Nazarbayev recently called on holding a nuclear disarmament summit between US, Russia, the European Union and China. At a press briefing on Friday, spokesperson of China’s Foreign Ministry Zhao Lijian endorsed Nazarbayev’s suggestion and said China appreciates the efforts made by Kazakhstan and Nazarbayev in promoting the establishment of a world free of nuclear weapons. China always stands for the ultimate complete prohibition and thorough destruction of

nuclear weapons. And nuclear disarmament should be advanced step by step in accordance with the principles of “safeguarding global strategic stability” and “undiminished security for all countries,” Zhao said.

“As the country with the world’s largest nuclear arsenal, the US has a special high-priority responsibility in nuclear disarmament. The US has nearly 6,000 nuclear warheads, which the media reported is 20 times the number of China’s,” Zhao said. Zhao said that the international nuclear arms control system is facing severe challenges, and the US should show a responsible attitude to respond to calls from the international community. Zhao said the US should extend its Strategic Arms Reduction Treaty (the New SART) with Russia and deeply cut its nuclear arsenals, creating conditions for other countries to participate in nuclear disarmament talks.

<http://www.globaltimes.cn/content/1199185.shtml>

### **Playing laser tag: US dominance and Chinese ambition point to new arms race**

*Kristin Huang*

*South China Morning Post, August 29, 2020*

The use of high-energy lasers for naval applications is gathering pace among the world’s military powers, with China among those set to race the United States for supremacy. Directed-energy weapons based on lasers can offer low cost per shot and almost limitless magazines to provide an efficient and effective means of defending against missile salvos or swarms of unmanned systems. Many countries, such as the US, China, Israel, France, Germany and Russia, have been researching the weapons for a long time, and major powers are ramping up their development to gain an upper hand.

<https://www.scmp.com/news/china/military/article/3099415/playing-laser-tag-us-dominance-And-chinese-ambition-point-new>



### C. Pakistan

#### **AT UN, Pakistan reaffirms commitment to objectives of nuclear test-ban treaty**

*Daily Times, August 27, 2020*

Reiterating its support to the objectives of the nuclear test-ban treaty, Pakistan has reminded the international community of its voluntary moratorium on nuclear testing since 1998, despite regional security threats.

“Pakistan remains committed to the goal of a nuclear weapon-free world,” Ambassador Muhammad Aamir Khan, deputy permanent representative of Pakistan, told a virtual meeting held at UN Headquarters in New York on Wednesday to commemorate the International Day against Nuclear Tests, observed annually on 29 August. The Day has been commemorated annually since 2010. The date 29 August marks the anniversary of the 1991 closure of the Semipalatinsk test site in Kazakhstan, the largest nuclear test site in the former Soviet Union. Despite the adoption of the Comprehensive Nuclear Test-Ban Treaty (CTBT) in 1996, thousands of nuclear weapons remain at the ready in stockpiles across the world.

<https://dailytimes.com.pk/659952/at-un-pakistan-reaffirms-commitment-to-objectives-of-nuclear-test-ban-treaty/>

### D. USA

#### **Trump says he probably would not participate in Putin Iran summit**

*Steve Holland*

*Reuters, August 16, 2020*

U.S. President Donald Trump on Saturday all but dismissed Russian President Vladimir Putin’s call for a summit of world leaders to discuss Iran, saying he probably would not participate. During a news conference at his Bedminster, New Jersey, golf club, Trump also said he intended to move next week to trigger a “snapback” of sanctions on Iran at the United Nations. “We’ll be doing a snapback,” Trump told reporters one day after the U.N. Security Council rejected a

U.S. bid to extend a U.N. arms embargo on Iran. “You’ll be watching it next week.”

The United States has threatened to trigger a return of all U.N. sanctions on Iran using a provision in a 2015 nuclear deal between Iran and world powers, known as snapback, even though Trump abandoned the accord in 2018. Diplomats have said the United States would face a tough, messy battle in any such move. The United States lost its bid on Friday to extend the U.N. arms embargo after Putin proposed a summit of world leaders to avoid “confrontation” over the American “snapback” threat. “Probably not,” Trump said when asked whether he would participate in the Putin-backed summit.

[https://in.reuters.com/article/usa-iran-trump/trump-says-he-probably-would-not-participate-in-putin-iran-summit-idINKCN25C02U\\_](https://in.reuters.com/article/usa-iran-trump/trump-says-he-probably-would-not-participate-in-putin-iran-summit-idINKCN25C02U_)

#### **‘Ball is in Russia’s court’ on nuclear arms deal, U.S. says**

*Reuters, August 18, 2020*

The United States has informed Russia of its terms for extending a landmark treaty that limits their deployed strategic nuclear weapons and expires in February, and now it is Russia’s move, the U.S. envoy to arms control talks said on Tuesday. Those terms include addressing what Washington says is Moscow’s build-up of shorter-range nuclear weapons that are not covered by the treaty, and making the verification system more robust, U.S. Special Presidential Envoy for Arms Control Marshall Billingslea told reporters in a telephone briefing.

“Russia understands our position. And what remains to be seen is if there is the political will in Moscow to get this deal done. The ball is now in Russia’s court,” Billingslea said after the latest round of talks in Vienna with Russian Deputy Foreign Minister Sergei Ryabkov. Washington has insisted that any deal to replace the 2010 New Strategic Arms Reduction Treaty (New START) must include China, but Billingslea appeared to soften that stance, saying a framework



would be built that “can include China in due course”.

<https://www.reuters.com/article/us-usa-russia-nuclear-idUSKCN25E228>

### **Climate change poses high credit risks for nuclear power plants, Moody's says**

*Reuters, August 18, 2020*

Credit risks associated with climate change for nuclear power plant operators in the United States will rise over the next 10 to 20 years, Moody's Investor Service said. Climate change can affect every aspect of nuclear plant operations like fuel handling, power and steam generation, maintenance, safety systems and waste processing, the credit rating agency said. However, the ultimate credit impact will depend upon the ability of plant operators to invest in mitigating measures to manage these risks, it added.

[https://in.reuters.com/article/us-moody-s-powerplants/climate-change-poses-high-credit-risks-for-nuclear-power-plants-moodys-says-idINKCN25E2A5\\_](https://in.reuters.com/article/us-moody-s-powerplants/climate-change-poses-high-credit-risks-for-nuclear-power-plants-moodys-says-idINKCN25E2A5_)

### **U.S. imposes Iran-related sanctions on UAE-based companies**

*Daphne Psaledakis, Moira Warburton*

*Reuters, August 19, 2020*

The United States on Wednesday imposed sanctions on two United Arab Emirates-based companies, the U.S. Treasury Department said, accusing them of providing material support to Iranian airline Mahan Air. The Treasury in a statement said Parthia Cargo and Delta Parts Supply FZC provided key parts and logistics services for Mahan Air, which is blacklisted under U.S. measures to fight terrorism and proliferators of weapons of mass destruction.

The Treasury also slapped sanctions on Amin Mahdavi, a UAE-based Iranian national, for owning or controlling Parthia Cargo. The administration of U.S. President Donald Trump plans this week to push for a reimposition of all United Nations sanctions on Iran, after the U.N. Security

Council rejected Washington's earlier bid to extend an arms embargo on the country.

“The Iranian regime uses Mahan Air as a tool to spread its destabilizing agenda around the world, including to the corrupt regimes in Syria and Venezuela,” Treasury Secretary Steven Mnuchin said. “The United States will continue to take action against those supporting this airline,” he added. Wednesday's action freezes any U.S. assets of those blacklisted and generally bars Americans from dealing with them.

[https://in.reuters.com/article/usa-iran-sanctions/u-s-imposes-iran-related-sanctions-on-uae-based-companies-idINKCN25F1ZO\\_](https://in.reuters.com/article/usa-iran-sanctions/u-s-imposes-iran-related-sanctions-on-uae-based-companies-idINKCN25F1ZO_)

### **Ambassador Yousef Al Otaiba Statement on Barakah Nuclear Energy Plant Delivering Clean Energy to the UAE Grid**

*Crison PR News, August 19, 2020*

Ambassador Yousef Al Otaiba issued the following statement regarding Unit 1 of the Barakah Nuclear Energy Plant's successful connection to the UAE grid. “Unit 1 of the United Arab Emirates' Barakah Nuclear Energy Plant is now beginning to generate the first megawatts of clean electricity and powering the country's homes, businesses, and industries. The successful synchronization of this unit to the UAE grid is already producing tangible environmental benefits. Once all four units of the power plant are fully operational, the Barakah plant will supply up to 25% of the UAE's electricity without producing any carbon emissions. This milestone demonstrates the UAE's commitment to generating clean, safe, and reliable baseload electricity.

“The UAE has built the first peaceful nuclear energy plant in the Arab world and this accomplishment is a testament to the country's ongoing international cooperation and deep commitment to nuclear security. An early milestone was achieved over ten years ago with the signing of the U.S.-UAE 123 Agreement

when both countries agreed to the strongest bilateral civil nuclear cooperation deal in nonproliferation history. The UAE's voluntary commitment to forgo domestic enrichment and reprocessing of nuclear material was a significant development. The agreement serves as a model for the establishment of a peaceful and safe civilian nuclear energy program.

<https://www.prnewswire.com/news-releases/ambassador-yousef-al-otaiba-statement-on-barakah-nuclear-energy-plant-delivering-clean-energy-to-the-uae-grid-301115040.html>

### **First-of-a-kind US waste treatment facility authorised for operations**

*World Nuclear News, August 20, 2020*

The US Department of Energy has authorised the start of 'hot' or radioactive operations at the Salt Waste Processing Facility (SWPF) at its Savannah River Site (SRS). The first-of-a-kind facility will process 31/ million gallons (117 million litres) of radioactive salt waste currently stored in underground tanks at the South Carolina location. DOE's approval - five months ahead of the current baseline completion date of January 2021 - signals project completion and the transition from project phase to operations, the DOE Office of Environmental Management said. The facility has been designed and built, and will initially be operated, by Parsons Corporation. It is expected to start normal operations later this year after hot commissioning is complete.

Parsons CEO Chuck Harrington said: "The innovations of SWPF will forever change how we remediate nuclear waste and ensure that a cleaner, more sustainable and environmentally sensitive world is possible for the future." SRS was constructed during the 1950s to produce the basic materials used in the fabrication of nuclear weapons, primarily tritium and plutonium-239. Five reactors were built on the site as well as support facilities including two chemical separations plants, a water extraction plant, a nuclear fuel and target fabrication facility and waste management facilities. The removal of salt waste - which makes up over

90% of the liquid waste now stored in so-called 'tank farms' - is key to the cleanup and remediation of the site.

<https://www.world-nuclear-news.org/Articles/First-of-a-kind-US-waste-treatment-facility-author>

### **U.S. moves to restore all U.N. sanctions on Iran in dispute over nuclear deal**

*Michelle Nichols, Parisa Hafezi*

*Reuters, August, 20, 2020*

The United States moved on Thursday to restore U.N. sanctions on Iran, including an arms embargo, arguing Tehran was in violation of a nuclear deal it struck with world powers in 2015 even though Washington itself abandoned that agreement two years ago. The United States submitted a letter to the 15-member U.N. Security Council accusing Tehran of non-compliance, starting a 30-day clock that could lead to a "snapback" of U.N. sanctions. All the remaining parties to the nuclear deal - Germany, France, Britain, Russia and China - immediately notified the Security Council, in letters seen by Reuters, that they did not recognise the U.S. move.

The United States acted after the Security Council resoundingly rejected its bid last week to extend an arms embargo on Iran beyond its expiration in October. "It is an enormous mistake not to extend this arms embargo. It's nuts!" Pompeo told reporters at the United Nations as he harshly criticized what he described as the "one-sided, foolish" nuclear deal negotiated by former U.S. President Barack Obama. President Donald Trump has called it the "worst deal ever." The pact aimed to prevent Tehran from developing nuclear weapons in return for sanctions relief and is enshrined in a 2015 Security Council resolution. Washington argues that it can trigger the snapback process because the resolution still names it as a participant to the nuclear deal. Germany, France and Britain on Thursday described the U.S. attempt to trigger a sanctions snapback as

“incompatible” with their efforts to support the already fragile nuclear deal, while Russia and China said it was “illegitimate.” China’s U.N. Ambassador Zhang Jun asked Indonesia, council president of August, “not to identify and circulate the U.S. communication as a notification” to trigger the snapback process and to consult with all council members on how to proceed. Earlier on Thursday Russia’s U.N. Ambassador Vassily Nebenzia rejected the U.S. plan as “nonexistent.” Russia called for the council to meet on Iran on Friday but diplomats said that Washington blocked the request.

