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India

India marks four successful decades of scientific endeavour in Antarctica with the return of the 40th Scientific Expedition to Antarctica in April 2021

PIB Delhi, April 16, 2021

The 40th Scientific Expedition to Antarctica (40-ISEA) hosted by the Ministry of Earth Sciences successfully returned to Cape Town on April 10, 2021, after completing a journey of ~12 thousand nautical miles in 94 days, including stopovers. This achievement concludes four successful decades of India's scientific endeavour in the continent of peace and cooperation.

The 40-ISEA comprised Indian scientists, engineers, doctors, and technicians, who began their journey from the Mormugao Port of Goa to Antarctica on January 07, 2021. The team reached its destination station Bharati on February 27, 2021, and Maitri on March 08, 2021. Bharati and Maitri are India's permanent research base stations in Antarctica. The stations are approachable only during the austral summer season between November and March. On its way to Antarctica, the voyage team deployed four autonomous Ocean Observing DWS (Directional Wave Spectra) wave drifters between 35-degree and 50-degree south latitudes in collaboration with Indian National Centre for Ocean Information Services (INCOIS) Hyderabad. The drifters would transmit real-time data of spectral characteristics of waves, sea surface temperatures, and sea-level atmospheric pressure to INCOIS, Hyderabad, which will help validate weather predictions in a big way. The 40-ISEA was onboard the MV VasiliyGolovnin, a chartered ice-class vessel. It made stopovers at Cape Town for picking up helicopters and replenishing fuel and provisions and at the Indian research bases Bharati and Maitri for resupply and changeover of winter crew.

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=1712402>

India closer to building world's biggest nuclear plant: French firm EDF

India Today, April 24, 2021

French energy group EDF took Friday a key step towards helping to build the world's biggest nuclear power plant in India, a project blocked for years by nuclear events and local opposition. The company said it had filed a binding offer to supply engineering studies and equipment to build six, third-generation EPR reactors in Jaitapur, western India. Once finished, the facility would provide 10 gigawatts (GW) of electricity, roughly enough for 70 million households.

<https://www.indiatoday.in/india/story/india-closer-to-building-world-biggest-nuclear-plant-french-firm-edf-1794482-2021-04-24>

Study by Indian Astronomers provides clues to explosion mechanism of supernovae that are key measure of cosmological distances

PIB Delhi, April 28, 2021

In 2011, the Nobel Prize was awarded to three scientists for discovering that the Universe is expanding at an ever-accelerating rate through observations of distant supernovae. Now a team of Indian astronomers observing such distant supernovae have narrowed down the possible mechanisms of explosion of such supernovae which provide key measures of cosmological distances. Their detailed study of a supernova called SN 2017hpa, a particular type of supernovae called I a supernova, which exploded in 2017 helped narrow down the explosion mechanism of the supernovae by observations of unburned carbon in the early phase spectra.

The explosive death of a star as a supernova is one of the most spectacular and catastrophic events in the Universe. Type Ia supernovae are the result of explosions of white dwarfs that exceed their mass beyond the Chandrasekhar limit through accretion of matter. Their homogeneous nature makes them extremely good standardizable candles to measure cosmological distances. However, the explosion mechanisms which create these supernovae (SNe), and the exact nature of their progenitor systems (star which is at the origin of a supernova phenomenon) are still not yet clearly understood. While most SNeIa are homogeneous, a good fraction of these events show diversity in both their light curve as well as spectral properties.

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=1714607>

Cosmic rays propagating through Milky Way interact with matter producing excess antimatter counterpart of electron

PIB Delhi, April 30, 2021

High energy particles are generally lower in number in the cosmic universe. But the excess number of high energy particles of the antimatter counterpart of the electrons, called positrons have intrigued scientists for long. Now they have found an explanation for this mystery. Over the years astronomers have observed an excess of antimatter counterpart of the electron or positrons having an energy of more than 10 giga-electronvolts, or 10 GeV. For an estimate, this is the energy of a positively charged electron accelerated across a 10,000,000,000 volt battery! Positrons with energy more than 300 GeV, however, are lower in comparison to what astronomers expect. This behaviour of positrons between 10 and 300 GeV is what astronomers call the 'positron excess'.

Researchers from the Raman Research Institute (RRI), Bengaluru, an autonomous institution of the Department of Science and Technology have resolved the mystery in a new study published in the Journal of High Energy Astrophysics. Their proposal is simple — cosmic rays while propagating through the Milky Way galaxy interact with matter producing other cosmic rays, primarily electrons and positrons. The authors Agnibha De Sarkar, Sayan Biswas and Nayantara Gupta argue that these new cosmic rays are the origin of the 'positron excess' phenomenon.

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=1715111>

China

China should actively consider legal battle against Japan's wastewater plan: experts

Yu Jincui

Global Times, April 17, 2021

China should proactively prepare a legal battle against Japan, as it will likely be the biggest victim if Japan dumps more than a million tons of radioactive wastewater from the wrecked Fukushima nuclear plant into the Pacific Ocean, experts said on Saturday at a symposium. Specifically, China should consider making good use of international judicial procedures and appeal to the International Court of Justice (ICJ) or the International Tribunal for the Law of the Sea (ITLOS), experts noted. Japan announced its decision to dump contaminated nuclear wastewater into the Pacific Ocean on April 13, sparking widespread concern within Japan as well as countries in the Asia-Pacific including South Korea and China.

Many well-known international organizations and environmentalists have drawn conclusions that Japan's move will bring considerable risks to people's lives and great damage to ecology and the environment. The German Institute GEOMAR predicts that Japan's nuclear wastewater will pollute half of the Pacific Ocean in 57 days, and 3 years later, Canada and the US will also be affected.

<https://www.globaltimes.cn/page/202104/1221303.shtml>

China deploys long-range rocket launcher 'as deterrent to India'

Minnie Chan

South China Morning Post, April 19, 2021

The People's Liberation Army has deployed an advanced long-range rocket launcher to the Himalayas, in a move aimed at reinforcing China's border defence and acting as a deterrent to India, according to a military mouthpiece and analysts. It is the first time that the PLA has confirmed the deployment of long-range rocket systems to the border with India, after the neighbours last week failed to reach agreement in their latest round of corps commander-level talks over full disengagement along the disputed frontier. An artillery brigade stationed 5,200 metres (17,000 feet) above sea level in Xinjiang military district has intensified its drills using a rocket system during full-wing combat-ready training, a report on the front page of PLA Daily said.

<https://www.scmp.com/news/china/military/article/3130179/china-deploys-long-range-rocket-launcher-deterrent-india>

China makes breakthrough in large-scale cryogenic refrigeration technology Xiong Xinyi

Global Times, April 19, 2021

China's large-scale cryogenic refrigeration technology, which is fundamental for important industrial sectors such as aerospace and hydrogen energy, has made a major breakthrough, with the ability to cool down -271C with hundred-watt level power. China's major scientific research project for developing the large-scale cryogenic refrigeration system in liquid helium to superfluid helium temperature range has passed experts' appraisal, Xinhua reported on Saturday. This project is supported by the Ministry of Finance and undertaken by the Technical Institute of Physics and Chemistry of the Chinese Academy of Sciences (TIPC-CAS).

<https://www.globaltimes.cn/page/202104/1221398.shtml>

Chinese FM denounces Japan's pseudoscience on radioactive water, urges it to take responsibility

Global Times, April 20, 2021

Japan should uphold a scientific attitude, face up to opposition from the international community and correct its irresponsible decision to dump radioactive water into the ocean, instead of confusing the public with pseudoscience, China's Foreign Ministry spokesperson.. Japan's claim that China and South Korea have lower standards for the treatment of wastewater from nuclear power plants than Japan is complete pseudoscience, said spokesperson Wang Wenbin at a press conference. Wang said

that there is a core difference between normal sewage from nuclear power plants such as in China and South Korea and Fukushima nuclear wastewater.

"The discharge of sewage from a normal operating nuclear power plant complies with internationally accepted standards, whereas the Fukushima nuclear water contains a large amount of radionuclide used to cool off the nuclear reactor after the Fukushima accident, which will have a huge impact on the global marine environment," said Wang.

<https://www.globaltimes.cn/page/202104/1221571.shtml>

Deputy chief economist of China National Nuclear Corporation being investigated

Global Times, April 21, 2021

Liu Houcheng, deputy chief economist of China National Nuclear Corporation (CNNC), is being put under investigation for suspected discipline and legal violations, according to an announcement released by China's top anti-graft watchdog. Liu has been placed under disciplinary and supervisory investigation by discipline inspection and supervision group of CNNC and Henan provincial regulatory commission for suspected severe violations of disciplines and laws, an official statement said.

<https://www.globaltimes.cn/page/202104/1221664.shtml>

China to support Russia-proposed meeting of 5 nuke powers: observer

Yang Sheng and Xia Wenxin

Global Times, April 21, 2021

Russian President Vladimir Putin once again urged in his annual address to the Federal Assembly on Wednesday for permanent members of the UN Security Council, who are also the five major nuclear-armed powers in the world, to discuss issues related to strategic weapons and global stability, with a Chinese expert saying China would be the most supportive one while the US and the UK would be lukewarm. The subject of such negotiations would be the establishment of a mechanism of conflict-free coexistence based on a security equation, Putin said, stressing that the US, Russia, China, the UK and France have a "special responsibility" in this regard.

Sun Zhuangzhi, head of the Institute of Russian, Eastern European and Central Asian Studies of the Chinese Academy of Social Sciences, told the Global Times that on the one hand, Russia is proposing such an initiative to highlight its status as a major power, as well as a permanent member of the UN Security Council; on the other hand, Moscow hopes that the current world system will return to a healthier and more normal track with the UN at its core. Putin also hopes to de-escalate the conflict with the West by setting a new agenda for dialogue, especially with the US, so that Russia's international situation can be improved, Sun said. As for the reactions from the other four major nuclear-armed powers, Sun said China will be the most supportive one, and then France, while the US and UK will unlikely support Russia's initiative, Sun said.

