

Current Affairs search results for tag: science-and-technology

### **1. NGT impose a fine of Rs 2900 crore on Karnataka government for damaging the environment ( Oct. 15, 2022 )**

A [National Green Tribunal](#) (NGT) bench headed by **Justice Adarsh Kumar Goel** has held the Karnataka government guilty of causing harm to the environment by its failure in management of solid and liquid waste.

The bench has fined the government Rs 2,856 crore for its failure in liquid waste/sewage management and Rs 540 crore for its failure in solid waste management.

The NGT said that the state government having already deposited Rs 500 crore the state will have to deposit Rs 2900 crore as fine in a separate fund within two months.

The fund will be under the Chief Secretary of the Karnataka government and will be utilized for the restoration of the environment.

The NGT in recent months has imposed fines on a number of states like Telangana, Punjab, West Bengal and the Union Territory of Delhi for their mismanagement of municipal waste.

The NGT is monitoring compliance with the Municipal Solid Waste Management Rules, 2016 and other environmental aspects by the states and Union territories.

The National Green Tribunal was established in 2010 under **the National Green Tribunal Act 2010**. It deals with matters related to environmental protection and conservation of forest.

Its headquarters is in **New Delhi**.

Chairperson of NGT : **Justice Adarsh Kumar Goel**

### **2. ISRO to launch 36 satellites of UK's global communications network OneWeb ( Oct. 15, 2022 )**

The Indian Space Research Organisation (**ISRO**) will launch **36 satellites of OneWeb**, the UK's global communications network, on **October 23, 2022**.

#### **Important facts**

- The name of the rocket is **LVM3**, it was earlier called **GSLV Mk III**.
- It is India's heaviest satellite, and is being facilitated by Space PSU **NewSpace India Limited (NSIL)**.
- NSIL has signed two launch service contracts with OneWeb for launching the firm's **LEO (low Earth orbit)** broadband communication satellites onboard the **GSLV-Mk3**.
- The space PSU has at least **six commercial missions** planned in the next few months.
- This is the **first time** that India's heaviest rocket is being used for a commercial launch.

**What is OneWeb?**

- It is a global communications company that aims to distribute broadband satellite Internet worldwide through a fleet of LEO satellites.
- The OneWeb satellites are built at a OneWeb and Airbus joint venture facility in Florida that can produce two satellites a day.
- The launch roll-out of the satellites has been facilitated by the French company Arianespace using Russian-made Soyuz rockets.
- Moreover, this will be the first time that a rocket other than India's workhorse – the Polar Satellite Launch Vehicle (PSLV) is being used for a commercial launch.

**3. CSIR-NAL in Bengaluru successfully conducts Drone-based magnetic survey ( Oct. 14, 2022 )**

The **CSIR National Aerospace Laboratories (NAL) in Bengaluru** successfully conducted the Drone based **magnetic survey** near Magnetic Hill and Puga Chumthang region of **Leh-Ladakh** on 14 October 2022.

**Important facts**

- The survey was conducted last month in association with Hyderabad-based CSIR National Geophysical Research Institute.
- NAL deployed its **octa-copter drone** which has a payload capacity of 20 kg at sea level.
- NAL's OCTA-copter drone performed as designed at an altitude of more than **3600 metres**, withstanding the harsh flight conditions of strong winds.
- The magnetometer integrated with the drone received the magnetic data and is being analysed by scientists from the **National Geophysical Research Institute**.
- The Director of NAL **Dr.Abhay A Pashilkar** said that the data will help to plan developmental activities in Ladakh region.

**National Aerospace Laboratories (NAL)**

- It is a constituent of the Council of Scientific and Industrial Research (CSIR), established in the **year 1959**.
- It is the only government aerospace R&D laboratory in the country's civilian sector.
- It is a highly-technology-oriented institute focusing on advanced subjects in aerospace.

**4. PM Modi to chair the meeting of CSIR Society ( Oct. 14, 2022 )**

Prime Minister **Narendra Modi** will chair a meeting of the **Council of Scientific and Industrial Research (CSIR) Society in New Delhi** on 15 October 2022.

**Important facts**

- The meeting will set goals for the next 25 years for CSIR which is a world class body in the field of science and research.
- Union Finance Minister Nirmala Sitharaman, 13 secretaries of central ministries and all secretaries of science-based ministries will also attend the meeting.
- CMDs of four PSUs, NTPC, BHEL, GAIL and HAL, three industry leaders and 12 academicians and members of the scientific community will also participate in the meeting.
- The Society meets annually to review CSIR activities and consider future programmes.

**Council of Scientific and Industrial Research (CSIR)**

- It is the largest research and development organisation in India in the field of science and technology.
- It has a dynamic network of **37 national laboratories, 39 outreach centres, 3 innovation complexes and 5 units.**
- It is ranked **37th out of 1587 government institutions** around the world.
- **The Chairman (ex-officio)** of CSIR is the **Prime Minister** and the **Union Minister of Science and Technology is the Vice President (ex-officio).**
- It is funded by the Ministry of Science and Technology.
- Established - **September 1942**
- Located - **New Delhi**
- Director-General of CSIR - **N Kalaiselvi**

Union Science and Technology Minister - **Jitendra Singh**

**5. INS Arihant carries out successful launch of Submarine Launched Ballistic Missile ( Oct. 14, 2022 )**

India's submarine **INS Arihant** carried out a successful launch of a **ballistic missile** on 14 October, 2022.