[https://in.reuters.com/article/usa-iran-un/u-s-moves-to-restore-all-u-n-sanctions-on-iran-in-dispute-over-nuclear-deal-idINKBN25G21Z\\_](https://in.reuters.com/article/usa-iran-un/u-s-moves-to-restore-all-u-n-sanctions-on-iran-in-dispute-over-nuclear-deal-idINKBN25G21Z_)

### **Biden on North Korea: Fewer summits, tighter sanctions, same standoff**

*Josh Smith, Hyonhee Shin, Trevor Hunnicutt*

*Reuters, August 21, 2020*

No more “Little Rocket Man”, exchanging love letters or summit pageantry. If Joe Biden is elected U.S. president, American policy toward North Korea is likely to see less emphasis on personal dealings with leader Kim Jong Un, and more focus on allies and working-level diplomacy, campaign advisers and former officials say. President Donald Trump has said he will make deals with North Korea “very quickly” if re-elected on Nov 3. Pyongyang officials, however, have said while Kim still has a good relationship with Trump, they have to look ahead to a time when Trump isn’t president. Last year, North Korea lashed out at Biden, calling him a “rabid dog” that should “be beaten to death” for comments seen as disparaging of Kim.

Biden, who has a solid lead in most opinion polls, cited those threats in January when he said he would not meet with Kim unless unspecified preconditions are met. After months of trading threats and insults - Kim was “Little Rocket Man” and Trump a “deranged U.S. dotard” - Trump became the first sitting U.S. president to meet with a North Korean leader when he held a

summit with Kim in Singapore in 2018.

[https://in.reuters.com/article/uk-usa-election-biden-northkorea-analysis/biden-on-north-korea-fewer-summits-tighter-sanctions-same-standoff-idINKBN25G2R4\\_](https://in.reuters.com/article/uk-usa-election-biden-northkorea-analysis/biden-on-north-korea-fewer-summits-tighter-sanctions-same-standoff-idINKBN25G2R4_)

### **Trump’s diplomatic legacy: lost trust, scarred ties and sanctions**

*Humeyra Pamuk and David Brunnstrom*

*Reuters, August 24, 2020*

President Donald Trump made some of his flashiest 2016 campaign pledges in foreign policy areas, such as vowing to reevaluate the U.S. relationship with NATO, abandon a landmark nuclear deal with Iran and bring U.S. troops back from “forever wars.” The Republican president, a former businessman from New York who boasts about his deal-making skills, has delivered on some of his pledges, while partially meeting a few others. Some he has so far completely failed to achieve.

If Trump is defeated in the Nov. 3 election by Democratic rival Joe Biden, the new administration’s hardest challenge will be to restore the global standing and trustworthiness of the United States, analysts and former U.S. and European officials say.

<https://www.reuters.com/article/us-usa-election-trump-foreignpolicy-scor-idUSKBN25K12T>

### **Contract talks under way for US test reactor**

*World Nuclear News, August 25, 2020*

Battelle Energy Alliance (BEA) has begun contract negotiations with a team led by Bechtel National Inc (BNI) and including TerraPower and GE Hitachi Nuclear Energy (GEH) to support the design and build phase of the Versatile Test Reactor (VTR). The reactor will be a one-of-a-kind facility that would support research and development of innovative, clean nuclear energy technologies. BEA, the contracted operator of the US Department of Energy’s (DOE) Idaho National Laboratory (INL), selected the BNI-led team following the review of multiple submissions received in

response to a Request for Proposals earlier this year.

"We received excellent proposals from industry, which is indicative of the support to build a fast-spectrum neutron testing facility in the United States," INL Director Mark Peters said. The design and construction expertise brought to the project by the BNI team is essential "since it has been several years since we built a test reactor in the United States," he added. The VTR programme - to provide a reactor-based source of the fast neutrons needed to test advanced reactor technology, fuels and related materials - was established by the DOE Office of Nuclear Energy and authorised under the Nuclear Energy Innovation Capabilities Act, which was signed into law in 2018. INL subsequently selected GEH's PRISM sodium-cooled fast reactor design as a basis for the VTR.

<https://www.world-nuclear-news.org/Articles/Contract-negotiations-under-way-for-US-test-reacto>

## US nuclear weapons budget could skyrocket if Russia treaty ends

*Joe Gould*

*Defense News, August 25, 2020*

The New START nuclear pact's demise could cost the Department of Defense as much as \$439 billion for modernization, plus \$28 billion in annual maintenance costs, the Congressional Budget Office said in a report published Tuesday. That price estimate, as the United States and Russia remain at odds over the treaty, reflects a threefold increase in weapons production costs. With Washington and Moscow's responses to the expiration of New START unclear, CBO explored several possible paths, including other less expensive options.

"If the New START treaty expired, the United States could choose to make no changes to its current plans for nuclear forces, in which case it would incur no additional costs," the CBO study found. "If the United States chose to increase its forces in response to the expiration of the treaty, modest expansions could be relatively

inexpensive and could be done quickly.

Larger expansions could be quite costly, however, and could take several decades to accomplish." The New START treaty limits each country to no more than 1,550 deployed nuclear warheads and 700 deployed missiles and bombers. Signed in 2010 by then-U.S. President Barack Obama and then-Russian President Dmitry Medvedev, the pact would expire Feb. 5, but includes an option to extend it for another five years without needing the approval of either country's legislature.

<https://www.defensenews.com/congress/2020/08/25/cbo-us-nuclear-weapons-budget-could-skyrocket-if-russia-treaty-ends/>

## Clean energy VC funding roundup: Nuclear fusion, utility-solar foundations, electric trucks, smart metering

*Eric Wesoff*

*PV Magazine, August 25, 2020*

Investors continue to invest and clean energy entrepreneurs continue to innovate — despite global setbacks. Here are four companies that won more than \$45 million in funding in recent days — ranging across the cleantech spectrum. Plus \$1.9 billion for Elon Musk's SpaceX.

New approach to solar foundations Jack West, the cofounder of solar mounting system startup, Zep, has founded a new firm developing utility-scale solar tracker foundations. His new firm, Ojjo, has received \$15 million in venture funding from Cthulhu and previous Zep investors for "a new way to approach solar foundation design," with a truss system claimed to use half the tariff-rich steel of a conventional installation. Co-founded by West and Daniel Flanigan, Ojjo is helmed by CEO Helena Kimball.

<https://pv-magazine-usa.com/2020/08/25/clean-energy-vc-funding-roundup-nuclear-fusion-utility-solar-foundations-electric-trucks-smart-metering/>



## Iowa reactor to remain offline until closure date

*World Nuclear News, August 26, 2020*

According to US Nuclear Regulatory Commission (NRC) information, the 615 MWe boiling water reactor in Palo, near Cedar Rapids, Iowa, on 10 August declared an Unusual Event due to a loss of offsite power due to high winds. The event resulted in an automatic scram, or shut-down. The reactor building was not damaged by the storm.

Duane Arnold is Iowa's only operating nuclear power plant and has been in commercial operation since 1975. The plant is currently licensed to operate to 2034, but NextEra in 2018 announced that the plant would close later this year after a power purchase agreement with utility Alliant Energy was shortened.

<https://www.world-nuclear-news.org/Articles/Iowa-reactor-to-remain-offline-until-closure-date>

## Exelon announces early shutdown of four Illinois reactors

*World Nuclear News, August 27, 2020*

US utility Exelon Generation announced today both the two-unit Byron and Dresden nuclear power plants will be retired in 2021 as "the result of market rules that favour polluting power plants over carbon-free nuclear energy." It warned that further plants are at risk of premature closure due to these unfavourable market rules. Exelon said the Byron plant - comprising two pressurised water reactors with capacities of 1164 MWe and 1136 MWe - will be shut in September next year, even though it is licensed to operate for another 20 years. The Dresden plant - two boiling water reactors with capacities of 894 MWe and 879 MWe - has an operating licence that is valid for another decade but will be shut in November 2021.

<https://www.world-nuclear-news.org/Articles/Exelon-announces-early-shutdown-of-four-Illinois-r>

## New experiment holders accelerate nuclear fuel testing

*World Nuclear News, August 28, 2020*

The Minimal Activation Retrievable Capsule Holder (MARCH) test vehicle system was developed to provide rapid analysis and quicker turnarounds on smaller test samples of nuclear fuels and materials, and it simplifies the testing process by combining modularity and adaptability, INL said. Small samples are placed inside a specialised holder, where experiments can be precisely tailored for neutron exposure, temperatures and the local thermal/cooling environment. The holders are then placed in a larger reusable safety capsule for insertion into TREAT. Once the transient test is complete, the holders can be easily extracted at the facility and the safety capsule can be reused for another round of experiments.

The low-activation material that is used for the safety capsules means the test vehicles do not become significantly radioactive during irradiation. This allows the experiment to be assembled or disassembled at the TREAT facility for rapid analysis.

<https://www.world-nuclear-news.org/Articles/New-experiment-holders-accelerate-nuclear-fuel-tests>

## Bechtel selected for contract talks on US test reactor

*Nuclear Engineering, August 28, 2020*

US Department of Energy's Idaho National Laboratory (INL) said on 24 August that Battelle Energy Alliance (BEA) had initiated contract negotiations with a team led by Bechtel National Inc (BNI) to support the design and build phase of the Versatile Test Reactor (VTR). The BNI team also includes TerraPower and GE Hitachi Nuclear Energy. The announcement came after BEA, the contractor that operates INL for DOE, and members of the VTR technical team reviewed submissions by industry teams



in response to a Request for Proposal issued earlier this year. After careful review of multiple high-quality proposals, BEA selected the BNI-led team to start contract negotiations. INL manages the VTR project on behalf of DOE's Office of Nuclear Energy (ONE).

<https://www.neimagazine.com/news/newsbechtel-selected-for-contract-talks-on-us-test-reactor-8109828>

### Further delay in commissioning of Finnish EPR

*World Nuclear News, August 28, 2020*

Fuel loading at the Olkiluoto 3 EPR will now not take place until March next year, according to a revised schedule provided to Finnish utility Teollisuuden Voima Oyj (TVO) by the Areva-Siemens consortium. Grid connection is now scheduled for October 2021, with regular electricity production due to start in February 2022. In April, TVO said measures put in place at the plant to prevent the spread of coronavirus "may have significantly added uncertainty to the progress of the project". At that time it was informed by the Areva-Siemens consortium that fuel loading would not take place as planned in June this year. The start of regular electricity production, scheduled for March 2021, could also be delayed. Areva-Siemens will update the schedule for the unit as soon as the impact of the pandemic is known.

The supplier consortium has now informed TVO there will be a nine-month delay loading fuel into the Olkiluoto 3 (OL3) reactor from the previously planned June this year. Both grid connection and the start of regular electricity production have been put back by 11 months, from the previously planned November this year and March 2021, respectively.

<https://www.world-nuclear-news.org/Articles/Further-delay-in-commissioning-of-Finnish-EPR#:~:text=Fuel%20loading%20at%20the%20Olkiluoto,by%20the%20Areva%2DSiemens%20consortium.>

### Bill Gates' nuclear venture plans reactor to complement solar, wind power boom

*Timothy Gardner*

*Reuters, August 28, 2020*

A nuclear energy venture founded by Bill Gates said Thursday it hopes to build small advanced nuclear power stations that can store electricity to supplement grids increasingly supplied by intermittent sources like solar and wind power.

The effort is part of the billionaire philanthropist's push to help fight climate change, and is targeted at helping utilities slash their emissions of planet-warming gases without undermining grid reliability. TerraPower LLC, which Gates founded 14 years ago, and its partner GE Hitachi Nuclear Energy, plan to commercialize stations called Natrium in the United States later this decade, TerraPower's President and Chief Executive Chris Levesque said.

<https://uk.reuters.com/article/uk-usa-nuclearpower-terrapower/bill-gates-nuclear-venture-plans-reactor-to-complement-solar-wind-power-boom-idUKKBN25N2X5>

### U.S. agrees to pay South Carolina \$600 million and dispose of plutonium

*Timothy Gardner*

*Reuters, August 31, 2020*

The U.S. Energy Department said on Monday it has reached a settlement with South Carolina on removing weapons-grade plutonium by 2037 from a Cold War-era site and shipping most of it to a disposal facility in New Mexico. South Carolina, which had sued the energy department, will receive an upfront payment of \$600 million. The state will waive its right to bring any more lawsuits over the plutonium until 2037.

"Today's announcement is a guarantee to the people of South Carolina that

plutonium will be removed safely from this state," said U.S. Energy Secretary Dan Brouillette. The U.S. government had planned to build a mixed oxide (MOX) plant to convert the material into fuel for nuclear power. But a MOX plant had never been built in the United States, and the Trump administration axed the program in 2018 saying it would cost about \$48 billion more than \$7.6 billion already spent on it.

<https://in.reuters.com/article/usa-south-carolina-plutonium-idINKBN25R2AO>

### **Exelon to close Byron and Dresden nuclear power plants**

*Nuclear Engineering, August 31, 2020*

US-based Exelon Generation has announced that it intends to retire its Byron and Dresden nuclear power plants in Illinois in autumn 2021. The two-unit Byron NPP, comprising two pressurised water reactors with capacities of 1164MWe and 1136MWe will close in September 2021, and the two unit Dresden plant with two boiling water reactors with capacities of 894MWe and 879MWe in November 2021.

Dresden is licensed to operate for another decade and Byron for another 20 years. Together, they employ more than 1500 full-time employees and 2000 supplemental workers during refuelling outages. "Although we know in our heads that shutting down the uneconomic Illinois plants is necessary to preserve even more jobs elsewhere, our hearts ache today for the thousands of talented women and men that have served Illinois families for more than a generation and will lose their jobs because of poorly conceived energy policies," said Christopher Crane, president and CEO of Exelon. "But we are only about a year away from shutdown and we need to give our people, the host communities, and regulators time to prepare."

