जन जागरूकता ई-संवाद पत्र

कुडनकुलम न्यूक्लियर पॉवर प्रोजेक्ट

फरवरी 2026

अंक – 164

इस अंक में:

- नाभिकीय नारे
- तकनीकी सत्र
- नाभिकीय आंकड़ा
- नाभिकीय समाचार
- शब्द कोश
- आपको मालूम है?
- विशेष आलेख
- नाभिकीय सामान्य ज्ञान

तैयारकर्ता एवं संपादक:

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kbjashi@npcil.co.in

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स्थल निदेशक,
कुडनकुलम न्यूक्लियर पॉवर प्रोजेक्ट

प्रिय पाठकगण ,

भारत का नाभिकीय ऊर्जा क्षेत्र लगातार प्रगति कर रहा है। राजस्थान परमाणु विद्युत परियोजना इकाई - 7 सफलतापूर्वक पूरी क्षमता तक पहुंच गई है, जबकि तारापुर इकाई 1 बड़े नवीनीकरण के बाद प्रचालन में लौट आई है। केकेएनपीपी ने तिरुनेलवेली में 12-दिवसीय पोरुनाई पुस्तक मेला 2026 के दौरान जनता के साथ सक्रिय रूप से शामिल रहा, जहां लगभग 20,000 आगंतुकों ने केकेएनपीपी पवेलियन का दौरा किया । पढ़कर आनंदित हों...

अध्यक्ष, जन जागरूकता समिति

फरवरी 2026 के विशिष्ट बिंदु

1. केकेएनपीपी स्थल पर 35 और स्थल के बाहर 04 जन संपर्क कार्यक्रम आयोजित किए गए
2. 2,340 घंटों का जन संपर्क, 21,990 लोगों से संपर्क
3. 32,048 जन जागरूकता प्रकाशन वितरित किए गए

केकेएनपीपी का जलवायु परिवर्तन के न्यूनकरण में योगदान

जलवायु परिवर्तन आज वैश्विक पर्यावरण मुद्दों में सर्वाधिक महत्वपूर्ण है। नाभिकीय विद्युत न्यूनतम कार्बन प्रौद्योगिकियों में से एक है जो बढ़ती हुई आबादी एवं सामाजिक-आर्थिक विकास के लिए विद्युत उत्पादन करते हुए ग्रीन हाउस गैसों (जीएचजी) के उत्सर्जन (अधिकतर CO_2) में कमी लाती है। CO_2 के उत्सर्जन में कमी लाने में केकेएनपीपी का योगदान (दिनांक 28 फरवरी 2026 को) अब तक इस प्रकार है।

कुल उत्पादित विद्युत इकाई	124,768 मिलियन यूनिट
केकेएनपीपी द्वारा कुल CO_2 उत्सर्जन में कमी	107,175,463 टन

नोट: कोयले एवं नाभिकीय ऊर्जा के औसत जीवन चक्र ग्रीन हाउस गैस उत्सर्जन क्रमश: 888 एवं 29 (टन/गीगावाट घंटा) है।

Public Awareness e-Newsletter

Kudankulam Nuclear Power Project

February 2026 Issue –164

In this issue:

- Nuclear Slogan
- Technical session
- Nuclear Database
- Nuclear News
- Lexicon
- Did you know?
- Feature article
- Nuclear Trivia

Dear Readers,

India's nuclear power sector continues to make steady progress. Rajasthan Atomic Power Project Unit 7 has successfully reached full power, while Tarapur Unit 1 has returned to service after a major refurbishment. KKNPP actively engaged with the public during the 12-day Porunai Book Fair 2026 at Tirunelveli, where about 20,000 visitors explored the KKNPP pavilion. Read on happily!

-Chairman, PA Committee

Spotlight of February 2026

1. 35 on-site & 04 Off-site outreach programme organised
2. 2,340 hours of Public Outreach, reached 21,990 people
3. 32,048 PA Publications distributed

KKNPP 's contribution to climate change mitigation

Climate change is the foremost global environmental issue today. Nuclear power is one of the low carbon technologies that can contribute to reducing greenhouse gas (GHG) emissions (mostly CO_2) while generating electricity for growing populations and socioeconomic development. KKNPP's contribution in preventing the CO_2 emissions till now (**As on Feb 28, 2026**) is given below.

No.of units of electricity generated	124,768 Million Units
Total CO_2 emissions avoided by KKNPP	107,175,463 Tonnes

Note: Average lifecycle GHG emissions for Coal & Nuclear is 888 & 29 (tonnes/GWh) respectively.

KKNPP 1&2 achieved WANO Performance Index of 100 %

"I take immense pleasure in announcing that in the fourth quarter of 2025, both units of KKNPP 1&2 have achieved the WANO Performance Index of 100 % and ascended to the top quartile of the WANO- Moscow centre ranking list.