<https://www.globaltimes.cn/page/202104/1221760.shtml>

China's new nuclear reactors could yield weapons-grade plutonium, warns US commander

South China Morning Post, April 22, 2021

The country is developing fast breeder reactors as it seeks to reduce dependence on coal, but they can produce material with potential for military use. The US Strategic Command head says this will 'change the upper bounds of what China could choose to do' in terms of expanding its nuclear capabilities. A new generation of nuclear power facilities that China is developing could produce large amounts of plutonium that could be used to make nuclear weapons, the head of the US Strategic Command warned lawmakers this week.

China is developing fast breeder reactors and reprocessing facilities as it seeks to reduce dependence on coal, a top source of carbon emissions. But the plants also produce plutonium that could be used to make nuclear weapons. The first fast breeder reactor is projected to come on line in 2023. China's first Hualong One nuclear reactor begins commercial operations "With a fast breeder reactor, you now have a very large source of weapons grade plutonium available to you, that will change the upper bounds of what China could choose to do if they wanted to, in terms of further expansion of their nuclear capabilities," Navy Admiral Charles Richard, commander of the US Strategic Command, told the Senate Armed Services Committee on Tuesday. Stratcom oversees the US nuclear weapons

arsenal.

<https://www.scmp.com/news/world/united-states-canada/article/3130518/chinas-new-nuclear-reactors-could-yeild-weapons>

3 new world-class warships commissioned together, shoring up 'nuke retaliation, S.China Sea security, island seizing'

Liu Xuanzun and Guo Yuandan

Global Times, April 24, 2021

President Xi Jinping commissioned three main battle warships into the Chinese People's Liberation Army (PLA) Navy on Friday, the service's 72nd founding anniversary, with analysts saying on Saturday that the unprecedented, concentrated warship commissioning represents the rapid development of the PLA Navy and Chinese shipbuilding industry amid the grave military struggle pressure China is facing.

According to report footage, the three large warships are likely a Type 09IV nuclear-powered strategic ballistic missile submarine, a Type 055 large destroyer, and the country's first Type 075 amphibious assault ship, observers said, noting that the displacement of the three vessels combined is larger than the total displacement of many countries' entire navies. President Xi, also general secretary of the Communist Party of China Central Committee and chairman of the Central Military Commission, attended the commissioning ceremony of three PLA Navy warships, namely the Changzheng 18 (hull 421), the Dalian (hull 105) and the Hainan (hull 31), at a naval port in Sanya, South China's Hainan Province, on Friday, the PLA Daily reported.

<https://www.globaltimes.cn/page/202104/1221970.shtml>

IAEA to invite China to joint technical team to supervise Fukushima water dumping: Chinese FM

Global Times, April 26, 2021

The International Atomic Energy Agency (IAEA) has confirmed that China will be invited to join a technical working group to evaluate and supervise Japan's plan of dumping Fukushima nuclear contaminated wastewater to the ocean, the Chinese Foreign Ministry said on Monday. China has maintained that the IAEA should establish a technical working group, including China and other stakeholders, to work on Japan's nuclear wastewater disposal plan and the follow-up international assessment and monitoring, as soon as possible, said Chinese Foreign Ministry spokesperson Wang Wenbin during a routine press conference.

The IAEA has been actively engaged in setting up the technical group, and it has confirmed to China that Chinese experts will be invited to join the group, said Wang, noting that China will fully support the follow-up work of the institution. Rafael Mariano Grossi, director general of the IAEA, said in an interview on April 14 that the agency would manage the assistance operation with Japan and also seek assistance from other international experts to "enrich the quality of the whole operation," reported Kyodo News. Wang said China is gravely concerned about Japan's irresponsible move, a reaction that is totally understandable and justified as China is an important stakeholder. He also urged Japan to earnestly address the concerns of China and the international community before dumping the contaminated water into the ocean.

<https://www.globaltimes.cn/page/202104/1222115.shtml>

Pakistan

India likely to use force against Pakistan: US report

Anwar Iqbal

Dawn, April 16, 2021

Under the leadership of Prime Minister Narendra Modi, India is more likely to respond with military force to “perceived or real” provocations from Pakistan, warns a US intelligence report sent to Congress this week. The annual threat assessment report – 2021 was prepared by the office of the US Director of National Intelligence (DNI) and sent to Congress on Tuesday. It identifies China’s “push for global power” as the number one threat to US interests followed Russia’s provocative actions and threats from Iran.

The report provides “nuanced, independent, and unvarnished intelligence” assessment to “policymakers, warfighters, and domestic law enforcement personnel,” Director DNI Avril Haines wrote in the introductory note. While assessing possible threats from South Asia, the report warned that “under the leadership of Prime Minister Modi India is more likely than in the past to respond with military force to perceived or real Pakistani provocations.” The report noted that “heightened tensions” in the region “raise the risk of conflict between the two nuclear-armed neighbors, with violent unrest in Kashmir or a militant attack in India being potential flashpoints.” But the report also said that “a general war” between India and Pakistan during 2021 was unlikely, but “crises between the two are likely to become more intense, risking an escalatory cycle.”

<https://www.dawn.com/news/1618494>

Cold tests completed at second Karachi Hualong One

World Nuclear News, April 21 2021

Cold functional tests are carried out to confirm whether components and systems important to safety are properly installed and ready to operate in a cold condition. The main purpose of these tests is to verify the leak-tightness of the primary circuit and components - such as pressure vessels, pipelines and valves of both the nuclear and conventional islands - and to clean the main circulation pipes. The tests mark the first time the reactor systems are operated together with the auxiliary systems.

Completion of the cold testing of Karachi 3 was overseen by the Pakistan Nuclear Regulatory Authority and the Pakistan Atomic Energy Commission (PAEC), CNNC said. The successful completion of the cold testing means that the main work of the nuclear island installation project of the unit has been completed and the unit has entered the system commissioning stage, CNNC said. Cold testing will be followed by thermal testing, then first fuel loading and finally grid-connected power generation. Karachi 2 and 3 are being constructed under a contract worth about USD9 billion signed between China National Nuclear Corporation and the PAEC in 2013. Construction of unit 2 began in 2015 and unit 3 in 2016. Installation of the reactor internals of Karachi 2 was completed in January 2019, while installation of unit 3's was completed in April last year.

<https://www.world-nuclear-news.org/Articles/Cold-tests-completed-at-second-Karachi-Hualong-One>

USA

Stakeholders reach consensus on Indian Point transfer

World Nuclear News, April 16, 2021

A joint agreement has been reached between the State of New York, Entergy, Holtec and other stakeholders to provide for the transfer of the Indian Point nuclear power plant to Holtec for decommissioning and site remediation. It also resolves pending litigation concerning the post-shutdown transfer of plant licences when the final unit at the site shuts down later this month. Entergy Corporation agreed in April 2019 to sell the Indian Point Energy Center to Holtec International for expedited decommissioning and dismantling of the plant after the closure of the last operating unit at the site. The Joint Proposal that has now been agreed by subsidiaries of Entergy and Holtec, along with the New York State Department of Public Service Staff, the New York State Office of the Attorney General, the New York State Department of Environmental Conservation and other stakeholders, sets out financial, administrative and other provisions relating to the decommissioning work and also resolves ongoing legal proceedings concerning the proposed post-shutdown transfer of the plant to Holtec's subsidiaries.

The US Nuclear Regulatory Commission (NRC) had in November 2020 approved Entergy and Holtec's application to transfer the plant's operating licences, post-shutdown, to Holtec but the state of New York filed a lawsuit challenging that decision. As part of the Joint Proposal, the State of New York, Riverkeeper, the Town of Cortlandt and the Hendrick Hudson School District will withdraw their lawsuits against the NRC, currently pending in the US Court of Appeals for the District of Columbia Circuit.

<https://www.world-nuclear-news.org/Articles/Stakeholders-reach-consensus-on-Indian-Point-trans>

Officials report progress at Iran nuclear talks in Vienna

Karen DeYoung

Washington Post, April 19, 2021

Negotiators in Vienna have begun drafting proposals for the United States and Iran to return to compliance with the Iran nuclear deal, officials involved in the talks said Monday. “Practical solutions are still far away,” Mikhail Ulyanov, the Russian delegate to the talks, said on Twitter. “But we have moved from general words to agreeing on specific steps toward the goal.” Enrique Mora, the European Union diplomat coordinating the discussions, said progress had been made. The Joint Commission that supervises the 2015 agreement, called the Joint Comprehensive Plan of Action, or JCPOA, will convene Tuesday “to take stock of the work done by expert-level working groups and consider next steps.”

https://www.washingtonpost.com/national-security/us-iran-nuclear-talks-vienna-progress/2021/04/19/1322a88a-a13b-11eb-a7ee-949c574a09ac_story.html

Iran's nuclear program won't be stopped by the recent explosion. But the attack puts pressure on negotiators.

Nicholas Miller

Washington Post, April 20, 2021

A week after an explosion destroyed the power system in Iran's Natanz nuclear enrichment facility, Iranian officials identified an Iranian suspect in an attack widely attributed to Israel. Iranian TV footage appeared to show centrifuges in operation, amid claims that "work that had been disrupted will be back on track." The true extent of the damage remains unclear — a midweek report by one Iranian official noted "several thousand" affected centrifuges. U.S. intelligence sources estimated repairs could take Iran nine months.

How will this attack affect Iran's commitment and capacity to expand its nuclear program? And how will the attack influence the likelihood that the United States and Iran can reach an agreement on resuscitating the Iran deal, the Joint Comprehensive Plan of Action — or JCPOA, for short? Here's what the research suggests.