<https://www.neimagazine.com/news/newsexelon-to-close-byron-and-dresden-nuclear-power-plants-8109874>

### **Clean energy funding: Ex-Tesla CTO raises \$40 million to recycle batteries, plus nuclear fusion and fission**

*Eric Wesoff*

*PV Magazine, August 31, 2020*

Redwood Materials, the startup founded by ex-Tesla CTO JB Straubel raised a reported \$40 million in venture capital from Breakthrough Energy Ventures and Capricorn Investment Group. Redwood raised \$2 million in 2017, according to a regulatory filing. David Danielson, managing director at Breakthrough (and former U.S. Assistant Secretary of Energy Efficiency & Renewable Energy), is listed as an investor in Redwood on LinkedIn. Redwood aims to recycle old cell phone and device batteries into electric vehicle batteries. David Snyder of Lilac Solutions, a lithium extraction technology startup, writes, "For batteries, recycling is going to be essential in the long term. Near term, old cell phone batteries are a great source of cobalt in particular." Breakthrough has invested in Lilac as well as QuantumScape, Fervo Energy and Form Energy.

<https://pv-magazine-usa.com/2020/08/31/clean-energy-funding-ex-tesla-cto-raises-40-million-to-recycle-batteries-plus-nuclear-fusion-and-fission/>

### **Nuclear Power Market to witness huge potential in future with key players: Bechtel, Kansai Electric, Rosatom**

*Open PR, August 31, 2020*

Latest Study on Industrial Growth of Nuclear Power Market 2019-2025. A detailed study accumulated to offer Latest insights about acute features of the Nuclear Power market. The report contains different market predictions related to market size, revenue, production, CAGR, Consumption, gross margin, price, and other substantial

factors. While emphasizing the key driving and restraining forces for this market, the report also offers a complete study of the future trends and developments of the market. It also examines the role of the leading market players involved in the industry including their corporate overview, financial summary and SWOT analysis.

The Major Players Covered in this Report: EDF, Bechtel, Kansai Electric, Rosatom, China Guangdong Nuclear Power Corporation, Duke Energy, Tokyo Electric, China National Nuclear Co Nuclear Power Market Study guarantees you to remain / stay advised higher than your competition. With Structured tables and figures examining the Nuclear Power, the research document provides you a leading product, submarkets, revenue size and forecast to 2025.

<https://www.openpr.com/news/2125047/nuclear-power-market-to-witness-huge-potential-in-future-with-key>

### **E. Europe**

#### **Poland monitoring situation on Belarus border, deputy minister says**

*Reuters, August 17, 2020*

Poland is monitoring the situation on its border with Belarus, as the Belarusian army plans to hold drills this week in the Grodno region bordering Poland and Lithuania, Deputy Defence Minister Wojciech Skurkiewicz said. Longtime Belarusian President Alexander Lukashenko is struggling to contain a wave of mass protests and strikes that pose the biggest challenge to his 26-year-old rule. Belarusians chanting "Step down!" in the capital Minsk on Sunday staged the biggest protest so far against what they said was Lukashenko's fraudulent re-election a week ago.

Over the weekend Russia's RIA news agency reported that the Belarusian army plans to hold drills over Aug. 17-20 near the country's nuclear plant and in the Grodno region, while Lukashenko said that an air assault brigade would move to Belarus' Western border. Lukashenko said earlier

that he was concerned with the NATO military exercises being conducted in Poland and Lithuania, which he sees as an arms build-up. NATO dismissed the allegations by Lukashenko but said it was closely monitoring the situation following his contested re-election. "Neither Poland nor other Western European countries will get caught up in the intrigue Lukashenko is trying to plot," Skurkiewicz told public radio. "We are looking at what is happening in Belarus, just like all NATO countries, and we will also look at what happens at our borders. We will not be passive in this observation," Skurkiewicz also said.

[https://in.reuters.com/article/belarus-election-poland/poland-monitoring-situation-on-belarus-border-deputy-minister-says-idINKCN25D0FS\\_](https://in.reuters.com/article/belarus-election-poland/poland-monitoring-situation-on-belarus-border-deputy-minister-says-idINKCN25D0FS_)

#### **Germany's RWE rakes in \$2.4 billion to fund renewable energy expansion**

*Douglas Busvine*

*Reuters, August 18, 2020*

German utility RWE RWEG.DE on Tuesday completed a 2 billion euro (\$2.4 billion) share issue to back its expansion into renewable energy, including its \$480 million purchase of wind turbine maker Nordex's NDXG.DE project development pipeline. The move increases RWE's share capital by 10% and was successfully placed with institutional investors via an accelerated bookbuilding process, RWE said in a statement issued after the Frankfurt market close.

The 61,474,549 new common bearer shares were placed at 32.55 euros apiece, a discount of 4.9% to Tuesday's closing price. Frankfurt-listed shares RWEG.F in RWE closed 4.3% lower at 33.08 euros. "We are very pleased how well our offer was accepted and how our growth ambition in renewable energy is being supported by our investors," Chief Executive Rolf Martin Schmitz said in a statement. "The additional financial flexibility enables us to enhance our project pipeline and to accelerate our continued

growth in wind and solar power." Part of the proceeds will be used to buy 2.7 gigawatts (GW) worth of European wind and solar projects from turbine maker Nordex in a deal made public at the end of July. RWE, Germany's biggest utility, wants to increase its renewables portfolio to more than 13 GW and invest a total of 5 billion euros by the end of 2022.

[https://in.reuters.com/article/us-nordexpipeline-m-a-rwe/germanys-rwe-rakes-in-2-4-billion-to-fund-renewable-energy-expansion-idINKCN25E2DQ\\_](https://in.reuters.com/article/us-nordexpipeline-m-a-rwe/germanys-rwe-rakes-in-2-4-billion-to-fund-renewable-energy-expansion-idINKCN25E2DQ_)

### **Low flow rate may halve output at France's Saint-Alban nuclear plant**

*Reuters, August 20, 2020*

A low flow rate on the Rhone River will likely restrict output on Saturday and Sunday at EDF's Saint-Alban nuclear plant in southeastern France, French grid operator RTE said on Thursday. The two Saint-Alban reactors produce 1.3 gigawatts (GW) of power each, and the output reduction could be equivalent to the production of one unit, RTE said. EDF's use of water is regulated by law to protect plant and animal life. It is obliged to reduce output during hot weather when water temperatures rise, or when river levels and the flow rate are low.

Last month was the driest July in at least 60 years and the first half of August was the second hottest on record, making it the fifteenth consecutive month with higher than average temperatures, Meteo France data showed.

[https://in.reuters.com/article/france-nuclear/low-flow-rate-may-halve-output-at-frances-saint-alban-nuclear-plant-idINL8N2FM54B\\_](https://in.reuters.com/article/france-nuclear/low-flow-rate-may-halve-output-at-frances-saint-alban-nuclear-plant-idINL8N2FM54B_)

### **E3 say cannot support U.S. move to restore U.N. sanctions on Iran**

*Reuters, August 20, 2020*

The United Kingdom, France and Germany on Thursday said they cannot support the U.S. move to restore United Nations sanctions on Iran, saying the action is

incompatible with efforts to support the Iran nuclear deal. "In order to preserve the agreement, we urge Iran to reverse all measures inconsistent with its nuclear commitments and return to full compliance without delay," the three nations said in a joint statement.

[https://in.reuters.com/article/usa-iran-un-e3/e3-say-cannot-support-u-s-move-to-restore-u-n-sanctions-on-iran-idINL1N2FM20M\\_](https://in.reuters.com/article/usa-iran-un-e3/e3-say-cannot-support-u-s-move-to-restore-u-n-sanctions-on-iran-idINL1N2FM20M_)

### **Gas and nuclear industries fight to the end for 'green' EU investment label**

*Kate Abnett, Simon Jessop*

*Reuters, August 25, 2020*

The gas and nuclear industries have ramped up lobbying to secure last-ditch changes to European rules defining which investments are sustainable, fearing that exclusion from a new "green" list could deprive them of billions of dollars of funding. The climate section of the EU's Sustainable Finance Taxonomy is due to be finalised this year and it could prove crucial as nuclear power and most natural gas plants and pipelines were excluded from a provisional list published in March.

By forcing providers of financial products to disclose which investments meet climate criteria from the end of 2021, the new EU green finance rules are designed to channel cash towards projects that support the bloc's climate goals. In the four months since the rules were published, gas and nuclear industry representatives held 52 meetings - in person or virtually - with EU officials, according to EU logs analysed by non-profit Reclaim Finance and shared exclusively with Reuters.

[https://in.reuters.com/article/us-europe-finance-lobbying-analysis/gas-and-nuclear-industries-fight-to-the-end-for-green-eu-investment-label-idINKBN25LOGA\\_](https://in.reuters.com/article/us-europe-finance-lobbying-analysis/gas-and-nuclear-industries-fight-to-the-end-for-green-eu-investment-label-idINKBN25LOGA_)



## **F. Russia**

### **Lavrov, Pompeo discuss Putin's initiative on Persian Gulf security summit**

*TASS News Agency, August 16, 2020*

Russian Foreign Minister Sergey Lavrov and US Secretary of State Michael Pompeo have discussed Russian President Vladimir Putin's initiative to organize a summit of the leader of the five United Nations Security Council permanent members, Germany and Iran on security in the Persian Gulf region, the Russian foreign ministry said on Sunday after their telephone conversation. "The two top diplomats exchange views on Russian President Vladimir Putin's initiative to hold a meeting of the leaders of the UN Security Council member nations, Germany, and Iran to look for ways of ensuring lasting security in the Persian Gulf region with due account of concerns of all the sides," the ministry said.

According to the ministry, the Russian side reiterated its support to United Nations Security Council Resolution 2231 that created a legal basis for the implementation of the Joint Comprehensive Plan of Action (JCPOA) on the settlement of around the Iranian nuclear program. "Lavrov stressed that the signing of this agreement back in 2015 was a major political and diplomatic achievement geared to enhance the nuclear nonproliferation regime and regional security in the Middle East," it said.

<https://tass.com/politics/1190217>

### **Democrats interested in working with Russia on reducing nuclear stockpiles**

*TASS News Agency, August 18, 2020*

The US Democratic Party in case of a victory at the presidential election in November is ready to interact with Moscow on the issues of limiting and reducing nuclear arsenals of the United States and Russia. Those are the provisions of the foreign policy part of the proposed Democratic Party platform subject for approval by the National Convention.

"Just as was the case during the height of the Cold War, it's in our interest to work with Russia to verifiably limit and reduce our nuclear stockpiles. We will build on this foundation to negotiate arms control agreements that reflect the emergence of new players like China, capture new technologies, and move the world back from the nuclear precipice," the document said.

<https://tass.com/world/1190767>

### **Russia says its bombers intercepted over Japan during planned flyover - Ifax**

*Reuters, August 19, 2020*

Japan scrambled fighter jets to intercept two Russian nuclear-capable bombers flying over the Sea of Japan and the Pacific, the Interfax news agency cited Russia's defence ministry as saying on Wednesday. The ministry described the event as a planned military exercise.

[https://in.reuters.com/article/russia-japan/russia-says-its-bombers-intercepted-over-japan-during-planned-flyover-ifax-idINKCN25F1E9\\_](https://in.reuters.com/article/russia-japan/russia-says-its-bombers-intercepted-over-japan-during-planned-flyover-ifax-idINKCN25F1E9_)

### **Russia rejects U.S. plan to restore U.N. sanctions on Iran**

*Reuters, August 20, 2020*

Russia rejected U.S. plans to restore U.N. sanctions on Iran as "nonexistent," saying only a country that remains in the 2015 Iran nuclear deal can trigger the return of the sanctions in a process known informally as "snapback." "We will not take it as snapback," Russian U.N. Ambassador Vassily Nebenzia told reporters, rejecting U.S. Secretary of State Mike Pompeo's expected announcement. "He's not triggering a snapback. Snapback can be triggered by a country that is a participant of the JCPOA, which the U.S. is not," he said, referring to the Iran nuclear deal by its formal name, the Joint Comprehensive Plan of Action (JCPOA).

[https://in.reuters.com/article/usa-iran-un-russia/russia-rejects-u-s-plan-to-restore-u-n-sanctions-on-iran-idINL1N2FM1F8\\_](https://in.reuters.com/article/usa-iran-un-russia/russia-rejects-u-s-plan-to-restore-u-n-sanctions-on-iran-idINL1N2FM1F8_)



## Rosatom marks 75th anniversary of Russian nuclear industry

*World Nuclear News, August 20, 2020*

Alexey Likhachov, director general of Rosatom, congratulated his staff today on the 75th anniversary of Russia's nuclear industry. To emphasise how the corporation is looking to the future, Rosatom has announced its switch to a 'united brand' by using its Mobius strip logo for all of its subsidiaries. On 20 August 1945, the USSR created a special committee to supervise nuclear research, under the chairmanship of Lavrentii P. Beriia. This became a platform for the formation on 26 June 1953 of the Ministry of Medium Machine Building of the USSR.