This accomplishment marks a significant milestone and is a matter of great pride for KKNPP as well as NPCIL."

Sh D.Ramesh
Station Director, KKNPP 1&2

Snap shot

A glimpse of **White-throated kingfisher** at KK Site

Photography by
K B Jashi
OIC, TLD Lab
KKNPP

Scientific classification	
Kingdom:	Animalia
Phylum:	Chordata
Class:	Aves
Order:	Coraciiformes
Family:	Alcedinidae
Genus:	Halcyon
Species:	H. smyrnensis
Binomial name:	
Halcyon smyrnensis	

Source: en.wikipedia.org

Public awareness Site visits:

Site visit commences with a visit to Nuclear Information Centre(NIC) and a structured lecture programme is conducted for about one hour on nuclear energy & safety features of KKNPP with relevance to the events at Fukushima and also addresses the queries mainly related to protection of marine organism and handling of waste. They are then taken to Model room for familiarization of site layout, simulator facility to visualize the functioning of safety systems and health physics training facility to understand the concept of radiation safety during normal operation & abnormal situation. Subsequently they are taken to the Intake structure and Desalination plant. This programme concludes with a feedback session. Two of the feedback received from the visitors are given in this section.

Public Voice

NUCLEAR POWER CORPORATION OF INDIA LTD
நியூக்ளியர் பவர் கார்ப்பரேஷன் ஆஃப் இந்தியா லிமிடெட்
(A GOVT OF INDIA ENTERPRISE)
(ஒரு இந்திய அரசு நிறுவனம்)
KUDANKULAM NUCLEAR POWER PROJECT
கூடங்குளம் அணுமின் திட்டம்

PUBLIC AWARENESS PROGRAM – FEED BACK FORM
விழிப்புணர்வு நிகழ்ச்சி – கருத்து பதிவுத் தாள்

Date / தேதி: 06/02/2026

Name of the Educational Institution / Village / Organization
கல்வி நிறுவனம் / கிராமம் / நிறுவனத்தின் பெயர்
பாபுஜி நினைவு மெட்ரிகுலேஷன் பள்ளி, மணவாளக்குறிச்சி

Name of KKNPP officials conducted the PA program
விழிப்புணர்வு நிகழ்ச்சியை நடத்திய கூடங்குளம் அணுமின் நிலைய அதிகாரிகளின் பெயர்
T. Rajesh, P. Sundara Rajan

No. of participants பங்குபெற்றவர்களின் எண்ணிக்கை 58

Date and duration தேதி மற்றும் நேரம் 6/2/2026 9.30 – 4.00

Visitors Feedback / பார்வையாளர்களின் கருத்துக்கள்
அணுமின்நிலையத்தை பற்றிய தெளிவான விளக்கம் எனக்கு கிடைத்தது அதனால் சுற்றுப்புறத்தில் எவ்விதமான பாதிப்பும் இல்லை என்பதை நான் இங்கு வந்து அறிந்து கொண்டேன். இங்குள்ள வேலை வாய்ப்புகளை பற்றி தெளிவான புரிதல் எனக்கு கிடைத்தது.

Signature / கையெழுத்து Abish.A

Name / பெயர் A. Abish

Designation / பதவி மாணவன்

(ஒரு இந்திய அரசு நிறுவனம்)
KUDANKULAM NUCLEAR POWER PROJECT
கூடங்குளம் அணுமின் திட்டம்

PUBLIC AWARENESS PROGRAM – FEED BACK FORM
விழிப்புணர்வு நிகழ்ச்சி – கருத்து பதிவுத் தாள்

Date / தேதி: 16/02/2026

Name of the Educational Institution / Village / Organization
கல்வி நிறுவனம் / கிராமம் / நிறுவனத்தின் பெயர்
KNM ARTS AND SCIENCE COLLEGE, KANJIRAMKULAM

Name of KKNPP officials conducted the PA program
விழிப்புணர்வு நிகழ்ச்சியை நடத்திய கூடங்குளம் அணுமின் நிலைய அதிகாரிகளின் பெயர்
A.V SATHISH, C. SANTHOSH KUMAR.

No. of participants பங்குபெற்றவர்களின் எண்ணிக்கை 31

Date and duration தேதி மற்றும் நேரம் 16/02/2026 9:30 - 4:00

Visitors Feedback / பார்வையாளர்களின் கருத்துக்கள்
It was amazing program. After attending the class the misunderstanding about nuclear plants gone. It help me lot to understand about basics of nuclear reactor, process and so on.