<https://www.washingtonpost.com/politics/2021/04/20/irans-nuclear-program-wont-be-stopped-by-recent-explosion-attack-puts-pressure-negotiators/>

Biden urged to preserve US nuclear fleet

World Nuclear News, April 22, 2021

Chairman of the US Senate Committee on Energy and Natural Resources Committee Joe Manchin has urged President Joe Biden to support the continued operation of the USA's civil nuclear fleet and prevent further plant closures. In a 20 April letter to the President, Manchin said that preventing the closure of existing nuclear plants is critical to achieving emission reductions and grid reliability. The total number of nuclear plants in the USA has fallen over the past two decades from 104 to 94, some 5.1 GW of nuclear capacity is anticipated to go offline this year, Manchin said in the letter. "[W]ithout any change in policy half of the current nuclear fleet will retire by 2030. In 2019, nuclear prevented 476 million metric tons of carbon dioxide from being emitted and represented 55% of total emission-free electricity in the United States. Any further closures would be detrimental to meeting any climate goals," he said.

"I appreciate your leadership in supporting nuclear power plants' continued operation and the role nuclear plays in combatting climate change. I urge you to take action to preserve our existing nuclear fleet and prevent further closures. I believe the federal government must use all the tools it has to protect this vital resource, to the maximum extent consistent with the health and safety of the public.

<https://www.world-nuclear-news.org/Articles/Biden-urged-to-preserve-US-nuclear-fleet>

US eyes major rollback in Iran sanctions to revive nuke deal

Matthew Lee

AP News, April 28, 2021

The Biden administration is considering a near wholesale rollback of some of the most stringent Trump-era sanctions imposed on Iran in a bid to get the Islamic Republic to return to compliance with

a landmark 2015 nuclear accord, according to current and former U.S. officials and others familiar with the matter. As indirect talks continue this week in Vienna to explore the possibility of reviving the nuclear deal, American officials have become increasingly expansive about what they might be prepared to offer Iran, which has been driving a hard line on sanctions relief, demanding that all U.S. penalties be removed, according to these people.)

American officials have refused to discuss which sanctions are being considered for removal. But they have said they are open to lifting any sanctions that are inconsistent with the nuclear deal or that deny Iran the relief it would be entitled to should it return to compliance with the accord. Because of the complex nature of the sanctions architecture, that could include non-nuclear sanctions, such as those tied to terrorism, missile development and human rights.

<https://apnews.com/article/iran-middle-east-business-iran-nuclear-government-and-politics-dc498f981c0746cd7c837b969702de28>

New Jersey extends ZECs for nuclear plants

World Nuclear News, April 28, 2021

The New Jersey Board of Public Utilities (BPU) has unanimously voted to extend the zero emission certificates (ZECs) for the Hope Creek and Salem nuclear power plants for an additional three years. Public Service Enterprise Group Inc's (PSEG) three units - two at Salem and the single-unit Hope Creek plant - were awarded ZECs in 2019 under New Jersey's Zero Emissions Certificate Law, enacted the previous year. The law enables the state to recognise and compensate eligible nuclear power plants for their zero-carbon attributes and contribution to fuel diversity.

The USD300 million-worth of certificates will ensure that the plants, which supply over 90% of New Jersey's in-state carbon-free generation and 37.5% of its overall in-state energy supply, will remain operational, the BPU said. Stakeholder input and a "wide array" of market forces were considered in reaching the decision, it added. These included the role the nuclear plants play in helping New Jersey meet its economic, environmental and clean energy goals, as well as factors such as the plants' maintenance and "the financial implications of those realities".

<https://www.world-nuclear-news.org/Articles/New-Jersey-extends-ZECs-for-nuclear-plants>

US State Department launches SMR support programme

World Nuclear News, April 29, 2021

The US State Department has announced it is launching the Foundational Infrastructure for Responsible Use of Small Modular Reactor Technology (FIRST) programme, which will provide "capacity-building support to partner countries". As an initial investment, the department has committed USD5.3 million to support FIRST projects. The programme was unveiled during the Leaders Summit on Climate that the Biden-Harris Administration hosted last week. "FIRST is a capacity-building programme designed to deepen strategic ties, support energy innovation, and advance technical collaboration with partner nations on secure and safe nuclear energy infrastructure,"

the State Department said. "Such cooperation includes supporting the deployment of advanced nuclear technologies, including small modular reactors (SMRs), in a manner consistent with the International Atomic Energy Agency's Milestones Approach for implementing a responsible nuclear power programme."

The benefits of SMRs it highlighted include: "lower costs, scalability, flexibility, and the ability to partner with other clean energy sources, such as wind and solar power"; water desalination; replacing coal to power energy-intensive industrial processes; and, producing hydrogen to help decarbonise transportation and other sectors. FIRST strengthens the USA's relationships with international partners, including through government, industry, national laboratory, and academic institution engagements, the State Department said.

<https://world-nuclear-news.org/Articles/US-State-Department-launches-SMR-support-programme>

Europe

Dutch NGO calls for government support for new build

World Nuclear News, April 17, 2021

A white paper containing 13 recommendations for the Dutch government to help realise the construction of new nuclear power plants in the Netherlands has been issued by the e-Lise Foundation. Founded at the end of 2020, the Foundation aims to promote the use of nuclear energy in the Netherlands and abroad. It is currently participating in the government's market consultation on the use of nuclear energy. "Dutch laws, regulations, and national strategy still lack a concrete vision on nuclear energy," the white paper says. "In fact, in the past nuclear energy has been shunned or excluded from the discussion."

The Foundation, based in Utrecht, says it is possible to leverage the growing support for nuclear energy so that the government, utilities, investors and universities work together to create the ideal circumstances for new nuclear power plants to be deployed. However, it suggests the government must act as "first mover" as well as re-enforcing its own nuclear knowledge and competence. The white paper - titled The role of the Dutch State in the business case for nuclear energy - presents 13 recommendations for the government to support energy companies that want to use nuclear energy.

<https://www.world-nuclear-news.org/Articles/Dutch-NGO-calls-for-government-support-for-new-bui>

UK's NDA launches new nuclear transport division

World Nuclear News, April 19, 2021

A new specialist nuclear transport organisation has officially launched today in the UK. Nuclear Transport Solutions (NTS), part of the Nuclear Decommissioning Authority (NDA), operates Direct Rail Services (DRS) and Pacific Nuclear Transport Limited (PNTL), which offer rail and shipping services, respectively. The NDA is also in the process of integrating its radioactive waste management businesses. In February 2020, the NDA announced its decision to create a single nuclear transport

division, bringing together its transport expertise and capabilities across the NDA group to support its mission to clean up the UK's earliest nuclear sites. Nuclear Transport Solutions started operating as a single organisation on 1 February.

NTS has today officially been fully launched. With a workforce of over 700, it specialises in the operational, commercial, engineering, legal, and regulatory expertise that underpin nuclear transport and logistics operations. It also provides consultancy services offering bespoke solutions to customers' complex nuclear transport challenges, and transport services for customers outside of the nuclear sector. NTS's primary objective will be to support the NDA mission through a range of activities including transporting used advanced gas-cooled reactor fuel from UK power plants to Sellafield, moving irradiated fuels from Dounreay, returning reprocessing products to customers overseas, and packaging and licensing support to the NDA group.

<https://www.world-nuclear-news.org/Articles/UKs-NDA-launches-new-nuclear-transport-division>

Nuclear to be included in Delegated Act of EU taxonomy

World Nuclear News, April 21 2021

The European Commission today announced its decision to include nuclear energy in a complementary Delegated Act of the EU Taxonomy Regulation. The decision follows the recent publication of the Joint Research Centre's report confirming nuclear is as sustainable as other taxonomy-compliant energy technologies.

"In line with the legal framework and our past commitments, the Commission will adopt a complementary Delegated Act of the EU Taxonomy Regulation covering activities not yet covered in the EU Taxonomy Climate Delegated Act, such as agriculture, certain energy sectors and certain manufacturing activities," the Commission said in a communication. The final recommendations on the EU Taxonomy by the technical expert group (TEG) advising the European Commission on sustainable finance were published in March last year. These included guidance to help investors and companies meet obligations for reporting against the framework. The TEG on Taxonomy concluded that there is clear evidence that nuclear substantially contributes to climate mitigation. However, it also concluded at that point "the evidence about nuclear energy is complex and more difficult to evaluate in a taxonomy context" regarding the potential significant harm to other environmental objectives. It recommended that more extensive technical work should be undertaken.

<https://www.world-nuclear-news.org/Articles/Nuclear-to-be-included-in-Delegated-Act-of-EU-taxo>

EDF submits offer for Jaitapur project

World Nuclear News, April 23, 2021

French company EDF has submitted to Nuclear Power Corporation of India Ltd (NPCIL) its binding techno-commercial offer to build six EPRs at Jaitapur in Maharashtra. The offer is the culmination of work that began with the 2018 signature of an agreement between the two companies and paves the way for discussions towards a binding framework agreement. The offer includes the detailed technical

configuration of the reactors, taking into consideration information on the site conditions, and the terms and conditions for the supply of engineering studies and equipment for the six reactors. It is based on the complementary skills of EDF and NPCIL, and aims to build a long-term partnership between the French and Indian nuclear industries, EDF said.

The Jaitapur plant, with an installed capacity of 9.6 GWe, would be the most powerful nuclear power plant in the world, generating some 75 TWh per year, meeting the annual consumption needs of 70 million Indian households and avoiding the emission of an estimated 80 million tonnes of CO₂ per year, EDF said. EDF Group Chairman and CEO Jean-Bernard Lévy described the submission of the offer as a "major step forward" for the EDF group and the wider French nuclear industry.

<https://world-nuclear-news.org/Articles/EDF-submits-offer-for-Jaitapur-project>

Georgia Power announces two more milestones at Vogtle

World Nuclear News, April 26, 2021

Tests that simulate the temperatures and pressures which the reactor systems will be subjected to during normal operation have been started at unit 3 of the Vogtle plant near Waynesboro, Georgia. Meanwhile, the final module has been put in place at unit 4, marking the last major crane lift at the project site. Georgia Power today announced that hot functional testing had begun at unit 3. These tests involve increasing the temperature of the reactor coolant system and carrying out comprehensive tests to ensure that coolant circuits and safety systems are operating as they should. Carried out before the loading of nuclear fuel, such testing simulates the thermal working conditions of the power plant and verifies that nuclear island and conventional equipment and systems meet design requirements.