"Today in Moscow we are unveiling a monument to Efim Pavlovich Slavsky, an outstanding figure in the 'atomic project', the Minister of Medium Machine Building, who was at the helm of the industry for almost 30 years," Likhachov said in a video address to Rosatom personnel. The idea of using nuclear energy for power plants, ships and aircraft was put forward in 1947 and the first nuclear power plant, in Obninsk, was commissioned in 1954. Ten years later, the first VVER pressurised water reactor started operations at the Novovoronezh nuclear power plant.

<https://www.world-nuclear-news.org/Articles/Rosatom-marks-75th-anniversary-of-Russian-nuclear>

## Delays in delivering Russia's giant nuclear icebreaker line sparks lawsuits

*Charles Digges*

*Bellona, August 21, 2020*

Delays plaguing the launch of the Arktika nuclear icebreaker, billed to be Russia's largest to date, have prompted a number of lawsuits against the ship's builder as frustrations mount over a series of technical faults thwarting the vessel's scheduled release. According to the Barents Observer, which cites industry news portals, Atomflot, Russia's nuclear icebreaker headquarters,

has filed three multi-million dollar lawsuits against the Baltic Shipyard, the St Petersburg-based shipbuilder that has forged most of the country's icebreaking muscle.

Details of the lawsuits are sketchy. But the Barents Observer reports that the suits seek nearly \$13.5 million in damages over faulty ship systems and overdue part deliveries, all of which have caused the icebreaker project to overshoot its 2017 deadline. The latest of these mishaps involves a 300-ton electric propulsion engine that failed during the Arktika's sea trials in February, crippling one of the vessel's three propeller systems. While the breakdown is not related to the Arktika's nuclear propulsion system, it was nonetheless an embarrassing setback that will ultimately require the engine to be entirely replaced.

<https://bellona.org/news/nuclear-issues/2020-08-%EF%BB%BF%EF%BB%BFdelays-in-delivering-russias-giant-nuclear-icebreaker-line-sparks-lawsuits>

## Rosatom keeps to overseas schedule despite pandemic

*World Nuclear News, August 26, 2020*

Rosatom has not revised its portfolio of construction projects abroad but anticipates the coronavirus pandemic may affect some of its contracts, Alexey Likhachov, the Russian state nuclear corporation's director general, said during the Army-2020 conference in Moscow on 23 August, according to Tass. Separately, Rosatom said today that Egypt had postponed issuance of a construction licence for the planned El Dabaa nuclear power plant to the second-half of 2021. In March, Rosatom said that it planned to maintain a 10-year portfolio of foreign orders at the current level of at least USD140 billion, and the following month the company said it was prepared for difficulties that may arise with project timelines.

<https://www.world-nuclear-news.org/Articles/Rosatom-keeps-to-overseas-schedule-despite-pandemi>

## Russian envoy welcomes agreement between Iran, IAEA on access to nuclear sites

*TASS News Agency, August 26, 2020*

An agreement between Iran and the International Atomic Energy Agency (IAEA) on the agency's access to two of Iran's nuclear facilities is a real breakthrough, Russian Permanent Representative to International Organizations in Vienna Mikhail Ulyanov wrote on Twitter on Wednesday. "Real breakthrough! The visit of IAEA Director General R. Grossi to Iran resulted in very important agreements, including regarding access to two sites specified by the IAEA. This is yet another proof that dialogue is more productive than pressure," the tweet reads.

The IAEA and Iran said in a joint statement earlier on Wednesday that "Iran is voluntarily providing the IAEA with access to the two locations specified by the IAEA." The document added that the IAEA "does not have further questions to Iran and further requests for access to locations other than those declared by Iran." IAEA Director General Rafael Grossi arrived in Tehran on Monday. The IAEA said that his visit was aimed at making an agreement with Iran on IAEA inspections.

<https://tass.com/politics/1194131>

## Rosatom plans REMIX fuel fabrication at Seversk facility

*World Nuclear News, August 27, 2020*

Rosatom has approved a project to upgrade an experimental shop-floor for nuclear fuel fabrication at the site of the Siberian Chemical Combine (SCC), which is in Seversk, in the Tomsk region of Russia. The move will enable SCC to manufacture fuel assemblies with uranium-plutonium REMIX (regenerated mixture) fuel matrix for VVER-1000 reactors. A subsidiary of TVEL, Rosatom's nuclear fuel manufacturer, SCC is the "centre of expertise" for handling plutonium, having manufactured experimental fuel assemblies with dense mixed nitride uranium-plutonium fuel

(MNUP fuel) for the BN-600 fast neutron reactor operated at the Beloyarsk nuclear power plant.

REMIX fuel is made from a mixture of reprocessed uranium and plutonium, extracted from used nuclear fuel, with the addition of small volumes of enriched uranium. Distinct from uranium-plutonium fuels for fast reactors (such as MNUP and mixed-oxide fuel), REMIX fuel has low plutonium content (up to 1.5%). Modernisation of the shop-floor will result in the launch of a new production line for assembling VVER-1000 fuel rods and fuel bundles of the TVS-2M model. REMIX fuel fabrication will be carried out in cooperation with the Mining and Chemical Combine in Zheleznogorsk, in the Krasnoyarsk region, which will produce uranium-plutonium fuel pellets. The project is scheduled for completion in 2023.

<https://www.world-nuclear-news.org/Articles/Rosatom-plans-REMIX-fuel-fabrication-at-Seversk-fa>

## Russia's latest nuclear-powered subs to carry cruise missiles with range of over 4,000 km

*TASS News Agency, August 28, 2020*

The Project 885M multi-purpose nuclear-powered submarines Voronezh and Vladivostok laid down at the Sevmash Shipyard on July 20 will carry upgraded Kalibr-M cruise missiles with a range of over 4,000 km, a source in the defense industry told TASS on the sidelines of the Army-2020 forum on Friday.

The new multi-purpose submarines will carry principally new Kalibr-M missiles with a firing range of over 4,000 km," the source said. The new Kalibr-M cruise missiles will be capable of delivering either conventional high-explosive fragmentation or nuclear warheads to the target, he said. As the source stressed, "the new submarines will be better prepared for the mission of non-nuclear strategic deterrence compared to their predecessors."

<https://tass.com/defense/1194783>

## West Asia

### G. Iran

#### **Iran says U.S. humiliated by rejection of U.N. arms embargo extension**

*Reuters, August 15, 2020*

Iran's president said on Saturday the United States suffered a humiliating defeat with the U.N. Security Council's refusal to extend an arms embargo on Tehran, while U.S. Secretary of State Mike Pompeo called the action a "serious mistake." In a U.N. Security Council vote on Friday on the U.S. effort to extend the world body's arms embargo on Iran, Russia and China voted against, while 11 members abstained including France, Germany and Britain. The United States and the Dominican Republic were the only votes in favour.

"I don't remember the United States preparing a resolution for months to strike a blow at the Islamic Republic of Iran, and it garners only one vote," Iranian President Hassan Rouhani said in a televised speech. "But the great success was that the United States was defeated in this conspiracy with humiliation."

[https://in.reuters.com/article/usa-iran-isolation/iran-says-u-s-humiliated-by-rejection-of-u-n-arms-embargo-extension-idINKCN25B01Z\\_](https://in.reuters.com/article/usa-iran-isolation/iran-says-u-s-humiliated-by-rejection-of-u-n-arms-embargo-extension-idINKCN25B01Z_)

#### **Iran says OPEC has raised and stabilised crude oil price**

*Reuters, August 17, 2020*

OPEC has managed to raise crude prices and stabilise the oil market, OPEC member Iran's oil minister was quoted on Monday as saying by his ministry's website SHANA. "OPEC's performance has been successful because the price of oil has risen from \$16 in May to around \$45 and has stabilised," Bijan Zanganeh said. The Organization of the Petroleum Exporting Countries and allies including Russia, a group known as OPEC+, agreed record output cuts to tackle the fallout from the COVID-19 pandemic. Zanganeh said Iran's oil industry has signed 13 contracts worth roughly 1.5 billion euros

with 14 local firms to enhance and maintain the country's oil production.

[https://in.reuters.com/article/iran-opec-zanganeh/iran-says-opec-has-raised-and-stabilised-crude-oil-price-shana-idINKCN25D0S2\\_](https://in.reuters.com/article/iran-opec-zanganeh/iran-says-opec-has-raised-and-stabilised-crude-oil-price-shana-idINKCN25D0S2_)

#### **Despite U.S. sanctions bid, Iran aims to keep nuclear deal alive until U.S. election**

*Parisa Hafezi, Michelle Nichols*

*Reuters, August 18, 2020*

The fate of a fragile 2015 nuclear deal between Iran and world powers hinges on the result of the U.S. presidential election in November, not a planned U.S. bid this week to trigger a return of all U.N. sanctions on Tehran, said several Iranian officials. When Iran agreed to sanctions relief in return for curbs on its nuclear program, Tehran warned that it would no longer stick to the deal if any of the parties sparked a so-called snapback of sanctions at the U.N. Security Council, a backstop included in the accord in case Iran stopped complying.

U.S. President Donald Trump's administration plans this week to use that snapback provision, even though it quit the deal in 2018 and the move is opposed by the remaining parties to the accord - Germany, Britain, France, Russia, China and Iran. But despite Tehran's declaration five years ago, three senior Iranian officials told Reuters that Iran's leadership is determined to remain committed to the nuclear deal, hoping that a victory by Trump's political rival Joe Biden in the Nov. 3 presidential election will salvage the pact. "Right now the decision is to remain in the deal even if Americans make their biggest mistake of triggering the snapback mechanism," said a senior official, on condition of anonymity, who is involved in the discussions about Iran's nuclear policy. "We will be still here, but Trump might not be at the White House in a few months," the official said. Biden has said he would rejoin the nuclear deal, but only if Iran first returned to compliance. The

accord was agreed by former U.S. President Barack Obama's administration, when Biden was vice president.

[https://in.reuters.com/article/uk-usa-iran-un/despite-u-s-sanctions-bid-iran-aims-to-keep-nuclear-deal-alive-until-u-s-election-idINKCN25E2JL\\_](https://in.reuters.com/article/uk-usa-iran-un/despite-u-s-sanctions-bid-iran-aims-to-keep-nuclear-deal-alive-until-u-s-election-idINKCN25E2JL_)

## Iran announces locally made ballistic and cruise missiles amid U.S. tensions

*Parisa Hafezi*

*Reuters, August 20, 2020*

Iran displayed a surface-to-surface ballistic missile on Thursday that Defence Minister Amir Hatami said had a range of 1,400 kilometres and a new cruise missile, ignoring U.S. demands that Tehran halt its missile programme. "The surface-to-surface missile, called martyr Qassem Soleimani, has a range of 1,400 km and the cruise missile, called martyr Abu Mahdi, has a range of over 1,000 km," Hatami said in a televised speech. Pictures of the missiles were shown on state TV, which it said was "the newest Iranian cruise missile that will further strengthen Iran's deterrence power". Soleimani, head of Iran's elite Quds Force, and Iraqi militia commander Abu Mahdi al-Muhandis were killed in January in a U.S. strike on their convoy in Baghdad airport.

"Missiles and particularly cruise missiles are very important for us ... the fact that we have increased the range from 300 to 1,000 in less than two years is a great achievement," said Iranian President Hassan Rouhani. "Our military might and missile programmes are defensive." The announcement comes as Washington is pushing to extend a U.N.-imposed arms embargo against Iran, which is due to expire in October under Tehran's 2015 nuclear deal with world powers.

[https://in.reuters.com/article/iran-military-missiles/iran-announces-locally-made-ballistic-and-cruise-missiles-amid-u-s-tensions-idINKBN25G0PQ\\_](https://in.reuters.com/article/iran-military-missiles/iran-announces-locally-made-ballistic-and-cruise-missiles-amid-u-s-tensions-idINKBN25G0PQ_)

## Iran says talks with IAEA chief in

## Tehran were "constructive" - Tasnim

*Reuters, August 25, 2020*

Talks with the U.N. nuclear watchdog's chief were constructive, Iran's top nuclear official Ali Akbar Salehi was quoted as saying on Tuesday, after meeting Rafael Grossi who travelled to Iran to seek access for inspectors to two suspected former atomic sites. "Our conversation today was constructive. It was agreed that the agency will carry out its independent and professional responsibilities," said Salehi, head of Iran's Atomic Energy Organisation, according to the semi-official Tasnim news agency. "A new chapter of cooperation between Iran and the International Atomic Energy Agency will start."

[https://in.reuters.com/article/iran-nuclear-iaea/iran-says-talks-with-iaea-chief-in-tehran-were-constructive-tasnim-idIND5N2EC00K\\_](https://in.reuters.com/article/iran-nuclear-iaea/iran-says-talks-with-iaea-chief-in-tehran-were-constructive-tasnim-idIND5N2EC00K_)

## Iran's Rouhani says talks possible, if U.S. returns to 2015 nuclear deal

*Reuters, August 25, 2020*

If the United States wants an agreement with Iran, first it should return to Tehran's 2015 nuclear deal with six powers that the nuclear deal that Washington abandoned two years ago, Iranian President Hassan Rouhani said on Tuesday. "Washington's maximum pressure policy on Iran has failed 100% ... If Washington wants an agreement with us, then they should return to the deal," Rouhani told a televised news conference.