Signature / கையெழுத்து

Name / பெயர் MEGHA.S.M

Designation / பதவி Student

NPCIL Mission:

To develop nuclear power technology and to produce Nuclear Power as a safe, environmentally benign and economically viable source of electrical energy to meet the increasing needs of country.

Atoms For Water

"Talking about water is not just talking about infrastructure or systems — it is talking about survival. It is about protecting the foundation of life and livelihoods. Isotope hydrology stands out as a powerful example of the transformative potential of nuclear sciences to address complex waterrelated challenges. The ability of isotope hydrology to precisely trace the origin, age and quality of water makes it a game-changer in water resource management."

Retno Marsud

UN Secretary General's Special Envoy on Water

Source: www.iaea.org

Electricity and Energy Storage

(Source: World Nuclear Association)

Pumped storage projects and equipment have a long lifetime – nominally 50 years but potentially more, compared with batteries – 8 to 15 years. Pumped hydro storage is best suited for providing peak-load power for a system comprising mostly fossil fuel and/or nuclear generation. It is not so well-suited to filling in for intermittent, unscheduled and unpredictable generation.

Here's a list of the operational pumped storage plants in India contributing to the ~7 GW installed capacity as of 31 December 2025:

Plant Name	State	Capacity (MW)
Tehri Pumped Storage Plant	Uttarakhand	~750 MW
Ghatgar Pumped Storage Plant	Maharashtra	~250 MW
Purulia Pumped Storage Project	West Bengal	~900 MW
Srisailam Left Bank Pumped Storage	Telangana	~900 MW
Kadamparai Pumped Storage Plant	Tamil Nadu	~400 MW
Nagarjuna Sagar Pumped Storage Plant	Telangana	~705.6 MW
Bhira Pumped Storage Plant	Maharashtra	~150 MW
Kadana Pumped Storage Plant	Gujarat	~240 MW*
Sardar Sarovar Pumped Storage	Gujarat	~1,200 MW*
Pinnapuram Pumped Storage Plant	Andhra Pradesh	~1,680 MW

Source: www.modernpowersystems.com

A World Energy Council report in January 2016 projected a significant drop in cost for the majority of energy storage technologies as from 2015 to 2030. Battery technologies showed the greatest reduction in cost, followed by sensible thermal, latent thermal and supercapacitors. Battery technologies showed a reduction from a range of €100-700/MWh in 2015 to €50-190/MWh in 2030 – a reduction of over 70% in the upper cost limit in the next 15 years. Sodium sulfur, lead acid and lithium-ion technologies lead the way according to WEC. The report models storage related to both wind and solar plants, assessing the resultant levelised cost of storage (**LCOS**) in particular plants. It notes that the load factor and the average discharge time at rated power is an important determinant of the LCOS, with the cycle frequency becoming a secondary parameter. For solar-related storage the application case was daily storage, with six-hour discharge time at rated power. For wind-related storage the application case was for two-day storage with 24 hours discharge at rated power. In the former case the most competitive storage technology had LCOS of €50-200/MWh. In the latter case, levelised costs were higher and sensitive to the number of discharge cycles per year, and "few technologies appeared attractive."

To be continued in Mar 2026

Nuclear Database

OPERATIONAL REACTORS

Country	MWe #	No. of Reactors
ARGENTINA	1641	3
ARMENIA	416	1
BELARUS	2220	2
BELGIUM	2056	2
BRAZIL	1884	2
BULGARIA	2006	2
CANADA	12714	17
CHINA	56446	58
CZECH REP	3963	6
FINLAND	4369	5
FRANCE	63000	57
HUNGARY	1916	4
INDIA	7550	21
IRAN	915	1
JAPAN	12631	14
KOREA	25609	26
MEXICO	1552	2
NETHERLANDS	482	1
PAKISTAN	3262	6
ROMANIA	1300	2
RUSSIA	27969	34
SLOVAKIA	2308	5
SLOVENIA	688	1
SOUTH AFRICA	1854	2
SPAIN	7123	7
SWEDEN	7008	6
SWITZERLAND	2973	4
UKRAINE	13107	15
UAE	5348	4
UK	5883	9
USA	96952	94
Total	**377147**	**413**

 # Net Electrical Capacity

Source: https://pris.iaea.org/PRIS
www.nucnet.org

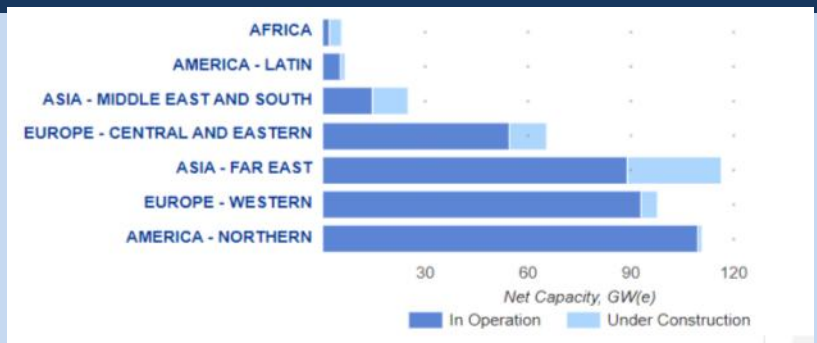
Updated as on Mar 09, 2026

Source: https://pris.iaea.org/PRIS

Current Status:

NUCLEAR POWER REACTORS IN OPERATION	413
TOTAL NET INSTALLED CAPACITY	377 147 MWe
NUCLEAR POWER REACTORS UNDER CONSTRUCTION	67
REACTOR-YEARS OF OPERATION	20 606

Regional Distribution of Nuclear Power Plants:



New connections to the grid: (Year 2025)

RAJASTHAN-7 (700 MW(e) *, PHWR, INDIA) on 17 March 2025

- ❖ Construction Start Date : 18 Jul, 2011
- ❖ First Criticality : 19 Sep 2024
- ❖ Gird Connection : 17 Mar 2025

ZHANGZHOU-2 (1126 MW(e), PWR, CHINA) on 22 November

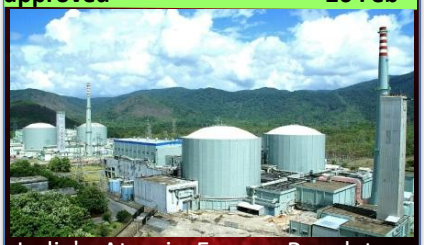
- ❖ Construction Start Date : 04 Sep, 2020
- ❖ First Criticality : 03 Nov 2025
- ❖ Gird Connection : 22 Nov 2025

KURSK 2-1 (1200 MW(e), PWR, RUSSIA) on 31 December

- ❖ Construction Start Date : 28 Apr, 2018
- ❖ First Criticality : 22 May, 2025
- ❖ Gird Connection : 31 Dec, 2025

* Gross Electrical Capacity

First concrete for Kaiga 5 & 6 in India approved 26 Feb



India's Atomic Energy Regulatory Board has given its consent for the first pour of concrete for Kaiga units 5 and 6 - which are both 700 MWe pressurised heavy water reactors. The consent is valid for five years, up to 28 February 2031. The pouring of first concrete for the nuclear island is the point at which a site becomes officially recognised as a nuclear power unit under construction. Excavation works for the units - which are part of a planned fleet of ten such reactors - began in May 2022. Indian engineering company Larsen & Toubro has already manufactured and dispatched four of the eight steam generators for the units.

Source: www.world-nuclear-news.org

US microreactor transported by air 18 Feb

A Valar Atomics microreactor has been transported on a US Air Force cargo plane from California to Utah and will eventually be moved to the Utah San Rafael Energy Lab for testing and evaluation. The 5 MW Ward250 reactor - without its nuclear fuel - was loaded onto a C-17 Globemaster III aircraft at the March Air Reserve Base in California on 15 February and flown to Hill Air Force Base in Utah. The airlift - named Operation Windlord - was aimed at demonstrating the potential to quickly deploy nuclear power for military and civilian use.

Source: www.world-nuclear-news.org

Nuclear News

India extends existing tax waivers for nuclear to 2035 05 Feb

The Indian government's budget proposes "to extend the existing basic customs duty exemption on imports of goods required for Nuclear Power Projects till the year 2035 and expand it for all nuclear plants irrespective of their capacity". The Union Budget was tabled in India's parliament on Monday Feb 01,2026 by Finance Minister with the key goal "to accelerate and sustain economic growth, by enhancing productivity and competitiveness, and building resilience to volatile global dynamics". According to the budget papers the zero rate applies to goods including "[Fuel elements (cartridges), non-irradiated] for generation of nuclear power" and "Control and Protection Absorber Rods & Burnable Absorber Rods". The exemption will last until 30 September 2035, and include approved projects registered with customs by that date.

Source: www.world-nuclear-news.org, www.energyportal.in

India's Rajasthan unit 7 reaches full power 11 Feb

Rajasthan nuclear power plant's unit 7 is the third of sixteen 700 MW Indian-designed pressurised heavy water reactors being built in the country. Nuclear Power Corporation of India Limited (NPCIL) announced on LinkedIn: "Rajasthan Atomic Power Project - Unit-7 (RAPP-7) successfully achieved rated power operation of 700 MW for the first time on 10 February 2026 at 05.15 hrs. "The milestone stands as a testament to engineering excellence, strong teamwork and institutional synergy, reinforcing NPCIL's role in strengthening India's clean, reliable and self-reliant energy future. A proud moment for NPCIL, powering India with confidence and excellence. India's government has sanctioned the "fleet mode" construction of further 700 MWe units at Kaiga in Karnataka; Gorakhpur in Haryana; Chutka in Madhya Pradesh; and Mahi Banswara in Rajasthan. India's ambition is to have at least 100 GW of nuclear energy capacity by 2047 to support its energy transition efforts. A second 700 MWe unit, RAPP-8, is also under construction at the Rajasthan site at Rawatbhata, which is already home to six operating PHWRs with a total capacity of 1,180 MW.