"Over the next several weeks, nuclear operators will use the heat generated by the unit's four reactor coolant pumps to raise the temperature and pressure of plant systems to normal operating levels," the company said. "Once normal operating temperature and pressure levels are achieved and sustained, the unit's main turbine will be raised to normal operating speed using steam from the plant. During these series of tests, nuclear operators will be able to exercise and validate procedures as required ahead of fuel load." Georgia Power said the hot functional testing of Vogtle 3 will be completed in six to eight weeks.

<https://www.world-nuclear-news.org/Articles/Duo-of-milestones-at-US-AP1000-units>

Russia

Armenia discusses new NPP with Russia

Nuclear Engineering, April 19, 2021

Armenia is discussing with Russia the possible construction of a new nuclear power plant, Minister of Territorial Administration and Infrastructure Suren Papikyan told parliament on 15 April. "We plan to have a new nuclear power plant and are already negotiating this issue with partners from Russia. We also have proposals from other countries," Papikyan said, adding that currently one of his deputies and the director of the Armenian NPP were visiting Russia. He stressed that Armenia is studying the experience of construction and operation of nuclear power plants in other countries and is ready to discuss beneficial proposals.

Meanwhile, Rosatom is continuing upgrading work at unit 2 of the Armenian NPP in Metsamor. Papikyan said existing contracts with Russia on this project total \$40 million. The Armenian NPP, with two Soviet-supplied VVER-440-V230 units was built in the 1970s but was closed following a devastating earthquake in 1988. However, unit 2 was recommissioned with Russian help in 1995 in face of severe energy shortages. In March 2014, the Armenian government decided to extend the plant's service life up to 2026.

<https://www.neimagazine.com/news/newsarmenia-discusses-new-npp-with-russia-8681294>

Czechs exclude Rosatom from nuclear tender after dispute with Russia

Reuters, April 19, 2021

The Czech government will not invite Russia's Rosatom to take part in security assessments before a planned tender for a new unit at the Dukovany nuclear power plant, Industry Minister Karel Havlicek said on Monday. The decision, which effectively excludes Russia from the multi-billion dollar tender, was announced two days after Prague expelled 18 Russian embassy staff, saying it suspected Russian intelligence was involved in explosions at an ammunition depot in 2014. Russia has dismissed the accusation as absurd.

<https://www.reuters.com/world/europe/czechs-exclude-rosatom-nuclear-tender-after-dispute-with-russia-2021-04-19/>

Rosatom excluded from Dukovany tender

Nuclear Engineering, April 22, 2021

Czech Trade and Industry Minister Karel Havlicek told Pravo newspaper on 19 April that Russia's Rosatom would be excluded "within a few days" from the candidate companies selected to take part in the tender to build a new unit at the Dukovany NPP. "None of the companies invited will use a subcontractor from Rosatom," he said. The previous day Czech Prime Minister Andrei Babis had spoken in favour of removing Rosatom from the tender based on Czech intelligence reports that explosions at an ammunition depot in the village of Vrbetice in 2014 had involved Russian special services.

This came just a week after questionnaires were sent to four potential bidders for the completion of the Dukovany NPP - Rosatom, US-based Westinghouse, Korea Hydro and Nuclear Power and France's EDF. China had earlier been excluded from the tender following intense pressure from Czech security

services and right-wing opposition parties to exclude both China and Russia. Havelik had at that time argued for Russia to remain in the tender to increase competition. In late March, at his suggestion, the government had agreed to include Rosatom in the competition, which would be announced after parliamentary elections in October. The Dukovany contract is estimated at approximately €6 billion (\$7.2bn).

<https://www.neimagazine.com/news/newsrosatom-excluded-from-dukovany-tender-8690375>

Moving on from Chernobyl

World Nuclear News, April 27, 2021

Thirty-five years on from the Chernobyl accident, Ukraine and the International Atomic Energy Agency (IAEA) have highlighted their commitment to cooperation in nuclear power. Meanwhile Ukraine's nuclear regulator has launched the start of operations at a new storage facility for used nuclear fuel at the Chernobyl site. On the first day of a two-day visit to Ukraine, IAEA Director General Rafael Mariano Grossi yesterday discussed ongoing bilateral cooperation between the IAEA and Ukraine with the country's President Volodymyr Zelenskyy and other senior officials. Today, he visited the Chernobyl nuclear power plant. Grossi told Zelenskyy that the IAEA will continue to support Ukraine in addressing decommissioning, radioactive waste and environmental remediation in and around Chernobyl, as well as in areas in the peaceful use of nuclear technology in general.

<https://www.world-nuclear-news.org/Articles/Title>

French, Russian hydrogen partnership announced

World Nuclear News, April 27, 2021

EDF Group and Rosatom have signed an agreement to jointly promote clean hydrogen projects in Russia and Europe. Rosatom said development of hydrogen technologies has an important role to play in the implementation of the Paris Agreement, aimed at keeping the global average temperature increase to below 2 degrees Celsius by 2100.

The Russian nuclear industry has significant technological and research potential, Rosatom said, to develop the main methods of hydrogen production - electrolysis and steam conversion of methane using CO2 capture technologies. Rosatom added it is focused on the development of low-carbon hydrogen production technologies, its storage, as well as participation in pilot hydrogen projects both in Russia and abroad.

<https://www.world-nuclear-news.org/Articles/French-Russian-partnership-in-hydrogen-projects-an>

Russia's envoy to Iran nuclear talks sees deal "within reach"

Reuters, April 27, 2021

Russia's envoy to the Iran nuclear talks said on Wednesday that envoys felt that there had been good progress after the latest round of negotiations to revive a 2015 accord and that a deal was "within reach".

<https://www.reuters.com/world/middle-east/parties-iran-talks-agree-expedite-efforts-us-iran-compliance-russia-2021-04-27/>

West Asia

Syrian anti-aircraft missile lands near Israeli nuclear site

Al Jazeera, April 22, 2021

Israeli army hits Syrian missile batteries after the explosion in the vicinity of the Dimona nuclear site in the country's south. The Israeli army says a Syrian anti-aircraft missile has missed its target and exploded near a nuclear facility in Dimona city in the country's south, an attack a military spokesman said was likely an accident. There were no immediate reports of any injuries or damage in the incident that triggered warning sirens in the area near the secretive Dimona nuclear reactor. The Israeli military said the nuclear site was not hit by the blast.

<https://www.aljazeera.com/news/2021/4/22/idf-strikes-syria-after-missile-targets-southern-israel>

Iran

Natanz sabotage is U.S. job, says Iranian MP

Tehran Times, April 16, 2021

Seyed Mahmood Nabavian, a senior Iranian MP, on Friday blamed the U.S. for the sabotage in the Natanz nuclear facility, saying Israel will not do anything without the permission of the United States. "This is the United States of America that has even imposed a medicine embargo on us. The medicine embargo shows America's cowardice and savagery," Nabavian said. Speaking at a ceremony in Qom about the Sabotage attack, he said, "The government wants to say that it is Israel's job, but it is the United States' job, unless Israel does something without U.S. permission."

Sabotage in the Natanz nuclear site occurred on Sunday morning. Israeli media claimed that Mossad has conducted the attack. An official at the Iranian Intelligence Ministry has said the saboteur has been identified.

<https://www.tehrantimes.com/news/459901/Natanz-sabotage-is-U-S-job-says-Iranian-MP>

Rouhani criticizes Europeans for misconception about Iran's nuclear decision

Tehran Times, April 16, 2021 -

Iranian President Hassan Rouhani on Thursday harshly criticized the European countries for their recent comments on Iran's nuclear activities, saying Europeans have formulated a wrong perception about Iran's nuclear activities. The Europeans have expressed concerns about Iran's move to enrich uranium to 60 percent purity in response to an act of sabotage at the Natanz nuclear plant. Rouhani said that the Europeans have said that with one move, Iran can increase its enrichment from 60 percent to 90 percent, "but what you have in mind is that we pave the way for a bomb."

The president added, "Today we can do 90% enrichment and we will do it if we want to, but our nuclear activity is peaceful and we are not looking for a nuclear bomb. You have been looking for a nuclear bomb and every year, you build and store new bombs." He said that this accusation is pointed at the Europeans themselves. Opening a number of oil projects through a videoconference, Rouhani reiterated Iran's long-held position, saying, "Any day you return to your commitments, we will return to our commitments and stop enriching 60% and return to 3.67% enrichment. Iran has shown that it promises manfully, and you have shown that your promise is invalid. You do not want to worry about Iran. Iran has moved bravely and morally and is committed to its commitments."

<https://www.tehrantimes.com/news/459902/Rouhani-criticizes-Europeans-for-misconception-about-Iran-s-nuclear>

EU sanctions meant to derail JCPOA talks, Araghchi says

Tehran Times, April 16, 2021

Iran's Deputy Foreign Minister for Political Affairs Seyed Abbas Araghchi said Iran criticized the European countries during the latest round of nuclear talks in Vienna for imposing so-called human rights sanctions on Iran and ignoring recent sabotage at a key Iranian nuclear plant. Araghchi said the new EU sanctions are meant to undermine talks on the Joint Comprehensive Plan of Action (JCPOA) and the deal altogether.

"The Europeans not only ignored this important act of sabotage, but also they were busy imposing new sanctions on Iran and that was totally unacceptable," Araghchi told Press TV from Vienna. In the early hours of April 11, sabotage at the electricity distribution network of the Natanz Fuel Enrichment Plant caused a blackout and the disruption of the operations of this sensitive nuclear facility, according to a letter sent by the Iranian Foreign Minister Mohammad Javad Zarif to UN Secretary-General António Guterres. Zarif described sabotage as a "war crime".