[https://in.reuters.com/article/iran-usa-rouhani/irans-rouhani-says-talks-possible-if-u-s-returns-to-2015-nuclear-deal-idIND5N2DS02N\\_](https://in.reuters.com/article/iran-usa-rouhani/irans-rouhani-says-talks-possible-if-u-s-returns-to-2015-nuclear-deal-idIND5N2DS02N_)

## U.N. Security Council president dismisses U.S. sanctions move on Iran

*Michelle Nichols*

*Reuters, August 25, 2020*

The president of the U.N. Security Council, Indonesia, said on Tuesday it was "not in



the position to take further action" on a U.S. bid to trigger a return of all U.N. sanctions on Iran because there is no consensus in the 15-member body. Thirteen council members expressed their opposition on Friday, arguing that Washington's move is void given it is using a process agreed under a 2015 nuclear deal between Iran and world powers that it quit two years ago. Indonesia's U.N. Ambassador Dian Triansyah Djani, council president for August, was responding to a question from Russia and China on the issue during a meeting on the Middle East. U.S. Ambassador Kelly Craft hit back after Djani spoke.

[https://in.reuters.com/article/usa-iran-un/u-n-security-council-president-dismisses-u-s-sanctions-move-on-iran-idINKBN25L291\\_](https://in.reuters.com/article/usa-iran-un/u-n-security-council-president-dismisses-u-s-sanctions-move-on-iran-idINKBN25L291_)

### **H. Israel**

#### **Israel backs U.S. moves to restore U.N. sanctions on Iran, PM says**

*Reuters, August 21, 2020*

Israeli Prime Minister Benjamin Netanyahu hailed the United States' move on Thursday to restore all U.N. sanctions on Iran and called on world powers to support Washington. The United States submitted a letter to the U.N. Security Council on Thursday accusing Tehran of non-compliance with the 2015 nuclear deal, in theory starting a 30-day process that could lead to the "snapback" of U.N. sanctions. "I commend the United States for its decision to trigger snapback sanctions against Iran. This is the right decision," Netanyahu said in a statement.

U.S. President Donald Trump's administration abandoned the Iran nuclear deal, which was designed to prevent Tehran from developing nuclear weapons, arguing in part that its limitations on Iran's atomic activities were inadequate.

[https://in.reuters.com/article/usa-iran-un-israel/israel-backs-u-s-moves-to-restore-u-n-sanctions-on-iran-pm-says-idINKBN25G2NJ\\_](https://in.reuters.com/article/usa-iran-un-israel/israel-backs-u-s-moves-to-restore-u-n-sanctions-on-iran-pm-says-idINKBN25G2NJ_)

#### **Israel demands UK change Iran policy during FM Raab's visit**

*Daily Sabah, August 25, 2020*

Israeli Prime Minister Benjamin Netanyahu on Tuesday demanded that Britain change its stance on Iran after London failed to go along with a U.S. attempt last week to extend an arms embargo on the country. Netanyahu and other ministers who met with British Foreign Secretary Dominic Raab in Jerusalem expressed disappointment at the decision by Britain, France and Germany not to back the U.S. demand for the reimposition of United Nations sanctions on Iran.

A statement released by Netanyahu's office said he told Raab that he "expects Britain to change its policy toward Iran, and that it must join the U.S. sanctions in order to prevent Iran from acquiring deadly weapons or advancing toward nuclear weapons." "Look at Iran's aggression today, without nuclear weapons," Netanyahu said. "What a huge threat it would be to the entire world if it has nuclear weapons.

<https://www.dailysabah.com/world/mid-east/israel-demands-uk-change-iran-policy-during-fm-raabs-visit>

### **I. UAE**

#### **UAE's first reactor starts supplying power**

*World Nuclear News, August 19, 2020*

Unit 1 of the Barakah nuclear power plant in the Al Dhafrah region of Abu Dhabi has been connected to the grid and has begun supplying electricity to the UAE. The South Korean-supplied APR1400 is expected to enter full commercial operation later this year. Following the receipt of an operating licence in February and the completion of fuel assembly loading in March, Barakah unit 1 was started up at the end of July by Nawah Energy Company, the operations and

maintenance subsidiary of Emirates Nuclear Energy Corporation (ENEC). Since then, the operations team has run a series of tests, steadily increasing the unit's power levels.

In partnership with the Abu Dhabi Transmission and Despatch Company (Transco), a subsidiary of Abu Dhabi National Energy Company, the generator of Barakah unit 1 has now been integrated and synchronised with the requirements of the UAE's national electricity transmission grid. Transco constructed 952 kilometres of 400 kV overhead lines to connect the Barakah plant to the Abu Dhabi electricity grid. With the integration and connection complete, nuclear operators will begin the process of gradually raising unit 1's power levels, known as power ascension testing. ENEC said that throughout this process, the unit 1 systems follow international best practice to safely progress and test the unit as it proceeds towards full electricity production.

<https://www.world-nuclear-news.org/Articles/UAEs-first-reactor-starts-supplying-power>

### J. Turkey

## **Steam generators dispatched to Akkuyu unit 1**

*World Nuclear News, August 25, 2020*

Atomenergomash described the steam generators as the most important items of equipment for the primary reactor circuit. Comprising four VVER-1200 units, the Akkuyu NPP project will be the first in the global nuclear industry to be implemented according to the Build-Own-Operate model. Andrey Nikipelov, general director of Atomenergomash, the parent company of AEM Technology, said yesterday: "In 2020, Atomenergomash has been dispatching reactor vessels and steam generators at a rate that was unprecedented even in Soviet times: A total of three reactor vessels and 17 steam generators are going to customers in Russia, India, Bangladesh and Turkey this year." He added: "Our equipment is already in operation or planned for installation on three out of six continents."

<https://www.world-nuclear-news.org/Articles/Steam-generators-dispatched-to-Akkuyu-unit-1>

## **Core melt trap arrives for Akkuyu unit 2**

*World Nuclear News, August 28, 2020*

The 4800 MWe plant will comprise four VVER1200 reactors and is expected to meet about 10% of Turkey's electricity needs. Rosatom's first build-own-operate venture, the USD20 billion project is based on an inter-governmental agreement signed between Russia and Turkey in May 2010. Turkey aims to bring unit 1 online in 2023, the centenary of its foundation as a republic. The core melt trap is 5.8m high and has a diameter of 6.1m. The 'trap' refers to a container in the form of a steel cone weighing 169 tonnes, which in the event of an emergency will securely hold the melt of the core and will not allow radioactive substances to leave the containment of the reactor.

<https://www.world-nuclear-news.org/Articles/Core-melt-trap-arrives-for-Akkuyu-unit-2>

### East Asia

### K. North Korea

## **NK estimated to possess up to 60 nuclear bombs: US Army**

*Choi Si-young*

*Korea Herald, August 18, 2020*

North Korea is estimated to have between 20 and 60 nuclear bombs, as well as the capacity to produce six new ones every year, the US Army said in its latest report, adding that the communist country pursues its nuclear weapons program to prevent a forcible regime change from outside. "External powers intervened in Libya when the domestic revolts began in 2011. The Kim family does not want something similar to happen in North Korea," said the report, titled "North Korean Tactics." It said the North is also the third-largest holder of chemical agents in the world, potentially maintaining a 2,500- to 5,000-ton stockpile of 20 chemical weapons.

"North Korea possibly has weaponized anthrax or smallpox that could be

mounted on missiles for use," the report said, adding that 1 kilogram of anthrax could kill up to 50,000 people in the 10-million-strong South Korean capital, Seoul. North Korea, however, has an incomplete record of missile accuracy — attributable to insufficient crew training and frequent ammunition failure — so its missile operations focus on high-priority targets. But nuclear and chemical weapons would not have to be accurate to be effective because of the panic such attacks would cause and their aftereffects, according to the report.

[http://www.koreaherald.com/view.php?ud=20200818000729&ACE\\_SEARCH=1](http://www.koreaherald.com/view.php?ud=20200818000729&ACE_SEARCH=1)

### North Korea partly ruled by leader's sister Kim Yo-jong: NIS

*Ahn Sung-mi*

*Korea Herald, August 20, 2020*

North Korean leader Kim Jong-un has delegated some of his authority to his younger sister Yo-jong, allowing her to manage South Korean and US affairs, South Korea's spy agency told lawmakers. The move appears to be intended to lighten Kim Jong-un's burden, the National Intelligence Service said, denying that the leader has any serious health issues. "In regards to Kim Jong-un's circumstances, 'delegation of power' was mentioned," Rep. Ha Tae-kyung from the main opposition United Future Party told reporters after a closed-door parliamentary briefing with the NIS. "Kim Jong-un still exerts absolute power, but in comparison to the past, some of the authority has been transferred little by little," he said, adding that "high stress levels" stemming from his role in governing the country were one reason behind the power shift. Another reason is so that Kim Jong-un can deny culpability in the event of policy failure, he added.

Choe Pu-il, who handles military affairs at the ruling Workers' Party Central Committee, and Ri Pyong-chol, vice chairman of the Central Military Commission of the Workers' Party and an official in charge of the North's missile and

nuclear weapons development, have been entrusted with handling military affairs. During the briefing, the NIS also said the 5-megawatt nuclear reactor at North Korea's Yongbyon nuclear complex, the communist regime's main nuclear facility, is not currently in operation. The reclusive regime has been grappling with severe flood damage and the COVID-19 pandemic amid a failing economy under long-lasting international sanctions.

[http://www.koreaherald.com/view.php?ud=20200820000835&ACE\\_SEARCH=1](http://www.koreaherald.com/view.php?ud=20200820000835&ACE_SEARCH=1)

### US seeks to seize 280 cryptocurrency accounts tied to NK

*Choi Si-young*

*Korea Herald, August 28, 2020*

The US government sought on Thursday to seize 280 cryptocurrency accounts believed to have ties to North Korean hackers who stole cryptocurrencies worth millions of dollars from two virtual exchanges and tried to launder the funds through Chinese traders. In a civil forfeiture complaint, the US Justice Department linked the cybertheft to North Korea and referred as well to a UN Panel of Experts report that said state-backed North Korean hackers stole about \$500 million from at least five exchanges in Asia in 2017 and 2018. The Justice Department came to learn about the 280 accounts while probing into an earlier complaint it had filed in March seeking to seize 146 accounts linked to stolen cryptocurrencies by North Korean hackers.

Two Chinese nationals were charged at the time with laundering more than \$100 million in cryptocurrency for North Korea. Court filings showed that US authorities believed Pyongyang was funding hackers to bypass international sanctions on its nuclear and missile programs. "Today's action publicly exposes the ongoing connections between North Korea's cyber-hacking program and a Chinese cryptocurrency money laundering

network," acting Assistant Attorney General Brian Rabbitt of the Justice Department's criminal division said in a statement. The attorney general affirmed that authorities would continue to hold the North Korean hackers responsible for their cybertheft and seek to return unlawful gains. The bank heist campaign is also largely seen as propping up the cash-strapped regime and bankrolling its nuclear weapons program. "North Korean cyber actors have demonstrated an imaginative knack for adjusting their tactics to exploit the financial sector as well as any other sector through illicit cyber operations," Bryan Ware, a senior cybersecurity official at the US Homeland Security Department, said in a statement.

[http://www.koreaherald.com/view.php?ud=20200828000640&ACE\\_SEARCH=1](http://www.koreaherald.com/view.php?ud=20200828000640&ACE_SEARCH=1)

### L. South Korea

#### **S. Korea, India agree on closer cooperation on int'l security issues**

*Yonhap*

*Korea Herald, August 20, 2020*

South Korea and India agreed Thursday to strengthen cooperation on international affairs, including disarmament and nonproliferation, during a virtual meeting between senior diplomats, Seoul's foreign ministry said. In the session, Park Il, director of the disarmament and nonproliferation division at the Ministry of Foreign Affairs, held talks with Indra Mani Pandey, India's additional secretary in charge of the matter.

They had discussions on creating conditions for nuclear disarmament and the issues of arms control, space security and multilateral export control regime, according to the ministry. Park explained the South Korean government's efforts for progress in the Korea peace process and reaffirmed Seoul's commitment to continued cooperation with India and other countries. The two sides agreed to hold related consultations on a regular basis and strengthen "communication" on multilateral diplomacy, including the Conference on

Disarmament the First Committee of the UN General Assembly.

[http://www.koreaherald.com/view.php?ud=20200820000885&ACE\\_SEARCH=1](http://www.koreaherald.com/view.php?ud=20200820000885&ACE_SEARCH=1)

### M. Japan

#### **US and Japan plan fleet of low-orbit satellites to track missiles**

*Yukio Tajima*

*Nikkei Asian Review, August 19, 2020*

Japan and the U.S. plan to deploy a network of small satellites in low-Earth orbit to detect and track next-generation missiles being developed to evade current defense systems, Nikkei has learned. The project is expected to cost over \$9 billion under a U.S. plan and be operational by the mid-2020s. The two sides will hammer out the details of the arrangement. The move is in response to the mounting breadth and sophistication of the missile arsenals being developed by China, Russia and North Korea. It also comes as nations begin to look at space as a final frontier for warfare.