Source: *www.world-nuclear-news.org*

Tarapur 1 returns to service after refurbishment 16 Feb

India's oldest commercial nuclear power plant has returned to service after a long-term outage for refurbishment and life-extension work. "After successful refurbishment and life-extension, Tarapur Atomic Power Station Unit-1 (TAPS-1) has been synchronised to the National Grid for the first time in its second innings and has achieved its rated power," Nuclear Power Corporation of India Ltd (NPCIL) announced today, Feb 16, 2026. "TAPS-1 now returns with renewed strength, supported by upgraded safety systems, modernised equipment, and NPCIL's unwavering commitment to safety," it added.

Source: *www.world-nuclear-news.org*

QUICK FACTS

The impact of climate change on Central Asia's glaciers

- According to a 2022 report by the Eurasian Development Bank, the region's temperatures are increasing almost twice as fast as the global average, increasing desertification and hastening glacier melt.

- To date, more than 1000 of Tajikistan's 14 000 glaciers have completely melted.
- Kyrgyzstan's glaciers have not been spared either: the area covered by glaciers has decreased by 16% over the past 50 to 70 years.
- This is not just statistics, this is a direct threat to the lives and well-being of millions of people who depend on glaciers as a source of fresh water.

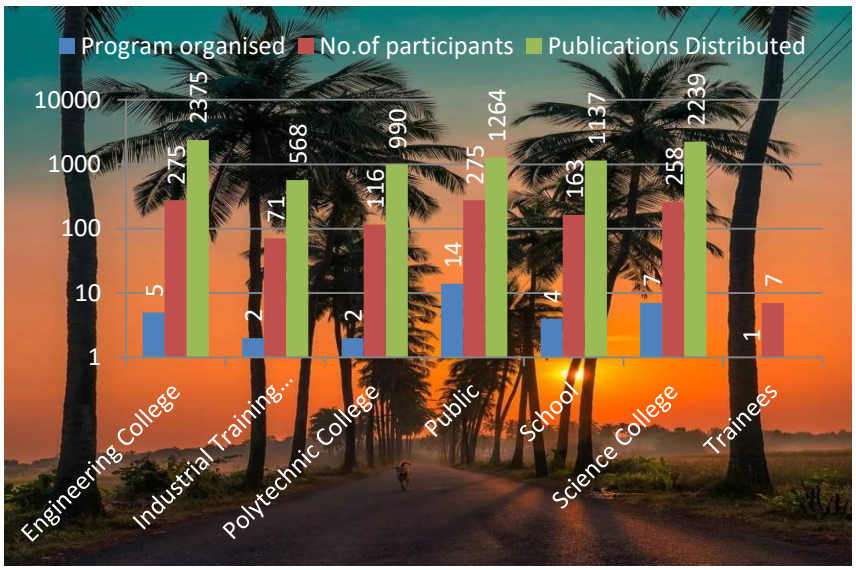
Source: IAEA, Wikipaedia

Nuclear Slogan

PA activity conducted at KKNPP Site

At site

As a part of public awareness programme, visits of Public from districts such as Tirunelveli, Kanyakumari and Tuticorin and also from Kerala to KKNPP were organised. The visitors of KKNPP were provided with a detailed information on nuclear power generation and its safety principles.



Few glimpses from Site Visit

At site

Members from KSEB Retired Engineers Forum Thrissur(I Batch) (Feb 02)

Members from KSEB Retired Engineers Forum Thrissur (II Batch) (Feb 03)

Government ITI (Women) Theni (Feb 04)

Jonathan Memorial Matric Hr.Sec.School, Vallioor (Feb 04)

Few glimpses from Site Visit

At site

Lakshmi Ammal Polytechnic College, Kovilpatti (Feb 05)

Bapuji Memorial Hr.Sec.School, Kanyakumari (Feb 06)

Delicates from Training program for Medical Officers KKNPP Hospital (Feb 06)

SRM TRP Engineering College, Tiruchirappalli (Feb 07)

Few glimpses from Site Visit

At site

Sree Narayana College, Kerala (Feb 09)

Mar Ivanios College (Autonomous), Kerala (Feb 09)

Scad College of Engineering & Technology, Tirunelveli (Feb 10)