<https://www.tehrantimes.com/news/459892/EU-sanctions-meant-to-derail-JCPOA-talks-Araghchi-says>

Iran rejects 'interventionist' remarks by Arab League, (P)GCC

Tehran Times, April 17, 2021

Iran's Foreign Ministry spokesman Saeed Khatibzadeh has strongly rejected "interventionist and irresponsible" remarks by officials of the Arab League and the (Persian) Gulf Cooperation Council. In

a statement on Friday, Khatibzadeh highlighted the “destructive role of a handful of countries”, saying, “These imprudent and irresponsible comments are part of their anti-Iran remarks.”

The statement came after high-level Arab officials leveled accusations against Iran following Tehran’s decision to raise the uranium enrichment level to 60%. The Arab League expressed “extreme concern” over Iran’s decision to enrich uranium up to 60% purity, calling it a “dangerous development.” Secretary-General of the Arab League Ahmad Abul Gheit issued a statement accusing Iran of taking a step toward developing a nuclear weapon.

<https://www.tehrantimes.com/news/459914/Iran-rejects-interventionist-remarks-by-Arab-League-P-GCC>

Iran criticizes UN for politicizing WMD non-proliferation regimes

Tehran Times, April 17, 2021

Iran’s ambassador to the United Nations has criticized the UN Security Council for being silent on the abuse of non-proliferation and disarmament regimes pertaining to weapons of mass destruction (WMD). Majid Takht Ravanchi made the remarks in a Friday meeting of the UN body. He described the WMDs as “the most immoral and inhumane weapons ever developed by mankind and their development, production, stockpiling and use have rightly been prohibited.”

He pointed out that the only absolute guarantee against the use of these inhumane weapons is in fact their total elimination and to ensure that they will never be developed. “This noble objective clearly proves the inherent value of non-proliferation and disarmament regimes and their essential role in maintaining international peace and security. Nevertheless, the authority of such regimes and the credibility of relevant international institutions have seriously been challenged and undermined in the past decades, ironically in most cases, not by those seeking to develop WMDs but by those who have abused non-proliferation regimes to advance their own interests. The Security Council was dead silent when chemical weapons provided by the West were used by Saddam in his aggression against Iran, killing thousands of Iranian and Iraqi citizens,” the Iranian diplomat said.

<https://www.tehrantimes.com/news/459945/Iran-criticizes-UN-for-politicizing-WMD-non-proliferation-regimes>

‘New understanding’ taking shape in Vienna: Iranian nuclear deal negotiator

Tehran Times, April 17, 2021

Iran and the P4+1 group made further progress in their efforts to end a years-long standoff between Tehran and Washington over the fate of the 2015 nuclear deal (JCPOA), as a top Iranian nuclear negotiator said a “new understanding” was taking shape at key talks in Vienna. Deputy Foreign Minister Abbas Araghchi said serious disagreements remain but that his country was working on a draft text for reviving the accord that could work as a framework for subsequent discussions.

“The drafting of the text can begin now, and the Iranian delegation has prepared and presented its text on the nuclear sphere and the lifting of sanctions,” Araghchi told Iranian TV, according to Press TV. Earlier this week Araghchi said that Washington and Tehran had to specify the steps that they would each need to take in order to restore the JCPOA, including a tally of all Trump-era sanctions that the U.S. would need to remove from Iran’s economy.

<https://www.tehrantimes.com/news/459949/New-understanding-taking-shape-in-Vienna-Iranian-nuclear-deal>

Iran, P4+1 agree to continue talks as new understanding emerges

Tehran Times, April 18, 2021

Iran and the remaining parties to a 2015 nuclear deal agreed to continue nuclear deal talks as a top Iranian nuclear negotiator announced that the talks are leading to a new understanding. Iran’s Deputy Foreign Minister Seyed Abbas Araghchi, who is leading Iran’s negotiating team in the Vienna nuclear deal talks, said on Sunday morning that negotiations between Iran and the P4+1 group were to continue on Sunday in various formats and levels. “Expert-level working groups will also continue to discuss the two areas of sanctions relief and nuclear issues,” Araghchi said on his Telegram channel.

According to the chief Iranian negotiator, bilateral and multilateral meetings were held on Saturday between Iran and the delegations of the P4+1. Araghchi said he held three meetings with Enrique Mora, the European Union’s coordinator and the chairman of the JCPOA Joint Commission. Diplomats from Iran and the P4+1 - China, Russia, France, the UK plus Germany- are in the Austrian capital of Vienna to discuss ways of reviving the 2015 Iran nuclear deal, officially known as the Joint Comprehensive Plan of Action (JCPOA). On Saturday, the latest meeting of the JCPOA Joint Commission was held.

<https://www.tehrantimes.com/news/459970/Iran-P4-1-agree-to-continue-talks-as-new-understanding-emerges>

Netanyahu’s alleged nuclear archive ‘fake,’ Rezaei says

Tehran Times, April 18, 2021

The papers shown by Israeli Prime Minister Benjamin Netanyahu as documents against Iran's nuclear program are all forged and fake, Secretary of Iran's Expediency Council Mohsen Rezaei has said, according to Fars News. “The papers displayed by the Zionist regime’s prime minister who claimed to be our country's documents were forged, and Netanyahu's actions were a show for domestic consumption and rivalries among parties in the occupied territories,” the official said a few days after some media outlets alleged that he had said “top secret” documents have been stolen from Iran.

He added that in a recent interview he had warned of the enemies’ plots to infiltrate into the country’s sensitive centers, saying that in a failed mission, the enemies’ agents wanted to steal certain secret documents from Iran but they were fortunately arrested at the borders, Fars News reported.

<https://www.tehrantimes.com/news/459986/Netanyahu-s-alleged-nuclear-archive-fake-Rezaei-says>

IAEA confirms Iran has started enriching 60% uranium

Tehran Times, April 18, 2021

The International Atomic Energy Agency (IAEA) said on Saturday that Iran has begun the process of enriching uranium to 60 percent fissile purity at the nuclear plant in Natanz, confirming earlier statements by Iranian officials. "The Agency today verified that Iran had begun the production of UF₆ enriched up to 60%... at the (above-ground) Natanz Pilot Fuel Enrichment Plant," the UN nuclear watchdog said in a statement. More information was given in a confidential IAEA report to member states obtained by Reuters.

"According to Iran's declaration to the Agency, the enrichment level of the UF₆ produced at PFEP was 55.3% U-235. The Agency took a sample of the produced UF₆ for destructive analysis to independently verify the enrichment level declared by Iran. The results of this analysis will be reported by the Agency in due course," the report said. Kazem Gharibabadi, Iran's ambassador and permanent representative to international organizations in Vienna, confirmed the Reuters report, stating, "The level of UF₆ enrichment produced by Iran has been 55.3%." Iran decided to enrich uranium to a purity of 60% in response to an explosion that damaged some equipment at the larger, underground fuel enrichment plant at Natanz on April 11.

<https://www.tehrantimes.com/news/459987/IAEA-confirms-Iran-has-started-enriching-60-uranium>

Iran says it always welcomes dialogue with Saudi Arabia

Tehran Times, April 19, 2021

In its first official reaction to media reports of talks between Iran and Saudi Arabia, the Iranian Foreign Ministry said it welcomes dialogue with the Saudi kingdom because such a dialogue is in the interest of the region. Saeed Khatibzadeh, spokesman for Iran's Foreign Ministry, responded to foreign media reports of talks between Tehran and Riyadh in Baghdad by saying that Iran supports dialogue with the Saudis. The spokesman did not deny that such talks took place in Iraq. Speaking at a weekly press briefing, Khatibzadeh said, "We have seen these press reports. Conflicting quotes have been reported in these reports. The Islamic Republic of Iran has always welcomed dialogue with the Saudi kingdom and considered it in the interest of the peoples of the two countries as well as regional peace and stability. [Iran] will continue to think this way."

The Financial Times reported on Sunday that Saudi and Iranian officials held the first round of their bilateral talks in Baghdad on April 9 and the next round is scheduled to take place next week. Citing regional officials, the newspaper said the Yemeni Ansarallah's attacks on Saudi Arabia were discussed in the negotiations. Reuters confirmed the Saudi-Iranian talks, saying they touched on Lebanon, which is facing a political vacuum amid a dire financial crisis.

<https://www.tehrantimes.com/news/460002/Iran-says-it-always-welcomes-dialogue-with-Saudi-Arabia>

EU foreign ministers discuss JCPOA

Tehran Times, April 20, 2021

The Council on Foreign Relations of the European Union was to hold a meeting on Monday night with the JCPOA - 2015 Iran nuclear deal - as one of the topics on the agenda. The meeting was to be chaired by EU foreign policy chief Joseph Borrell. The meeting was to be held in the form of a video conference with participation of EU foreign ministers.

“The EU foreign ministers will meet this evening at a meeting of the Council on Foreign Relations, chaired by Joseph Borrell, the EU's foreign policy chief, to discuss recent developments and future developments. These issues will include recent developments in Georgia, India, Myanmar, Mozambique and the JCPOA negotiations,” according to the European Union website.

<https://www.tehrantimes.com/news/460031/EU-foreign-ministers-discuss-JCPOA>

Iran rejects reports of ‘temporary agreement,’ says it only negotiates final step

Tehran Times, April 20, 2021

A top Iranian nuclear negotiator leading Iran’s negotiating team in Vienna has rejected the possibility of Iran and the remaining parties to the 2015 nuclear deal reaching a “temporary deal.” Seyed Abbas Araghchi, Iran’s deputy foreign minister for political affairs, said the subject of reaching a temporary agreement has never been broached at the talks between Iran and the P4+1 (China, Russia, France, and the UK plus Germany). He was responding to press reports in Western media outlets claiming that Iran and the P4+1 could soon reach a temporary agreement to revive the 2015 nuclear deal, officially known as the Joint Comprehensive Plan of Action (JCPOA).

“There is no discussion of a ‘temporary agreement’ or similar issues in the talks between the Islamic Republic of Iran and the P4 + 1,” Araghchi said in a statement published on his Telegram Channel late on Monday night. He also underlined that Iran is only negotiating a “final step” to lift U.S. sanctions. “The Islamic Republic of Iran only talks about the final step in lifting the cruel sanctions against the Iranian people, and rumors such as step-by-step plans or a temporary agreement are baseless,” Araghchi said.