China lifted this year's defense budget 6.6% to around \$180 billion. It possesses about 2,000 medium-range missiles that are capable of striking Japan. Beijing has hundreds of nuclear warheads under its belt, and experts say the number will more than double over the next decade. China has strategically leveraged its missile threat to keep other nations at bay while it engages in maritime expansionist activities. Beijing is using its missile arsenal to undermine the military balance in East Asia, and thereby lift its diplomatic clout. North Korea, which has hundreds of Nodong medium-range missiles, continues in its quest to miniaturize nuclear warheads. Long-range missiles and nuclear weapons serve as bargaining chips in diplomatic relations with the U.S.

<https://asia.nikkei.com/Politics/International-relations/US-and-Japan-plan-fleet-of-low-orbit-satellites-to-track-missiles>



## Abe's milestone met with groans except in home constituency

*The Asahi Shimbun, August 25, 2020*

There was much rejoicing in the prime minister's home constituency in Yamaguchi Prefecture on Aug. 24 over news that Shinzo Abe had marked a record for consecutive days in office, but in Okinawa, Hiroshima and Nagasaki prefectures, the reaction was a mighty yawn tinged with despair. If Abe wants to leave a political legacy, Fukuhara said resolving the U.S. bases issue should be the one he tackles in his remaining days in office. "Abe will be long remembered if he makes a historic decision to put an end to the Henoko project out of respect for the will of Okinawans," he said.

But there was little enthusiasm to mark the occasion in Hiroshima and Nagasaki, where atomic bomb survivors are still fighting for the global abolition of nuclear weapons. "Abe could have achieved something noteworthy in terms of banning nuclear weapons as he has been in power for so long," said Toshiyuki Mimaki, a senior official with the Hiroshima Prefecture Confederation of Atomic Bomb Sufferers Organization. Mimaki, 78, urged Abe to adopt policies that will give hope to survivors when he met with the prime minister, but no action followed. Japan, the only nation to have experienced atomic bombing, has yet to sign the U.N. Treaty on the Prohibition of Nuclear Weapons of 2017 despite mounting calls from hibakusha in Hiroshima and Nagasaki.

<http://www.asahi.com/ajw/articles/13666257>

### N. Misc

## What is the U.S. threat to trigger 'snapback' of U.N. sanctions on Iran?

*Michelle Nichols*

*Reuters, August 18, 2020*

U.S. President Donald Trump's administration plans to try this week to trigger a return of all U.N. sanctions on Iran after the U.N. Security Council rejected Washington's bid to extend an arms

embargo on the country. Here is a look at the events leading to this showdown and an explanation of what could happen next. The Security Council imposed an arms embargo on Iran in 2007. The embargo is due to expire in mid-October, as agreed to under the 2015 nuclear deal among Iran, Russia, China, Germany, Britain, France and the United States that prevents Tehran from developing nuclear weapons in return for economic sanctions relief. That accord is enshrined in a 2015 Security Council resolution.

[https://in.reuters.com/article/uk-usa-iran-un-arms-explainer/explainer-what-is-the-u-s-threat-to-trigger-snapback-of-u-n-sanctions-on-iran-idINKCN25E2JR\\_](https://in.reuters.com/article/uk-usa-iran-un-arms-explainer/explainer-what-is-the-u-s-threat-to-trigger-snapback-of-u-n-sanctions-on-iran-idINKCN25E2JR_)

## Thirteen of 15-member U.N. Security Council oppose U.S. push for Iran sanctions

*Michelle Nichols*

*Reuters, August 21, 2020*

The United States was further isolated on Friday over its bid to reimpose international sanctions on Iran with 13 countries on the 15-member U.N. Security Council expressing their opposition, arguing that Washington's move is void given it is using a process agreed under a nuclear deal that it quit two years ago. In the 24 hours since U.S. Secretary of State Mike Pompeo said he triggered a 30-day countdown to a return of U.N. sanctions on Iran, including an arms embargo, long-time allies Britain, France, Germany and Belgium as well as China, Russia, Vietnam, Niger, Saint Vincent and the Grenadines, South Africa, Indonesia, Estonia and Tunisia have already written letters in opposition, seen by Reuters.

The United States has accused Iran of breaching a 2015 deal with world powers that aimed to stop Tehran developing nuclear weapons in return for sanctions relief. But President Donald Trump described it as the "worst deal ever" and quit in 2018. Diplomats said Russia, China and many other countries are unlikely to reimpose the sanctions on Iran. Pompeo again warned Russia and China against

that on Friday, threatening U.S. action if they refuse to reimpose the U.N. measures on Iran. The United States acted on Thursday after the Security Council resoundingly rejected its bid last week to extend an arms embargo on Iran beyond its expiration in October. Only the Dominican Republic joined Washington in voting yes.

[https://in.reuters.com/article/usa-iran-un/thirteen-of-15-member-u-n-security-council-oppose-u-s-push-for-iran-sanctions-idINKBN25H1WS\\_](https://in.reuters.com/article/usa-iran-un/thirteen-of-15-member-u-n-security-council-oppose-u-s-push-for-iran-sanctions-idINKBN25H1WS_)

### **The Prospects of Nuclear Disarmament in the New Nuclear Architecture**

*Hamzah Taoqeer*

*Modern Diplomacy, August 21, 2020*

The Nuclear Non-Proliferation Treaty (NPT) is the foundation for the nuclear arms control and disarmament initiatives. Since coming into effect in 1970, the P5 have failed to act upon Article-VI of the NPT which states: Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race... and complete disarmament.

Thus, the failure of implementation by major powers have impacted the credibility of the non-proliferation initiatives. Moreover, the non-compliance have instilled discord and mistrust among the Nuclear Weapon States (NWS) and Non-Nuclear Weapon States (NNWS). During 2019 NPT Preparatory Committee (PrepCom) which was held at UN headquarters in New York from 29 April to May 10, United States (US) proposed a new initiative for nuclear disarmament termed as "Creating an Environment for Nuclear Disarmament" (CEND) aiming to implement NPT Article (VI) modify security environment to achieve cooperation and trust and enhance confidence in nuclear disarmament. Sweden put forward its working paper "Stockholm Initiatives or Stepping Stone Approach" exploring paths to rebuild 'habits of cooperation, reducing uncertainty and identifying measures to reduce the risk of nuclear use. Further, US proposed trilateral arms control initiative calling upon Russia

and China to participate. This issue brief tries to implore the causes, international impact and prospects behind proposition of new non-proliferation frameworks and whether are these in line with the existing norms based upon NPT or do they form new nuclear architecture.

<https://moderndiplomacy.eu/2020/08/21/the-prospects-of-nuclear-disarmament-in-the-new-nuclear-architecture/>

### **Brazil to choose Angra 3 nuclear partner by year-end -minister**

*Reuters, August 22, 2020*

Brazil will choose by the end of this year its partner to help finance the construction of the Angra 3 nuclear plant, Mines and Energy Minister Bento Albuquerque said on Friday, adding that Chinese banks and the BRICS Development Bank are possible alternatives. Speaking in an online interview with magazine Interesse Nacional, Albuquerque also said the government will soon announce an executive decree to minimize the impact of the coronavirus pandemic on the energy sector, helping consumers in particular.

[https://in.reuters.com/article/brazil-energy-nuclear/brazil-to-choose-angra-3-nuclear-partner-by-year-end-minister-idINSON2ET02Q\\_](https://in.reuters.com/article/brazil-energy-nuclear/brazil-to-choose-angra-3-nuclear-partner-by-year-end-minister-idINSON2ET02Q_)

### **IAEA chief Grossi plans trip to pressure Iran on access to suspect sites**

*Reuters, August 22, 2020*

The U.N. nuclear watchdog's chief Rafael Grossi will make his first trip to Tehran in that role on Monday to pressure Iran to grant inspectors access to two suspected former atomic sites after a months-long standoff, he said. The International Atomic Energy Agency's 35-nation Board of Governors passed a resolution in June raising pressure on Iran to let inspectors into the sites mentioned in two quarterly IAEA reports because they could still host undeclared nuclear material or traces of it. "My objective is that my meetings in Tehran will lead to concrete progress in

addressing the outstanding questions that the Agency has related to safeguards in Iran and, in particular, to resolve the issue of access," Grossi, who took over as IAEA director general in December, said in a statement.

The statement said Grossi would meet "high-level Iranian authorities", without specifying whom. Diplomats in Vienna have said they hope the standoff over access will be resolved before the next Board of Governors meeting in September. "We hope this visit will lead to reinforced mutual cooperation," Iran's ambassador to the International Atomic Energy Agency, Kazem Gharibabadi, said, according to a statement posted by his mission on Twitter.

[https://in.reuters.com/article/iran-nuclear-iaea/iaea-chief-grossi-plans-trip-to-pressure-iran-on-access-to-suspect-sites-idINKBN25I0BM\\_](https://in.reuters.com/article/iran-nuclear-iaea/iaea-chief-grossi-plans-trip-to-pressure-iran-on-access-to-suspect-sites-idINKBN25I0BM_)

## SMR-160 completes first phase of Canadian review

*World Nuclear News, August 24, 2020*

Holtec International's SMR-160 reactor has completed the first phase of the Canadian Nuclear Safety Commission (CNSC)'s vendor design review (VDR) process. The company plans to begin the second phase of the voluntary pre-licensing review in the near future. The Phase 1 VDR for SMR-160 was carried out at the request of the vendor, Holtec subsidiary SMR, LLC, and began in mid-2018. The CNSC has now concluded that Holtec has, overall, demonstrated an understanding of CNSC regulatory requirements and expectations. The review has identified issues Holtec will have to address in the second phase of the VDR process, but the regulator said these issues were "foreseen to be resolvable". "This milestone reinforces our expectation that the SMR-160 will meet Canada's regulatory requirements while also providing valuable feedback that will allow us to further improve the design throughout the ongoing regulatory process," said Holtec International President and CEO Kris Singh.

Areas identified by the CNSC for follow-up include: an explanation of how US codes and standards selected in the Phase 1 assessment

comply with or meet the intent of Canadian requirements; the implementation of fire protection considerations; methodologies for probabilistic safety analysis; R&D activities to substantiate the fuel qualification programme, including the role of a first-of-a-kind reactor; application of the single-failure criterion to the control systems under all operating conditions; adequacy of the shutdown means under all conditions, including scenarios where the main control room is lost; applicability of selected design standards for containment structures; application of research results in the development of the reactor design; and completeness of the R&D programme to inform long-term reactor operation, including ageing and maintenance of structures, systems and components.

<https://www.world-nuclear-news.org/Articles/SMR-160-completes-first-phase-of-Canadian-review>

## India-Vietnam agree to strengthen Indo-Pacific partnership; explore closer co-op in nuclear energy & space

*Dipanjan Roy Chaudhury*

*Economic Times, August 25, 2020*

India and its key SE Asian partner Vietnam on Tuesday decided to explore closer cooperation in emerging areas — civil nuclear energy, space marine sciences and new technologies and decided to expand their Indo-Pacific partnership.

India and Vietnam agreed to enhance their bilateral cooperation in line with India's Indo-Pacific Oceans Initiative (IPOI) and the ASEAN's Outlook on Indo-Pacific to achieve shared security, prosperity and growth for all in the region. India invited Vietnam to collaborate on

one of the seven pillars of the IPOI. This is significant in the backdrop of Chinese aggression in the Indo-Pacific region including South China Sea region.

<https://economictimes.indiatimes.com/news/defence/india-vietnam-agree-to-strengthen-indo->

[pacific-partnership-explore-closer-co-op-in-nuclear-energy-space/articleshow/77747601.cms](https://www.world-nuclear-news.org/Articles/pacific-partnership-explore-closer-co-op-in-nuclear-energy-space/articleshow/77747601.cms)

## **Nuclear generation in 2019 close to record high**

*World Nuclear News, August 25, 2020*

Nuclear reactors generated a total 2657 TWh of electricity in 2019, up from 2563 TWh in 2018, and second only to the 2661 TWh generated in 2006, according to a new World Nuclear Association report. This is the seventh successive year that nuclear generation has risen, it noted. In the World Nuclear Performance Report 2020, the Association details power generation and construction achievements for the previous year. In addition, the report features five case studies covering topics including reactors in France being operated in load-following mode, the operation of reactors during the COVID-19 pandemic, commissioning of the Sanmen 1 AP1000 and the start up of the UAE's first reactor.

At the end of 2019, the global capacity of the 442 operable reactors stood at 392 GWe, down 5 GWe compared with the end of 2018. Six new reactors were connected to the grid, with a combined capacity of 5.2 GWe. Five reactors with a combined capacity of 5.8 GWe started construction in 2019, two in China and one each in Iran, Russia and the UK. The total number of reactors under construction fell by one to 55 over the course of 2019. Thirteen reactors - including four in Japan that had not generated electricity since 2011 - were shut down, with a combined capacity of 10.2 GWe. The median construction time for reactors starting up in 2019 was 117 months. This is above the average achieved since 2001 and is in part due to the majority of reactors entering service last year being first-of-a-kind (FOAK), or reactors that started construction soon after the initial FOAK reactor.