Visit of CAG Auditors, Chennai (Feb 10)

Few glimpses from Site Visit

At site

C.S.I. Matric. Hr. Sec. School
Palayamkottai
(Feb 11)

Nellai College of Engineering
Tirunelveli dist. (I Batch)
(Feb 12)

Nellai College of Engineering
Tirunelveli dist. (II Batch)
(Feb 13)

K N M Arts & Science
College, Kerala
(Feb 16)

Few glimpses from Site Visit

At site

Government ITI, Tuticorin (Feb 17)

Alphonsa College, Kerala (Feb 19)

Sree Sankara College, Kerala (Feb 19)

Mannar Thirumalai Naicker College (Autonomous), Madurai (Feb 20)

Few glimpses from Site Visit

At site

Members and their family from Tamilnadu Science Forum (TNSF) (Feb 21)

Holycross Engineering College, Tuticorin (Feb 23)

Participants from XXXVIII Annual DAE Sports & Cultural Meet at KK Site (Feb 26)

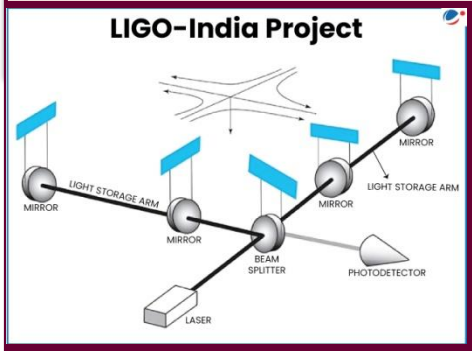
Shanmuga Industries Arts & Science College, Thiruvannamalai (Feb 26)

Central Polytechnic College, Kerala (Feb 27)

Lexicon

LIGO

LIGO, or **the Laser Interferometer Gravitational-Wave Observatory,** is a massive physics experiment designed to detect gravitational waves—ripples in the fabric of space-time caused by cataclysmic cosmic events like merging black holes, Merging neutron stars and Supernova explosions. These waves slightly stretch and compress space as they pass through Earth. **LIGO-India** is an advanced gravitational-wave observatory to be located in **Hingoli district, Maharashtra**, featuring 4-km arm-length detectors. This is the third observatory identical to the two LIGO observatories in USA. This will detect cosmic ripples, with construction led by Larsen & Toubro for the DAE. The project, approved in 2016, is a key joint effort between Indian institutions and the U.S. LIGO Lab.



Location: Aundh, Hingoli district, Maharashtra.

Objective: To detect, analyze, and map gravitational waves to study the universe, complementing existing detectors in the USA, Italy, and Japan.

Partnership: A collaborative project between the Department of Atomic Energy (DAE-Govt. of India), Department of Science and Technology (DST) of India, and the LIGO Laboratory in the USA (Caltech/MIT), funded by the National Science Foundation (NSF).

Significance: It will enhance the localization of gravitational wave sources in the sky and boost Indian research in astrophysics.
While LIGO is primarily an astronomical tool for "listening" to the universe, it has become one of the most important laboratories for nuclear physics. It allows us to study matter under conditions that are impossible to replicate in any earthbound lab.

Neutron stars are essentially "giant atomic nuclei" the size of a city. They are so dense that a single teaspoon of their material would weigh a billion tons. **LIGO's Role:** When two neutron stars orbit each other, their gravity causes them to deform. This "tidal stretching" depends on how squishy or stiff the nuclear matter is. By analyzing the gravitational wave signal, LIGO can tell us the radius of the stars, which directly reveals the nuclear physics occurring inside them.

The Origin of Heavy Elements (Nucleosynthesis)
For decades, a major mystery in nuclear science was where elements heavier than iron—like Gold, Platinum, and Uranium—came from. Regular stars aren't energetic enough to create them.

Source:, www.ligo-india.in/, visionias.in

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More on LIGO

The **r-process**: Nuclear physicists theorized the "rapid neutron-capture process" (r-process) was responsible.

The LIGO Connection: In 2017 (event GW170817), LIGO detected two neutron stars colliding. Follow-up observations with traditional telescopes proved that this collision created a "Kilonova," which forged several Earth-masses worth of gold and silver. LIGO confirmed that neutron star mergers are the universe's primary "nuclear gold mines."

Collaboration with Indian Nuclear Institutes:
LIGO-India isn't just an astronomy project; it is managed and funded by the Department of Atomic Energy (**DAE**). It involves key nuclear research hubs:
RRCAT (Indore): Experts in high-power lasers and particle accelerators.
IPR (Gandhinagar): Specialists in plasma physics, essential for understanding the ultra-hot environments of merging stars.
Saha Institute of Nuclear Physics (Kolkata): Actively researching the theoretical nuclear models that LIGO-India will eventually test.