<https://www.tehrantimes.com/news/460067/Iran-rejects-reports-of-temporary-agreement-says-it-only-negotiates>

Iran has not made any irreversible nuclear moves: U.S. general

Tehran Times, April 23, 2021

A top U.S. general said on Thursday that Iran had not done anything in its nuclear program that was irreversible, Reuters reported. "They've done nothing that is irreversible," Marine General Kenneth McKenzie, head of the U.S. Central Command, told reporters. Since May 2019, one year after the

Trump administration quit the 2015 nuclear deal, Iran has removed bans on its nuclear activities in response to the U.S. abrogation of the agreement and imposition of primary and secondary sanctions.

In late 2020, the Iranian parliament approved legislation obliging the Atomic Energy Organization of Iran (AEOI) to speed up nuclear activities as the United States is refusing to lift illegal sanctions on Iran. For example, it asked the AEOI to enrich uranium to the purity of 20 percent and install advanced centrifuges and suspend the voluntary Additional Protocol to the NPT. When voting for the legislation, the Iranian parliament gave the U.S. side some time to remove sanctions. However, it said if it did not do so Iran would take such steps.

<https://www.tehrantimes.com/news/460132/Iran-has-not-made-any-irreversible-nuclear-moves-U-S-general>

Israel seeks an unchecked nuclear monopoly: ex-Senate candidate

Tehran Times, April 23, 2021

A former U.S. Senate candidate says Israel resorts to assassination and sabotage because it needs an unchecked nuclear monopoly in West Asia. "This demonic agenda involves the need for an unchecked nuclear monopoly in the Middle East (West Asia) and one not under the scrutiny of the Non-Proliferation Treaty (NPT) as Iran is," Mark Dankof tells the Tehran Times.

"The Natanz sabotage is only the latest criminal action directed by Israel against Iran within its own borders, and with the full support of the United States and the West," he argues. A power failure caused by a deliberately planned explosion struck Iran's Natanz uranium enrichment site on April 11. Iranian officials called sabotage "nuclear terrorism" and held Israel's Mossad responsible for the act.

<https://www.tehrantimes.com/news/460115/Israel-seeks-an-unchecked-nuclear-monopoly-ex-Senate-candidate>

Change in mode of uranium enrichment 'technical,' Iran says

Tehran Times, April 23, 2021

Iran's ambassador to the Vienna-based international organizations has offered explanation about the country's decision to change the mode by which it was producing uranium up to 60%, saying the decision was "technical." "There is no need for odd speculations. Change in the mode of 60% enrichment is a technical decision and was foreseen in the DIQ which was provided to the IAEA last week before the operation," Kazem Gharibabadi said on Twitter on Friday. He added, "In the new mode, two IR-6 & IR-4 cascades are coupled and with one time UF6 injection enriched up to 5%, two different products of 60 & 20% is accumulated. Enrichment operation became more efficient."

<https://www.tehrantimes.com/news/460160/Change-in-mode-of-uranium-enrichment-technical-Iran-says>

CENTCOM chief: Iran 'currently possesses one of the most capable militaries' in West Asia

Tehran Times, April 24, 2021

Two days after his admission that the U.S. has lost air superiority to Iran, Central Command (CENTCOM) Commander Gen. Kenneth McKenzie spoke at a press conference held at the Pentagon on Thursday, reiterating that Iran knows how to use advanced military equipment. Responding to a question about the range and precision of the Iranian military equipment, McKenzie stated that the Iranian military equipment has grown both qualitatively and quantitatively. “Over the last five to seven years, the Iranians have made remarkable qualitative improvements in their ballistic missile force, while it has grown quantitatively as well. Their numbers, depending on how you choose to count the weapons, something a little less than 3000 of various ranges. Nonetheless their accuracy has become much better than it used to be. That is very concerning to me.”

Elaborating on what he means by that, he said, “We saw they demonstrated in the attack on Al-Assad air base in January of 2020, where the Iranian missiles generally hit within tens of meters of the targets they chose for them. That is very concerning to me.” He went on to explain significant military achievements by Iran, saying that the Islamic Republic has invested heavily in its drone program, making significant accomplishments over the last five years.

<https://www.tehrantimes.com/news/460154/CENTCOM-chief-Iran-currently-possesses-one-of-the-most-capable>

Iranian delegate heads to Vienna to resume nuclear deal talks

Tehran Times, April 26, 2021

The Iranian negotiating team headed by Deputy Foreign Minister Seyed Abbas Araghchi left for Vienna on Monday to resume nuclear deal talks. The Iranian delegate is set to participate in the negotiations within the framework of the JCPOA Joint Commission for a possible revitalization of the 2015 nuclear deal. The top Iranian nuclear negotiator has warned that Tehran will stop the Vienna talks if the negotiation process tilts toward bullying, bargaining, and wasting time.

<https://www.tehrantimes.com/news/460262/Iranian-delegate-heads-to-Vienna-to-resume-nuclear-deal-talks>

U.S. must lift all post-JCPOA sanctions before returning to deal, top Iranian negotiator says

Tehran Times, April 28, 2021

Iran’s top nuclear negotiator underlined the need for the U.S. to lift all the sanctions imposed after the signing of the 2015 Iran nuclear deal, saying the U.S. must do so before returning to the nuclear deal. Iran’s Deputy Foreign Minister Seyed Abbas Araghchi made the remarks on Tuesday following another round of talks between representatives of Iran and other signatories to the deal, officially called the Joint Comprehensive Plan of Action (JCPOA), in the Austrian capital of Vienna. He told Press TV that all the sanctions imposed on Iran during the terms of ex-president Barack Obama and his successor, Donald Trump, following the implementation of the JCPOA in early 2016 must be terminated before the United States can return to the agreement.

Araghchi said Tehran's position with regard to the landmark deal has not changed and will not, either, stressing that, "The United States must first lift all sanctions, and Iran will return to its obligations only after verifying the lifting of US sanctions." Elsewhere in the interview, Araghchi said before starting the third round of Joint Commission in Vienna, the Iranian delegation had held a number of bilateral and trilateral meetings with other parties as well as with representatives of Russia and China to coordinate their positions on the revival of the JCPOA. "We have common positions with Russia and China on many Issues, almost on all issues, and there is a good understanding between the three delegations and we have very close cooperation," the top Iranian negotiator told Press TV. "We can see enough seriousness in all delegations," he added. "Everybody is serious enough to work hard in order to come to a conclusion."

<https://www.tehrantimes.com/news/460381/U-S-must-lift-all-post-JCPOA-sanctions-before-returning-to-deal>

East Asia North Korea

Satellite imagery indicates activity at NK's nuclear reprocessing facility: think tank

Yonhap

Korea Herald, April 16, 2021

This satellite image, taken on July 14, 2016, and provided by Airbus Defense and Space and the Institute for Science and International Studies (ISIS) on Sept. 20, shows North Korea's nuclear reprocessing plant at its Yongbyon nuclear complex in the northeastern part of the country. ISIS said the image shows little activity at the plant, compared with brisk activity earlier this year when reprocessing was believed to be under way, indicating North Korea may have finished extracting plutonium from spent nuclear fuel, gaining enough plutonium for up to four more nuclear weapons. (Airbus Defense and Space and the Institute for Science and International Studies) North Korea may have resumed the operation of its reprocessing facilities at Yongbyon to produce nuclear materials, a US think tank suggested Thursday, citing recent satellite imagery. The thermal infrared imagery of the Yongbyon Nuclear Research Center, taken April 14, provides "strong indications" of activities involving the heating of buildings, said Beyond Parallel, a project of the Center for Strategic and International Studies think tank.

"These indications reveal clear patterns, distinct from the surrounding terrain and daily solar heating patterns, that suggest that the Radiochemistry Laboratory, its associated thermal plant, and the centrifuge plant resumed operations during the early part of March 2021 and have continued into mid-April 2021," it added. Beyond Parallel earlier suggested possible activities at the North Korean reprocessing facilities, citing satellite imagery taken on March 30, that showed steam or smoke emanating from a Yongbyon facility believed to be a radiochemical laboratory. The think tank said the new thermal imagery further validated its earlier suspicion. "Thermal patterns alone may not be able

to explain the full extent of the operations by themselves, however, they may (and do in this case) provide clear evidence of operations at these locations," it said. The reprocessing facilities produce plutonium, a fissile material used to build nuclear bombs.

http://www.koreaherald.com/view.php?ud=20210416000118&ACE_SEARCH=1

N. Korea continues to work on submersible missile test barge at Nampo: report

Yonhap

Korea Herald, April 21, 2021

North Korea is continuing to work on a submersible missile test stand barge at its Nampo shipyard, a US think tank said Tuesday, suggesting the work could be part of preparations for a ballistic missile test. Citing satellite imagery taken Monday, the think tank said the North has positioned a "cylindrical object on the submersible missile test barge at Nampo." It said the image alone could not confirm an imminent missile launch, but noted the round object could be a launch tube for a submarine launched ballistic missile (SLBM).

"This object could be a launch tube for an SLBM, but this cannot be confirmed yet based on available imagery," said Beyond Parallel, a project of the Washington-based Center for Strategic and International Studies think tank. It, however, noted North Korean leader Kim Jong-un has expressed his desires to "perfect long-range ballistic missiles." "An operational SLBM capability would enhance the survivability of their nuclear deterrent," it said. Pyongyang has maintained a self-imposed moratorium on nuclear and long-range missile testing, but said in 2019 that it is no longer bound by such restrictions. The country has resume its short-range ballistic missile testing after a year-long hiatus in March.

http://www.koreaherald.com/view.php?ud=20210421000158&ACE_SEARCH=1

N. Korea seeking to defeat US missile defenses: CRS report

Yonhap

Korea Herald, April 22, 2021

North Korea appears to be working to develop capabilities that can degrade or even defeat US missile defense systems deployed in its region, a congressional report suggested. The Congressional Research Service (CRS) report also noted the North's efforts to develop weapons may be more than just a political statement. "The recent advances in North Korea's ballistic missile test program appear to be directed at developing capabilities to defeat or degrade the effectiveness of missile defenses deployed in the region," said the report, released April 16. The report noted the US missile defenses in the region included the Terminal High Altitude Area Defense (THAAD) system in South Korea. The report comes after North Korea fired two KN-23 short-range ballistic missiles late last month, marking a resumption of its short-range ballistic missile testing after a yearlong hiatus.