<https://www.world-nuclear-news.org/Articles/Nuclear-generation-in-2019-close-to-record-high>

## **O. Op-Ed**

### **China**

## **Chinese missile launch 'could raise risk of military clash with US'**

*Kristin Huang*

*South China Morning Post, August 27, 2020*

China's missile launch over the South China Sea may push the United States to deploy more missiles and take a more aggressive stance towards Beijing, elevating the risk of an accidental armed conflict, analysts said. The assessment came after China launched Dongfeng missiles, including the DF-26B and DF-21D – seen as "aircraft-carrier killers" – into an area between its southern island province of Hainan and the disputed Paracel Islands on Wednesday, the day after a US U-2 spy plane entered a no-fly zone without permission during a Chinese live-fire naval drill in the Bohai Sea off China's northern coast. The US Defence Department said that the launches threatened peace and security in the region. Beijing's "actions, including missile tests, further destabilise the situation in the South China Sea", the Pentagon said in a statement.

<https://www.scmp.com/news/china/military/article/3099142/chinese-missile-launch-could-increase-chances-military-clash-us>

## **Beijing claims it has warned a US destroyer in South China Sea after missile launch**

*Kinling Lo*

*South China Morning Post, August 28, 2020*

China says it has warned off a US guided-missile destroyer in the South China Sea which was deployed to the disputed waters after a Chinese missile launch in the latest of a series of escalating tensions in the region. The Chinese military said the



destroyer sailed into “China’s territorial waters” near the islands, called the Xisha by China, and the PLA Southern Theatre Command had dispatched naval and air forces and “expelled” the US Navy ship. “China has indisputable sovereignty over the islands in the South China Sea and their adjacent waters in the region, and the command troops are always on high alert to resolutely protect national sovereignty and safeguard peace and stability in the region of the South China Sea”, PLA spokesman Senior Colonel Li Huamin said.

<https://www.scmp.com/news/china/diplomacy/article/3099198/china-says-it-has-expelled-us-destroyer-south-china-sea>

## Pakistan

### Nuclear Threat Initiative Report 2020: Assessing Pakistan’s Position

*Kaleem Naqvi*

*Technology Times, August 18, 2020*

Ever since nuclear weapons have been developed, they have been the key component of the global strategic discourse based on their horrid probabilities. The nuclear disaster like Chernobyl that occurred during the safety test on ‘Reaktor bolshoy moshchnosty kanalny’, a high-power channel reactor (RBMK type) resulted in the death of a lot of people due to acute radiation exposure.

NTI index has three separate rankings which include two theft rankings and one sabotage ranking. According to the theft ranking of the 2020 NTI report, Pakistan has been assessed as the most improved country in terms of security of the nuclear material based on its nuclear security framework. Pakistan has been ranked 19th with a total of 47 points on the grading scale. It is important to highlight that most of the improvement has been identified in the category of ‘Security and Control’ measures with 25 points. Other than this Pakistan has also improved in the category of compliance with the ‘Global Norms’. According to the report, it has strengthened laws and regulations that resulted in a significant boost in Pakistan’s overall score. It is worth

mentioning here that there have never been any incidents like nuclear theft, nuclear accident, or kidnapping of any official related to the nuclear program.

<https://www.technologytimes.pk/2020/08/18/nuclear-threat-initiative-report-2020-assessing-pakistans-position/>

### Analyzing the Decade of Non-proliferation Trends in South Asia

*Hananah Zarrar*

*Modern Diplomacy, August 28, 2020*

It has been more than two decades since Pakistan and India had carried out their nuclear tests. Since then, South Asia has come to the fore as a uniquely challenging nuclearized region of the world. The striking most aspect of this nuclearized region is the presence of three neighboring nuclear weapon states with rival history. Where the non-proliferation and disarmament efforts at the global level have significance, the volatility of South Asia and a continuous presence of escalation ladders have kept it more prone to the vertical proliferation of nuclear weapons with offensive doctrines and strategies. This volatility is directly and indirectly linked with India’s aggressive strategic expansion as well as its non-adherent behavior towards international nuclear norms. This threat perception and a series of provocative actions from India remain the vital cause of Pakistan’s principled stance of neutral based mainstreaming in international nuclear arrangements.

Throughout this period, Pakistan and India both have been building up their nuclear arsenals in pursuit of their doctrinal and deterrence needs. However, they have been suspended to conduct more nuclear weapon tests. With a gradual increase in individual stockpiles, both the nuclear-weapon states now appear to have developed their fully functional arsenals, deliverable by a triad structure that include; air, land, and sea-based platforms. Some of these capabilities are yet to be incorporated and tested successfully. After building infrastructure

for extracting highly enriched uranium and production of plutonium, both the states have established politico-military institutions dedicated to the security, safety, and survivability of their nuclear weapon programs. Meanwhile, along with the international acknowledgment of functional nuclear arsenals in South Asia, the demand for non-proliferation by the international community has kept on increasing. However, this has been impacted by the need of keeping the region strategically stable yet holding deterrence alive.

<https://moderndiplomacy.eu/2020/08/28/analyzing-the-decade-of-non-proliferation-trends-in-south-asia/>

### **Indian Militarization of Outer Space: Security Implications for Pakistan**

*Sher Bano,*

*Modern Diplomacy, August 29, 2020*

India has a long-held desire to be recognized as one of the greatest military powers at the global level. In pursuit of this objective, over the last few years, India has been carrying out a very extensive military modernization program. Along with all the other components of its ongoing military modernization, maintaining a military presence in outer space has been the key focus of the Indian strategic elite. India's space militarization primarily comprises of indigenously developed satellites such as GSAT-6 and GSAT-7 (Geostationary Satellites), and RISAT-2BR1 (Radar Imaging Satellite). India has also acquired ASAT (Anti-satellite weapon) capability after a successful test in early 2019. India's space-based ISR satellites would enhance its counterforce capabilities vis-à-vis Pakistan. Likewise, this would provide India's Command and Control centers with quantifiable and discernable data. These acquired space capabilities would further embolden India's NC2 (Nuclear Command and Control) with more liberty to take decisions. Such a security dilemma would annihilate the South Asian nuclear deterrence equation by providing India with

an incentive to launch a counterforce pre-emptive strike against Pakistan.

<https://moderndiplomacy.eu/2020/08/29/indian-militarization-of-outer-space-security-implications-for-pakistan/>

### **USA**

### **Do US Nuclear Weapons Help Protect Taiwan?**

*Gregory Kulacki*

*All Things Nuclear, August 17, 2020*

At the end of the 1983 movie War Games, a massive US Department of Defense computer plays out every possible nuclear war scenario looking for a way to win. All of them lead to the same dismal end; a global nuclear holocaust. The computer concludes nuclear war is "a strange game" where "the only winning move is not to play." Six months after the movie was released, US President Ronald Reagan told a joint session of Congress, "A nuclear war cannot be won and should never be fought." He repeated it many times afterwards, including in a speech at Fudan University in Shanghai. Unfortunately, US war gamers never let go of the idea that a nuclear war can be won, especially if the adversary is China.

I can understand why. China has a few hundred nuclear weapons. The United States has thousands. The United States also has what are called tactical, non-strategic or low-yield nuclear weapons that China does not have. Some US officials argue if the United States used these low-yield nuclear weapons it would be difficult for China to retaliate without risking escalation to a full scale nuclear war: a war China would lose because its arsenal is so small. They seem to believe China would be unwilling to take that risk even though China has promised to retaliate if attacked with any type of nuclear weapon.

<https://allthingsnuclear.org/gkulacki/do-us-nuclear-weapons-help-protect-taiwan>

## **Viewpoint: You can't have true energy independence without nuclear**

*World Nuclear News, August 24, 2020*

"This is crucial not only for ensuring clean, reliable, and affordable power to the American people, but for our national defense strategy as well. The great State of Pennsylvania plays a vital role in our energy independence strategy for several reasons, and its uniqueness in our national landscape deserves special attention. Under the previous Administration, the USA squandered its potential to produce its own nuclear fuel, thereby threatening our national interest and national security. More alarmingly, America has been on a decades-long descent from its competitive global position as the world leader in nuclear energy and technology, losing ground to state-owned enterprises, including those in Russia, China, and other competitor nations that are aggressively moving to surpass the United States. Under the Trump Administration, we are putting nuclear energy back at the forefront. We are pursuing every avenue possible to ensure reliable production of this vital energy resource. Nuclear energy is necessary for true energy independence.

<https://www.world-nuclear-news.org/Articles/Viewpoint-You-cant-have-true-energy-independence>

## **Can the INF treaty survive after U.S. withdrawal?**

*Abdul Habeeb*

*Modern Diplomacy, August 26, 2020*

Intermediate-Range Nuclear Force treaty (INF) treaty was signed between the United States and Union of Soviet Socialist Republics in 1987. Ronald Reagan and Michael Gorbachev signed this treaty. Under this treaty, both states were bound to destroy their ballistic and cruise missiles with a range between 500 to 5500 KM. The United States initiated this treaty because, at that time, the Soviet Union had SS-20 missiles, and its waves were able to cover the whole of Europe, so the United States

wanted to dismantle it. It was one of the most successful treaties of the Cold War era that has dismantled 2692 missiles of both states, i.e., the Soviet Union dismantled 1846 missiles, whereas America destroyed its 846 missiles. INF treaty started getting weakened by the time when the United States started alleging Russia for violating the obligations of the treaty that Russia has tested missiles had with a range above 500 Km. Nevertheless, Russia denied this allegation and passed the statement that 9M729 missile consists of 480 Km range and does not exceed the treaty limitation. Then, in 2016 Donald Trump became the president of the United States. The suspension of the INF treaty in February 2019 and provided six months to Russia to comply with this treaty. Nevertheless, the US used Russian violation as a pretext and officially declared its withdrawal in August 2019. In addition to this, the primary reason behind the US withdrawing was to contain China because China was not a part of this treaty. In the contemporary world, China is becoming one of the significant threats for US hegemony. In order to analyze the historical time, the United States has always used its power against those states who have threatened its positions. China is emerging in Asia due to which US hegemony is being threatened and want to contain China by making INF treaty Asia-Pacific centric. The step taken by the US has undermined the mutual trust of the states as well as affected the security of Europe due to which the US is facing criticism from other countries that it has increased the risk of military conflict.

Realism is the most prominent theory of International Politics. This theory sees the world with a realistic and pragmatic perspective. It deals with the two major concepts of international relations: 'Security' and 'Power.' For every nation, "security" is the prime interest, and to fulfill this interest, power is the leading source. Power and security can be called as two sides of the same coin. Offensive realism deals with maximization of power rather than security and seeks towards hegemony rather than equality, whereas

Defensive realism theorists believe that state must seek power enough for its security rather than accumulating excessive power. The United States is focusing on offensive realism because the hegemon state will use all its power to prevent the rise of competitors in order to stay dominant. Now the US did not bother about the security of European states and withdrew from the INF treaty that has arisen the factor of the arms race in the world. So, there is no central authority that can make concrete decisions due to which states create their self-help system to ensure their survival. China is emerging and creating a military threat to the United States. So, the United States pulled out of the INF treaty so that it could make itself free from the limitations and make a missile of those ranges that are banned under this treaty only to contain China. Three perspectives could be made on US withdrawal: First, intermediate missiles are inexpensive for the US than air and naval assets, it will be useful to deter China and more survivable than air and sea-based missiles. However, the US did not consult with its Asian allies before withdrawing the treaty, whether they will allow the US to deploy its missiles on their territory. For the US, it would be one difficult task to attain because it is digging itself into one of the most complicated processes, i.e., a long process of negotiation will take place between the US and its Asian allies.

<https://modern diplomacy.eu/2020/08/23/can-the-inf-treaty-survive-after-u-s-withdrawal/>

## Russia

### Does Russia Really Have a Nuclear-Armed Hypersonic Missile?

*Kris Osborn*

*National Interest Blog, August 20, 2020*

Does Russia really have a nuclear-armed hypersonic missile able to travel at 20-times the speed of sound to instantly destroy targets, penetrate air defenses and overwhelm enemies before there is a chance to respond? A Russian newspaper says yes, adding that Russia has completed the “experimental design work to develop the Avangard missile systems with the boost-

glide vehicle capable of breaching existing and future anti-ballistic missile defenses.”

Avangard is reported to be an Intercontinental Ballistic Missile (ICBM) with both hypersonic speed and an ability to fly a “maneuvering” flight path through the atmosphere. Boost-glide hypersonic weapons are built to skim along the upper boundaries of the earth’s atmosphere before using the sheer speed of descent to close in on targets with kinetic energy warheads. The principle advantage with hypersonics is, of course, time—an ability to deprive an enemy with any ability to respond.

<https://nationalinterest.org/blog/buzz/does-russia-really-have-nuclear-armed-hypersonic-missile-167371>

### New Video Shows Largest Hydrogen Bomb Ever Exploded

*William J. Broad*

*New York Post, August 25, 2020*

Hydrogen bombs — the world’s deadliest weapons — have no theoretical size limit. The more fuel, the bigger the explosion. When the United States in 1952 detonated the world’s first, its destructive force was 700 times as great as that of the atomic bomb that destroyed Hiroshima. And in the darkest days of the Cold War, the Soviets and the Americans didn’t only compete to build the most weapons. They each sought at times to build the biggest bomb of all.