As a part of PA outreach activity, Seminars, Workshop, Lectures and exhibitions were conducted at Educational Institutions and Organizations.

PA exhibition at Porunai Nellai Book Fair 2026, Tirunelveli

The Porunai Book Fair 2026 held at Tirunelveli from **February 10–22, 2026**, attracted large numbers of book lovers, students and the general public. The fair features **126 book stalls** covering diverse genres including local and world history, literature, science, politics, spirituality, children's literature, novels, poetry, and competitive exam materials.

Kudankulam Nuclear Power Project (KKNPP) actively participated in the event with an informative pavilion showcasing nuclear energy and the role of nuclear power in India's clean energy future.

The book fair was inaugurated by Mr **M. Appavu**, Honourable Speaker of the Tamil Nadu Legislative Assembly, who also visited the KKNPP pavilion and interacted with the team. The pavilion received an overwhelming response, with around 20,200 visitors interacting with exhibits and learning about nuclear technology and its benefits for sustainable development.

PA outreach programme conducted outside KKNPP:

Outside KKNPP

Date	Name of the Institution	No. of participants	Publications distributed
Feb 07	University of Kerala	150	-
Feb 10-22	Porunai Nellai Book Fair 2026, District Trade Center, Tirunelveli District	20200	23000
Feb 24	Sree Narayana College, Chempazhanthy, Kerala	250	250
Feb 27	Sree Ayyappa College for Women, Nagercoil	225	225
	Grand Total	**20825**	**23475**

Few glimpses

PA exhibition at Porunai Nellai Book Fair 2026, Tirunelveli

Mr **M. Appavu**, Honourable Speaker of the Tamil Nadu Legislative Assembly, visited the KKNPP pavilion

PA exhibition at Porunai Nellai Book Fair 2026, Tirunelveli

Special Features & Exhibitions:
In addition to book stalls, the festival includes several specialized zones:

Government & Science: A special ISRO pavilion, a Kudankulam Nuclear Power Plant stall, and a special Election awareness stall.

Culture & Arts: An art gallery, handicraft workshops, an ancient artifacts stall, and a numismatic exhibition of ancient Tamil coins.

Livelihood: 20 stalls featuring products from Women's Self-Help Groups and an organic produce stall by the Agriculture Department.

Technology: For the first time in Tamil Nadu, AI-generated reading awareness videos and short films are being utilized.

Few glimpses

Outside KKNPP

PA exhibition at Porunai Nellai Book Fair 2026, Tirunelveli

PA lecture at Sree Narayana College, Chempazhanthy, Trivandrum

The Department of Physics and Energy Conservation Cell of Sree Narayana College, Chempazhanthy, Trivandrum organized a talk on **"Nuclear Power: Where Clean Energy Meets High-Growth Careers."**

Date: Feb 24, 2026

Shri A. V. Sathish, OIC–Nuclear Information Centre, KKNPP, participated as the resource person and delivered an informative session to the students on nuclear power and career opportunities in the nuclear sector.

PA Lecture at Sree Ayyappa College for Women Nagercoil

Sree Ayyappa College for Women organized a talk on **"Splitting Atoms, Securing Futures"** as part of the **National Science Day** celebrations to promote scientific awareness about nuclear energy.

Date: Feb 27, 2026

Shri A. V. Sathish, OIC – Nuclear Information Centre, KKNPP, participated and delivered an inspiring talk to the students.

A total of 225 numbers of students participated in the event.

Few glimpses

Outside KKNPP

PA lecture at Sree Narayana College, Chempazhanthy, Trivandrum on Feb 24, 2026

No. of participants: 250

PA Lecture at Sree Ayyappa College for Women, Nagercoil, KK district On Feb 27, 2026

Did you know?

largest nuclear icebreaker in the world

- **New generation Russian nuclear-powered icebreakers each feature two RITM-200 reactors.**

Arktika' Nuclear Icebreaker

- **The Project 22220 vessels (like Arktika and Chukotka) use two 175 MWt RITM-200 reactors (60 MW total propulsion), allowing them to crush through ice up to 3 meters thick.**
- **Nuclear icebreakers are crucial for maritime operations, especially in the Arctic where thick ice can block the passage of ships. NS 'Arktika', the largest nuclear icebreaker in the world, is a prime example of advanced maritime engineering.**

Source: www.virtuemarine.nl

Feature article

Nuclear Energy and Sustainable Development

Source: World Nuclear Association

The environmental pillar

Land and water use :