"The KN-23 can strike any location on the Korean peninsula with either a conventional or nuclear payload and uses a solid-propellant. A March 25, 2021 launch may have tested a variant of the KN-

23," said the report, noting KN-23 and its variants have characteristics that make them "difficult to defeat in flight." "These traits suggest that the North Korean test program may seek to achieve more than a simple political statement, and that it may be intended to increase the reliability, effectiveness, and survivability of their ballistic missile force," it added. The report also suggested the North may be focusing on developing submarine-launched ballistic missiles (SLBMs) to bypass US missile defenses in the region.

"North Korea's progress with submarine-launched ballistic missiles (SLBM) suggests an effort to counter land-based THAAD missile defenses by launching attacks from positions at sea outside the THAAD's radar field of view, although local Aegis BMD systems could likely still track these projectiles," it said. Beyond Parallel, a project of the Washington-based Center for Strategic and International Studies think tank, earlier noted the North may be preparing to test a SLBM at its Nampo shipyard, citing recent satellite imagery.

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South Korea

Civic groups decry Japan's plan to discharge Fukushima nuke plant water

Yonhap

Korea Herald, April 18, 2021

South Korean civic groups held a press conference Saturday to denounce Japan's recent decision to discharge into the ocean contaminated water from the crippled Fukushima nuclear power plant. Eight groups, including the Global Econet, lambasted the plan to release the radioactive water as an "irresponsible" act and demanded the cancellation of the decision, during the conference at Gwanghwamun Square in central Seoul. Japan finalized the decision to start discharging the tritium-laced water into the sea in 2023 in what is expected to be a decadeslong process, as all storage tanks at the Fukushima plant are expected to be full as early as the fall of 2022.

"The decision to discharge tainted water into the ocean is an irresponsible decision that did not consider the safety of neighboring countries," the groups said in the joint statement. "We call for the immediate retraction of the decision." After the press meeting, civic group members moved close to the Japanese Embassy in Seoul and read out a statement calling for Tokyo to nix its decision.

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S. Korea to invest W42b in illegal drone response tech by 2025

Yonhap

Korea Herald, April 18, 2021

South Korea said Sunday it will spend 42 billion won (\$37.6 million) by 2025 to develop a response system against illegal drones amid growing security threats from the fast-developing technology. A consortium of 23 companies and research institutes -- which includes the Korea Atomic Energy

Research Institute, the Korea Aerospace Research Institute and aerospace and defense firm LIG Nex1 Co. -- will develop a response system that spots and neutralizes the illegal unmanned aircraft, according to the Ministry of Science and ICT.

The ministry said such drones pose security threats to major public infrastructure and facilities, such as airports and nuclear power plants, given recent advances in technologies, such as artificial intelligence and swarm robotics. The ministry said current response systems against illegal drones are ground-based technologies and that the consortium will develop an aerial system by developing patrol drones that can detect illegal counterparts and neutralize them by either physical means, such as firing a net, or by hijacking its control system.

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IAEA chief 'certainly' hopes S. Korea takes part in Fukushima water monitoring

Yonhap

Korea Herald, April 21, 2021

The chief of the International Atomic Energy Agency (IAEA) said he "certainly" hopes South Korean experts will participate in the UN nuclear watchdog's monitoring of Japan's ocean release of radioactive Fukushima water. IAEA Director General Rafael Mariano Grossi made the remark during an interview with Yonhap News Agency via video link Tuesday, as Seoul is seeking to take part in the IAEA-led verification efforts amid growing health risk concerns over Tokyo's plans to discharge Fukushima's tritium-laced water into the Pacific Ocean.

"I certainly hope so," he said. "There is a lot of talent in your country, especially in this area, where Korea is one of the leading nations in the world, in nuclear energy, nuclear science and nuclear technology," Grossi said. "I'm sure that will cover a rich and strong team. A collaboration of experts from your country will be very valuable," he said, adding that he will be informing Seoul in due course. South Korea considers its participation in the IAEA monitoring team crucial in guaranteeing safety in Japan's release. Seoul has voiced concerns over the discharge plan, saying that Tokyo has not given enough information about the release. Grossi stressed that his organization is a neutral body that does not take sides.

"The IAEA is a neutral and impartial technical body. We don't have a side on this," he said. "The mission that we have, is to ensure, certify that whole operation, before, during the execution and after the assessment ... (is) in line with internationally recognized standards," he said. Grossi also said that he will be sending the first technical mission to Japan within this year and that he will visit the country before the actual discharge operations begin. "This whole thing is about how the IAEA can incorporate to this process, in order to precisely make sure when the operation begins, water released into the ocean ... does not have any harmful, negative effect on the environment, water, fish," he said.

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Study hones in on radioactive materials to track fine dust origins

Shin Ji-hye

Korea Herald, April 28, 2021

South Korean researchers are turning to analyses of radioactive materials present in fine dust in hopes that it will better help them track down origins of the hazardous air pollutants. While scientists have often pointed to China as one of the main culprits, it has been difficult to prove the scope of the impact on Korea because Beijing does not disclose the latest information on its fine dust emissions. The Korea Atomic Energy Research Institute, a government-funded institute established in 1959 to foster nuclear energy technologies, is carrying out research to ascertain how much of the fine dust comes from its neighboring country by targeting radioactive elements.

“In fine dust, there are radioactive materials and the amount of each radioactive element varies each day. Looking at this, we began to track these elements to find out where they come from,” Kim Ji-seok, a senior researcher at the KAERI who is leading the project, said in an interview with The Korea Herald. The project is part of an ongoing study that began in July 2018 and their findings are based on data collected from fine dust monitoring stations in Seoul and Daejeon.

“In the case of beryllium-7, one of the radioactive elements found in fine dust, it does not come from usual social activities or factories on the ground. It is normally produced in the stratosphere, which means it falls from an altitude to the ground,” Kim said. The team estimates that fine dust found to contain a large amount of beryllium-7 come from China. “This is because fine dust from China normally floats in the high altitude for long-distance travel before coming down to the ground,” he said.

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Japan

UN experts ‘deeply disappointed’ by Japan’s plan to dump contaminated water into ocean

Kim So-hyun

Korea Herald, April 16, 2021

United Nations experts said Japan’s plans to discharge contaminated water from the destroyed Fukushima nuclear plant into the ocean were “very concerning” as this action could impact millions of lives and livelihoods in the Pacific region. “The release of one million tonnes of contaminated water into the marine environment imposes considerable risks to the full enjoyment of human rights of concerned populations in and beyond the borders of Japan,” independent experts appointed by the UN Human Rights Council said in a statement Thursday.

“The decision is particularly disappointing as experts believe alternative solutions to the problem are available.” The Fukushima water may contain radioactive carbon-14 as well as other radioactive isotopes, including strontium-90 and tritium, the experts said, adding that a water processing technology called ALPS had failed to completely remove radioactive concentrations in most of the

contaminated water stored at the Fukushima plant. A first ALPS treatment failed to clean the water adequately and there is no guarantee that a second treatment will, the experts said.

http://www.koreaherald.com/view.php?ud=20210416000725&ACE_SEARCH=1

US, Japan committed to complete denuclearization of N. Korea: leaders

Yonhap

Korea Herald, April 17, 2021

Suga said they are also committed to the complete, irreversible and verifiable dismantlement of all weapons of mass destruction in North Korea. "We committed to working together to take on the challenges from China and on issues like the East China Sea, the South China Sea, as well as North Korea to ensure a future of a free and open Indo-Pacific," the US president said in a joint press conference that followed his bilateral summit with the Japanese leader in Washington. "Japan and the United States are two strong democracies in the region, and we're committed to defending, advancing our shared values, including human rights and rule of law," added Biden. The meeting at the White House marked Biden's first in-person summit with a foreign leader since taking office on Jan. 20. The US leader is set to hold a bilateral summit with South Korean President Moon Jae-in in Washington next month.

Suga said the leaders have also agreed to work to rid North Korea of all weapons of mass destruction, including ballistic missiles. "On North Korea, we confirmed our commitment to the CVID of all weapons of mass destruction and ballistic missiles of all ranges, and agreed to demand North Korea to fulfill its obligations under Security Council resolutions," he said through an interpreter. The leaders reaffirmed their commitment to the complete denuclearization of North Korea in a joint statement.

http://www.koreaherald.com/view.php?ud=20210417000050&ACE_SEARCH=1

Japan ambassador says S. Korea can take part in IAEA monitoring team for Fukushima water release

Yonhap

Korea Herald, April 19, 2021

Japanese Ambassador Koichi Aiboshi said Monday that he thinks South Korean experts can be part of a UN nuclear watchdog-led monitoring team for his country's planned release of radioactive water from its crippled Fukushima nuclear power plant. South Korea has expressed concerns about potential health risks over Japan's plan to release over 1.2 million tons of Fukushima's contaminated water into the Pacific Ocean and said it wants to take part in safety verification efforts by the International Atomic Energy Agency (IAEA). On Monday, Aiboshi said South Korea's participation would be possible. "We think so," the ambassador said when asked by reporters whether South Korean experts would be able to take part in the monitoring team. "But that is a matter to be consulted on between the IAEA and the South Korean government."

http://www.koreaherald.com/view.php?ud=20210419000864&ACE_SEARCH=1

Fukushima Daini decommissioning plan approved

World Nuclear News, April 28, 2021

Japan's nuclear regulator today approved Tokyo Electric Power Company's (Tepco's) decommissioning plan for the four reactors at its Fukushima Daini nuclear power plant, close to the damaged Fukushima Daiichi plant. Fukushima Daini is a four-unit boiling water reactor plant about 11km south of Fukushima Daiichi. The units entered commercial operation between 1982 and 1987. Although they experienced an emergency, the units were not damaged by the March 2011 earthquake and tsunami that caused the nuclear accident at the neighbouring Fukushima Daiichi plant. The four reactors have since been maintained in cold shutdown.