“There was a megatonnage race — who was going to have a bigger bomb,” said Robert S. Norris, a historian of the atomic age. “And the Soviets won.” Last week, the Russian nuclear energy agency, Rosatom, released a 30-minute, formerly secret documentary video about the world’s largest hydrogen bomb detonation. The explosive force of the device — nicknamed Tsar Bomba, or the Tsar’s bomb, and set off on Oct. 30, 1961 — was 50 megatons, or the equivalent of 50 million tons of conventional explosive. That made it 3,333 times as destructive as the weapon used on Hiroshima, Japan,



and also far more powerful than the 15 megaton weapon set off by the United States in 1954 in its largest hydrogen bomb blast.

<https://www.nytimes.com/2020/08/25/science/tsar-bomba-nuclear-test.html>

### **US tones down arms control demands, may have lost time for deal with Russia, says expert**

*TASS News Agency, August 27, 2020*

The United States has toned down its positions on nuclear disarmament but may have lost essential time to cultivate further bilateral agreements with Russia in this area, Director of American Arms Control Association Daryl Kimball said in an interview with TASS on Wednesday. He commented on recent statements by US Special Presidential Envoy for Arms Control Marshall Billingslea who admitted that “there has been a shift” in the approach of the Trump administration to nuclear talks with Russia.

A new round of interagency Russia-US consultations on these issues, including the possibility of extending the Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (the New START Treaty) was concluded on August 18 in Vienna chaired by Russian Deputy Foreign Minister Sergei Ryabkov and Billingslea.

<https://tass.com/politics/1194295>

## **East Asia**

### **North Korea**

#### **N. Korea’s endless struggle**

*Tong Kim*

*Korea Times, August 24, 2020*

North Korea is going through a triple-crisis from sanctions, the pandemic and recent flood damage – collectively hampering the development of its economy. The regime publicly admitted that its five-year economic plan, adopted by the 7th Congress of the

Workers’ Party in 2016, has failed to achieve its goal of “improving the national economy and the people’s living standard” due to “severe internal and external situations and unexpected manifold challenges.” Addressing the 6th plenary meeting of the 7th Central Committee of the Workers’ Party on Aug. 19, Kim Jong-un personally acknowledged “the shortcomings” in implementing the economic plan. He attributed the failure to “unexpected and inevitable challenges in various aspects and the situation in the region surrounding the Korean Peninsula.” With that, he announced the convening of the 8th Congress of the party in January 2021, which he said will present a new five-year plan.

North Korea is not responding. In addition to the fear of the pandemic, there are other reasons that Kim Jong-un declines any flood aid from the South and other international sources. Not long ago, the North blew up the inter-Korean liaison office in Gaeseong, vowing not to deal with the South again. It needs time to readjust its position to face the South again. Sometimes the North Koreans tend to be too proud to be pragmatic. The regime had also undertaken a “frontal breakthrough” to the sanctions for a self-reliant economy. The North survived until now, developing their warfighting weapons. Maybe, with the new disclosure of their failed economy, the sanctions may be proving their efficacy. Yet, it is too early to expect the regime to navigate a new strategic course. According to the NIS, Kim Yo-jong is the control tower over policies to the South and the U.S. Pak Bong-ju and Kim Tok-hun, cabinet premiers, former and present respectively, are responsible for economic development. Ri Pyong-chol, vice chair of the party’s Central Military Commission, is in charge of strategic weapons development, and Choe Pu-il, a department director of the party Central Committee, has military affairs.

[http://www.koreatimes.co.kr/www/opinion/2020/08/137\\_294825.html](http://www.koreatimes.co.kr/www/opinion/2020/08/137_294825.html)

## US nuclear policy and posture: bending toward Asia?

Steven Andreasen

*Korea Times, August 26, 2020*

As long as China and North Korea are potential U.S. nuclear adversaries, the United States will plan for the possible use of nuclear weapons against both. Presumably the same is true for China and North Korea. While the U.S.-Asia nuclear dynamic is perhaps still years away from achieving co-equal status with the U.S.-Russia dynamic, it could evolve to where China in particular becomes much more important. The result may not be "stable deterrence" but rather both sides dug in more precariously on the nuclear ledge, with increasing risks of an accident, mistake, or miscalculation precipitating a dangerous fall into the precipice.

The forces driving increased tensions in the Asia-Pacific region are considerable, perhaps unlikely to be ameliorated for decades. China's substantial military and nuclear modernization program and assertive military posture in the East and South China Seas alarm Washington. Recent missile tests suggest North Korea is striving to improve its capability to strike targets in the region, and may be able to fit a nuclear device on short- to intercontinental-range ballistic missiles. On the U.S. side, the Trump administration's Nuclear Posture Review (NPR) expands the purpose of nuclear weapons to include a broader range of non-nuclear scenarios, including cyberattacks. The Trump NPR supports new nuclear capabilities, including a low-yield Trident submarine-launched nuclear warhead and a new nuclear-armed sea-launched cruise missile, to deal in part with China's "modernizing and expanding" nuclear forces and "assertive military initiatives." An Asian nuclear competition with few guardrails or constraints – fueled by actions in Beijing, Pyongyang and Washington – is a real risk.

[http://www.koreatimes.co.kr/www/opinion/2020/08/137\\_294892.html](http://www.koreatimes.co.kr/www/opinion/2020/08/137_294892.html)

## South Korea

### Is Doosan's wind power ready for Green New Deal?

Kim Hyun-bin

*Korea Times, August 16, 2020*

The government's announcement of "Green New Deal" initiatives has given some breathing room to Doosan Heavy Industries & Construction, which has been suffering financial difficulties as a result of the government's reduction and halting of nuclear power plant development in the country, as it had been a major cash-cow for the company. The company has come up with a new portfolio working towards developing eco-friendly renewable energy sources, especially showing strength in wind power.

Doosan Heavy is the only company here that has the technologies to develop marine wind power generators with each unit producing 5.5MW of power. The company aims to increase power production to 8MW by 2022. As of late June, Doosan Heavy has constructed 79 wind power generators around Jeju Island and on the country's east coast supplying 239.5MW of power. "Many countries have developed or are starting to develop marine wind power generators. Doosan Heavy's 8MW large marine wind power generators are suitable for the local terrain and low-wind environments. Even at low wind speeds averaging 6.5 meters per second the generators were made to operate at over 30 percent efficiency," an industry official said. "The government's Green New Deal initiatives will increase wind power adoption in low-wind environments like Korea, and many of the projects could utilize Doosan's marine wind power generators."

[http://www.koreatimes.co.kr/www/tech/2020/08/129\\_294253.html](http://www.koreatimes.co.kr/www/tech/2020/08/129_294253.html)

## Japan

### Buildings that survived the A-bombs should be saved for history

*The Asahi Shimbun, August 25, 2020*

What should be done to ensure that memories of the horrors that occurred under the mushroom clouds over Hiroshima and Nagasaki 75 years ago will be passed down through future generations? With the ranks of the survivors of the 1945 atomic bombings of these cities shrinking year after year, buildings and facilities that survived the devastation are valuable witnesses that help keep memories about people who lived at that time remembered as part of history.

Preserving and making good use of them is a duty of Japan as the only country that has ever suffered nuclear attacks in war. In Hiroshima, debate is raging on the prefectural government's plan to partially demolish an old garment depot that survived the atomic bombing of the city. The four buildings of the former Hiroshima Army Clothing Depot were built in 1913 from concrete reinforced with steel bars and have brick outer walls. The depot was used to make military uniforms and shoes. The facility symbolized Hiroshima's role as a hub of military operations during Japan's military expansion abroad but also provided temporary shelter to victims immediately after the bomb was dropped on the city. Many people died within the facility.

<http://www.asahi.com/ajw/articles/13665746>

#### **P. Think tanks**

### Are Gulf Arab States Aligning Toward Israel?

*Ray Takeyh*

*Council on Foreign Relations, August 17, 2020*

Israel has had a long-standing, although quiet, relationship with the smaller Gulf states such as Bahrain, Oman, and the United Arab Emirates.

Bahrain and Oman are the mostly likely Gulf states to next move toward normalizing

relations with Israel, while also seeking to maintain ties with Iran. This will not be easy. There is much concern in the Gulf that the United States has not been a steadfast opponent of Iran even despite the current administration's "maximum pressure" sanctions campaign against the regime. Gulf leaders considered the Barack Obama administration's nuclear agreement with Iran to be too lenient and have noted President Donald J. Trump's comments about reaching a new accord with Tehran. And Democratic presidential candidate and former Vice President Joe Biden has already committed himself to reviving the nuclear agreement if elected, thus easing sanctions on Iran.

<https://www.cfr.org/in-brief/are-gulf-arab-states-aligning-toward-israel>

### The vaccine and the satellite: A tale of two Sputniks

*Matt Field*

*Bulletin of Atomic Scientists, August 24, 2020*

On October 4, 1957, Soviet scientists shocked the world and launched a "new moon" into Earth's orbit, a metal beach ball-sized sphere with radio transmitters and batteries. Amateur radio enthusiasts and the news media listened for Sputnik, the first manufactured satellite, as it circled 500 miles overhead beeping—a simple sound that conveyed a powerful message: The Soviet Union had beaten the United States into space and had the technology to launch a missile-bound nuclear weapon at cities around the world. Fast forward nearly 63 years, and the Russian government is again touting a transformative scientific achievement, what it is calling the first "registered" vaccine against COVID-19.

In a zero-nuance PR campaign, a government investment fund and the vaccine developer are figuratively tying the inoculation directly to the glory days of the space race. They're calling the vaccine Sputnik V and have even released an animation showing a satellite shaped vaccine destroying a planet-sized SARS-

CoV-2 virus.

After the Soviets launched the first Sputnik, the physicist William C. Davidon wrote in the Bulletin, the “myth of inherent US supremacy in scientific, engineering, and other material accomplishments has been all but destroyed.” On the geopolitical myth-shattering meter, the latest Sputnik iteration hasn’t scored so high. Earlier this month, the Russians announced plans to begin dosing doctors and teachers with the vaccine in October, even though the inoculation has yet to undergo large-scale testing.

Amid fierce criticism from figures like Anthony Fauci, a top US government infectious disease expert, the vaccine developers have since announced further testing, a large 40,000 person trial. For Russians watching the major TV networks or reading mainstream newspapers, however, the vaccine Sputnik is already presented as living up to its namesake: a pinnacle of Russian scientific and technical prowess.

<https://thebulletin.org/2020/08/the-vaccine-and-the-satellite-a-tale-of-two-sputniks/>

### **If Trump and Biden agree there shouldn’t be a nuclear waste site at Yucca Mountain, can’t we all?**

*David Klaus*

*Bulletin of Atomic Scientists, August 26, 2020*

Believe it or not, there is an issue on which Donald Trump and Joe Biden agree: Both have announced their opposition to building an underground repository to permanently store nuclear waste at Yucca Mountain in Nevada. With the presidential candidates on record, it is time for everyone else to accept that Yucca Mountain is finally off the table, and for the United States to begin to seriously consider realistic alternatives for safely managing the more than 80,000 tons of spent nuclear fuel currently sitting at 72 operating and shut-down commercial nuclear reactor sites across the country.

US policy regarding spent fuel disposal has been hung up for decades on whether to build a repository at Yucca Mountain. The site has been controversial since 1987, when Congress designated it as the future home for high-level radioactive waste – provided, of course, that it meets all technical requirements and is licensed by the Nuclear Regulatory Commission. Thirty-plus years and more than \$15 billion later, all technical work to assess the site’s suitability has stopped and the licensing review is dead in the water. The US Congress has refused to appropriate funds to the project for years. And because the government has not met its commitment to begin accepting waste for disposal in 1998, it is forced to pay utilities more than \$600 million every year to store their spent fuel on site. Moreover, the most realistic approach for managing the tons of spent fuel—an interim storage facility—is held hostage to progress on Yucca Mountain. Current law requires that the NRC issue a license for Yucca Mountain before a consolidated interim storage could begin to accept spent fuel.

<https://thebulletin.org/2020/08/if-trump-and-biden-agree-there-shouldnt-be-a-nuclear-waste-site-at-yucca-mountain-cant-we-all/>



## Contribute Articles

Indian Pugwash Society welcomes research articles from students, researchers and faculties on Space, Missile, nuclear technology, WMD proliferation, arms control, disarmament, export controls and other related issues. Articles should be crisply written and should address contemporary debates in the policy arena. Manuscripts submitted for the consideration of the Indian Pugwash Society should be original contributions and should not have been submitted for consideration anywhere else. For further assistance, please contact us at : indianpugwashsociety@gmail.com

The Indian Pugwash Society aims to promote the study, discussion, and knowledge of and to stimulate general interest in, and to diffuse knowledge in regards to problems relating on WMD proliferation, arms control, disarmament, space security, export controls, nuclear technology and other related issues. This newsletter is part of the project "Emerging Nuclear Order in Asia: Implications for India" sanctioned to us by Department of Atomic Energy-Board of Research in Nuclear Sciences (DAE-BRNS).

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