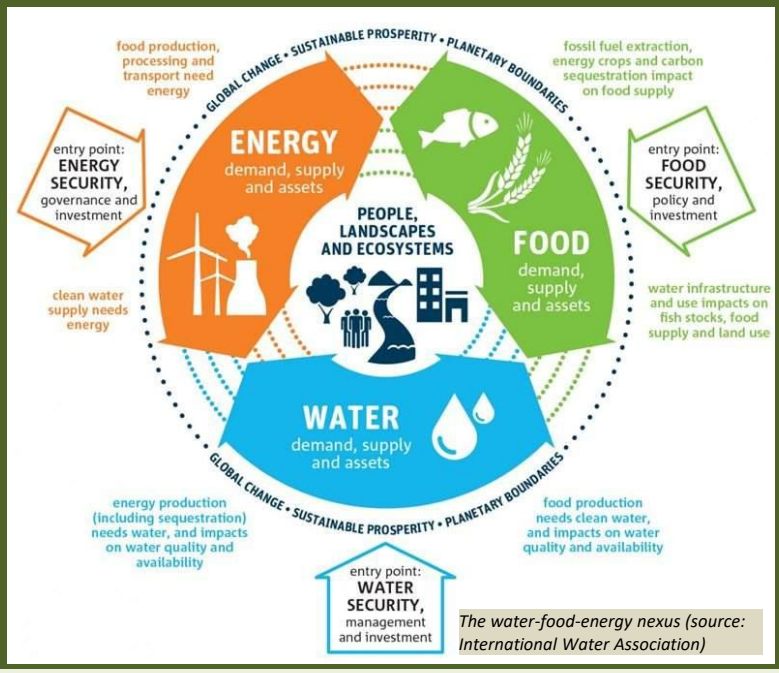
Land and water usage are key criteria for assessing the sustainability of different power production technologies. The power sector competes for limited resources with other important sectors such as agriculture, industry and housing, and the emergence of a new concept known as the water-food-energy nexus reflects the growing appreciation of the interconnectedness of policy decisions in these three areas.

Nuclear power plants produce huge amounts of low-carbon power and require less land to do so than any other energy source. The UN expects two-thirds of people to be living in urban areas by 2050 – an additional 2.5 billion individuals – where land is at a premium. Coupled with the need to preserve land to prevent loss of biodiversity, it is likely that nuclear energy's unique land-use advantages will prove increasingly determinative in the future.

Box 3: The water-food-energy nexus

Demand for water, food and energy is increasing, driven by rising global population and prosperity, as well as urbanization, dietary changes and economic growth. More than one-quarter of the world's energy is used for the production of food, and the agricultural sector is the largest single consumer of freshwater resources.

The inextricable link between achieving water, energy and food security has driven recognition that policy decisions on each cannot be made effectively in isolation. The nexus approach is designed to integrate management across the three closely-related sectors.



The water-food-energy nexus (source: International Water Association)

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What is Green financing?

Green financing refers to funding (loans, bonds, equity, investments) specifically directed toward environmentally sustainable projects such as:

- Renewable energy
- Clean transportation
- Energy efficiency
- Climate adaptation
- Low-carbon infrastructure

Major global frameworks include:

❖World Bank
❖International Monetary Fund
❖International Energy Agency

Here are the significant reasons why green financing is important:

1. Addresses Climate Change

Green financing contributes actively to climate mitigation by channeling financial resources into carbon-reducing projects like renewable energy installations and energy-efficient infrastructures

2. Promotes Sustainability Profile

While requiring significant upfront capital, nuclear projects are viewed as long-term, stable, and sustainable, making them attractive to specific ESG (Environmental, Social, and Governance) investors.

3. Job Creation

Green financing contributes to economic development by leading new industries and creating jobs.

4. Promotes Social Equality

Green financing supports equality in access to energy and climate adaptation, in addition to its environmental advantages.

Source: IEA, esgnews.com, finance.ec.europa.eu, WNA

Nuclear energy is integrated into green financing frameworks due to:

Low Carbon Emissions

- Lifecycle emissions comparable to wind.
- Much lower than coal and gas.

Reliable Baseload Power

- Unlike solar/wind, nuclear operates 24/7.
- Supports grid stability

Energy Security

- Reduces fossil fuel imports.

Key Financing Mechanisms in 2026 :

Mechanism	Purpose	Current Status (2026)
Sovereign Green Bonds	Government-issued debt for climate goals.	**UK** and **India** have expanded their green bond frameworks to include nuclear.
Corporate Green Bonds	Debt issued by utility companies.	**Bruce Power** (Canada) has issued billions in green bonds to fund life extensions.
RAB Model	Regulated Asset Base.	Used in the UK to lower the cost of capital by allowing investors to receive returns during construction phase.
Thematic Funds	ESG-focused investment funds.	Banks like **BNP Paribas** and **J.P. Morgan** now offer specific "Nuclear Opportunity" funds.

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