The company said in June 2018 that it was considering decommissioning the plant in conjunction with Fukushima Daiichi in response to local demands for a decision on the fate of the site. In July 2019, Tepco announced its official decision to decommission the units. The company submitted its plan for decommissioning Fukushima Daini to the Nuclear Regulation Authority (NRA) in May 2020. According to the plan, the decommissioning process is expected to take 44 years. The 10,000 fuel assemblies held in the units' storage pools will be removed over a 22-year period and will be reprocessed. Tepco plans to construct an on-site dry cask storage facility "to systematically progress fuel removal from the spent fuel pool". About 50,000 tonnes of radioactive waste will be generated from the plant's decommissioning. The total cost of decommissioning Fukushima Daini, excluding the cost of nuclear fuel disposal, is estimated at more than USD2.5 billion.

Responding to the NRA's approval of its plan today, Tepco said: "When implementing the decommissioning of the Fukushima Daini nuclear power station, we will give top priority to ensuring safety and will work to ensure the peace of mind of the local people." Tepco's decision to decommission the Daini plant along with the Daiichi plant means that all ten of its reactors in Fukushima prefecture will be scrapped. The utility also owns the Kashiwazaki-Kariwa nuclear power plant in Niigata prefecture. It plans to restart units 6 and 7 of that plant.

<https://www.world-nuclear-news.org/Articles/Fukushima-Daini-decommissioning-plan-approved>

Fukui governor approves restart of three reactors

World Nuclear News, April 28, 2021

The governor of Japan's Fukui Prefecture today approved the restart of three reactors owned by Kansai Electric Power Company - Takahama units 1 and 2, and Mihama unit 3. His consent was the final approval needed for the reactors - all aged over 40 years old - to resume operation. At a press conference, Fukui Governor Tatsuji Sugimoto said he reached the decision after considering the matter based on the prefecture's three nuclear principles of securing safety, gaining residents' understanding and improving welfare, Jiji Press reported. "Taking all circumstances into account, I agreed to the restarts," he said.

In a statement today, Kansai said: "We would like to express our deep gratitude to the Governor for making his decision in consideration of this. In addition, the Governor of Fukui Prefecture and other Fukui citizens have been involved in the nuclear power business. Thank you for your understanding and support, and for your efforts in the stable supply of electric power." Kansai is now discussing the exact schedule for bringing the reactors back online, the Japan Times said, but other media reports suggest it could be within two months. Sugimoto's approval for the reactor restarts followed that of the Fukui prefectural assembly on 23 April.

<https://www.world-nuclear-news.org/Articles/Fukui-governor-gives-go-ahead-for-restart-of-three>

Op-ed

Viewpoint: Advanced nuclear for the hydrogen economy

World Nuclear News, April 29 2021

Innovation and energy have long been intertwined, and with recent advancements in clean technologies, there is an abundance of momentum towards a greener future, writes Steve Threlfall, general manager of U-Battery. "Canada has consistently held its position at the forefront of the global fight against climate change as it continues its energy transformation, driven by a mix of hydro, nuclear, wind and solar, within its energy portfolio.

It is anticipated that the Trudeau government's 2021 Budget will be centred on a path toward economic recovery, a recovery that will be inclusive of green initiatives that can facilitate Canada's ambitious environmental goals. One of the key components in Canada's long-term climate change strategy is the development of a robust and thriving hydrogen sector. Just recently, the Government of Canada released its Hydrogen Strategy, which calls for domestic and global investments and strategic partnerships.

As one of the top ten hydrogen producers in the world today, Canada is rich in feedstock assets that produce hydrogen, and can lean on a strong and diverse energy sector. In the same week, the federal government also released its SMR Action Plan, a comprehensive strategy outlining the federal government's commitment to enable the development and deployment of small modular reactors (SMRs) across the country. There is no doubt that renewables like hydrogen have a significant role to play in decarbonising Canada's footprint, but it is a role quite like that of SMRs. In fact, advanced SMR designs will be capable of producing hydrogen at a low carbon capacity.

<https://www.world-nuclear-news.org/Articles/Viewpoint-Advanced-nuclear-for-the-hydrogen-econom>

World/Misc

Rooppur 2 components begin journey to Bangladesh

World Nuclear News, April 20, 2021

The reactor pressure vessel and first two steam generators for Rooppur unit 2 have started their journey from the Volgodonsk branch of AEM-Technology JSC in Russia to the construction site in Bangladesh. The pressure vessel took two years to manufacture in a process that included 768 operations, AEM-Technology said, and has undergone quality control operations and testing, including hydraulic tests at 1.4 times higher than its working pressure. The vessel, which weighs 320 tonnes and is 12 metres long, together with two 340-tonne steam generators, each 14 metres in length, will be transported by barge to the port of Novorossiysk, from where they will be shipped to Bangladesh, a sea voyage of about 14,000 km.

AEM-Technology is part of Rosatom's engineering division, Atomenergomash. It claims to be the only company in Russia that produces complete sets of nuclear steam generating installations for nuclear power plants, and its facilities can produce up to four such sets of equipment per year. It has manufactured over 50 types of equipment for the two VVER-1200 units at Rooppur, including reactor vessels, steam generators, main circulation pipelines, main circulation pumps and other equipment. In total, over 4000 tonnes of equipment will be shipped to the construction site on the banks of the river Ganges.

<https://www.world-nuclear-news.org/Articles/Plant-components-begin-journey-to-Bangladesh>

Grossi: Nuclear "worth looking at" for African countries

World Nuclear News, April 21, 2021

Nuclear can help Africa generate the energy its people need for economic prosperity, while helping to meet the dual challenge of rapidly growing energy demand and concerns for the environment, International Atomic Energy Agency (IAEA) Director General Rafael Mariano Grossi has said this week. Governments across Africa are devising policies to become middle-income countries in the medium term. Socioeconomic growth comes with a rise in energy demand and a need to secure a reliable and sustainable energy supply, while countries with sufficient electricity supply face the dual challenge of a rapidly growing energy demand and concerns for the environment, Grossi said at Africa Nuclear Business Platform's ANBP Lite conference on 19 April.

Over one billion people in the world have no access to electricity, and two-thirds of those live in Africa, he said. "Access to clean, reliable and affordable energy is a precondition for raising living standards and improving human well-being. Energy affects health care, education and job opportunities, among others. And this is why nuclear power is becoming an attractive option for several countries in Africa in need of a clean, reliable and cost-effective source of energy. "Of the nearly 30 so-called newcomer countries that are embarking [on] or considering nuclear power, almost one-third are in Africa. Why are countries in Africa looking at nuclear? Very simple. The reasons vary, but they all come back to one word: reliability," he said.

For many countries in Africa with access to electricity, Grossi said, supply remains 'spotty', with frequent outages. Reliable supply and resilient grids could help countries across the continent where strong increases in energy demand are predicted in the coming years. Establishing a successful nuclear power programme is a major undertaking and requires establishing the necessary nuclear infrastructure, a legal and regulatory framework, competent institutions and a skilled workforce, Grossi said. This takes time, effort and government commitment from programme planning to decommissioning and waste management. "This is where the IAEA can help, by providing guidance, advice, training and review services towards a safe and secure use of nuclear power," he said.

<https://www.world-nuclear-news.org/Articles/Grossi-Nuclear-worth-looking-at-for-African-countr>

Climate leaders must include nuclear in net-zero debate

World Nuclear News, April 22, 2021

The Canadian Nuclear Association, Europe's Foratom, the Japan Atomic Industrial Forum, the USA's Nuclear Energy Institute, the UK's Nuclear Industry Association and World Nuclear Association have issued a joint statement ahead of the Leaders Summit on Climate that starts today. At the invitation of US President Joe Biden, world leaders will convene for the two-day event to galvanise efforts to reduce greenhouse gas emissions.

"We have less than 30 years to cut carbon emissions from every sector of our global economy to zero. To meet the urgency and the magnitude of this challenge we must take a realistic, science-based approach that addresses all sectors," the industry groups said. "The world will need to generate many times more clean energy than we do today. To achieve this will require that we use every low-carbon technology at our disposal. Nuclear power must be one of those technologies." The benefits of nuclear technologies are "unmatched".

<https://www.world-nuclear-news.org/Articles/Climate-leaders-must-include-nuclear-in-net-zero-d>

Canadian university becomes IAEA Collaborating Centre

World Nuclear News, April 29, 2021

The International Atomic Energy Agency (IAEA) has designated Ontario Tech University as a Collaborating Centre to support IAEA activities on advanced nuclear power technology, including small modular reactors (SMRs), as well as the non-electric applications of nuclear energy. The institution is the first in Canada to receive such a designation. The agreement was signed on 22 April at the IAEA's headquarters in Vienna by Mikhail Chudakov, IAEA deputy director general and head of the Department of Nuclear Energy, in the presence of Heidi Hulan, Canada's ambassador to Austria and its permanent representative to United Nations organisations located in Vienna. She is currently also serving as the chair of the IAEA Board of Governors.

The IAEA said the focus of the agreement will be to support R&D on integrated, sustainable energy system designs and modelling focused on SMRs and microreactors, as well as renewable energy technologies for multi-purpose applications. This includes hydrogen production, desalination and

district heating as part of the overall contribution to the climate change mitigation. The agreement includes the development of training and education resources and publications for effective capacity building on topics related to SMRs, nuclear-renewable integrated energy systems and nuclear cogeneration.

<https://www.world-nuclear-news.org/Articles/Canadian-university-becomes-IAEA-Collaborating-Cen>

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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