**Important facts**

- The missile was test fired to a predetermined range and was successful in hitting the target area in the **Bay of Bengal** with high accuracy.
- All operational and technical parameters of the weapon system have been validated.

- The successful user training launch of the SLBM by INS Arihant is critical to proving crew competency and validating the SSBN programme, a key element of India's nuclear deterrence.

### **About INS Arihant**

- It is India's first indigenously-designed, developed and manufactured nuclear-powered ballistic missile submarine.
- It was **designed in the 1990s** and its development project was officially accepted in 1998.
- Its design is based on the **Russian Akula-1 class submarine**.
- It was launched on **26 July 2009**, the anniversary of **Vijay Diwas** (Kargil War Victory Day) by former Prime Minister Manmohan Singh.
- It is a **6,000 ton** submarine with a length of **110 meters** and a width of **11 meters**.
- It is powered by an **83 MW** pressurized light water nuclear reactor with enriched **uranium fuel**.
- It was built under the Advanced Technology Vessel (ATV) project at the Ship Building Centre in the port city of **Visakhapatnam**.

### **6. President Droupadi Murmu inaugurates 'PARAM KAMRUPA' Supercomputer facility at IIT Guwahati ( Oct. 14, 2022 )**

President of India, Droupadi Murmu, inaugurated '**PARAM KAMRUPA' Supercomputer** facility and a **high-power active and passive component laboratory of** at Indian Institute of Technology, **Guwahati** on 13 October, 2022.

#### **Important facts**

- The President inaugurated the Dhubri Medical College and Hospital, and laid the foundation stone of regional institutes of the **National Institute of Virology at Dibrugarh in Assam and Jabalpur in Madhya Pradesh**.
- She urged the science and technology institutions to lay emphasis on research and technology.
- The program was also addressed by Assam Governor Professor **Jagdish Mukhi**, Assam Chief Minister **Himanta Biswa Sarma** and Union Minister of State for Health and Family Welfare **Bharati Praveen Pawar**.

### **About 'PARAM KAMRUPA' Supercomputer**

- PARAM Kamrup, a one of its kind supercomputer in the North East region, has been set up under the National Supercomputing Mission.

- National Supercomputing Mission (NSM)** is a joint initiative of the Ministry of Electronics and Information Technology (MeitY) and the Department of Science and Technology (DST).
- It will provide advanced computing, healthcare techniques along with solutions for many issues to this region.
  - Many components of this supercomputer are indigenously developed.
  - Such technological development will make India a world leader in super computing and enhance India's capability in solving the challenges of the country as well as the world.
  - The National Supercomputing Mission (NSM) has deployed Supercomputer PARAM Ganga at IIT Roorkee in March 2022.

### **What are supercomputers?**

- A supercomputer can perform high-level processing at a faster rate than a normal computer.
- They work together to perform complex operations that are not possible with normal computing systems.
- Fast speed and fast memory are the characteristics of supercomputers.
- The performance of a supercomputer is generally evaluated in petaflops.

### **National Supercomputing Mission**

- The National Supercomputing Mission was launched In **2015**.
- The aim of the mission was to enhance the research capacities in the country to form a Supercomputing grid.
- It supports the government's vision of '**Digital India**' and '**Make in India**' initiatives.
- The mission is being jointly operated by the Department of Science and Technology (DST) and the Ministry of Electronics and Information Technology (MeitY).
- It is implemented by Center for Development of Advanced Computing (**C-DAC**), Pune and IISc, Bengaluru.

### **Some important facts about supercomputer**

- China has the maximum number of supercomputers followed by the **US, Japan, France, Germany, Netherlands, Ireland and the United Kingdom..**
- India's first supercomputer - **PARAM 8000**
- first supercomputer assembled indigenously - **PARAM Shivay**, installed in IIT (BHU)
- **PARAM Shakti, PARAM Brahma, PARAM Yukti, PARAM Sanganak** are some name of india's supercomputers

- India's **PARAM-Siddhi** AI, has been ranked 63rd in the Top 500 list of most powerful supercomputers in the world.

## **7. Maharatna Coal India to set up 1190 MW Solar Power Project in Rajasthan ( Oct. 13, 2022 )**

The Government of India owned [Maharatna Company](#), Coal India Limited (CIL) signed a Memorandum of Understanding (MoU) with the Rajasthan Vidyut Utpadan Nigam Ltd (RVNUL), for setting up a 1,190-MW solar power plant in the Bikaner district of Rajasthan on 13 October 2022. The plant will be installed in a 2,000-MW solar park being developed by RVNUL in **Poogal, Bikaner**.

RVNUL CMD R K Sharma and Technical Director of Coal India Limited, V Reddy signed the MoU in the presence of Union Minister of Coal **Prahlad Joshi** and Chief Minister of Rajasthan **Ashok Gehlot** in Jaipur.

Recently the e-commerce giant [Amazon](#) announced to set up its first solar plant in Rajasthan.

### **Rajasthan as an attractive destination for solar power**

Rajasthan with Thar Desert is suitable for generation of solar power using the desert's intense heat. Furthermore, in comparison to the rest of the country, the state is thinly populated. Solar power plants in less populated areas enable clean energy to reach isolated communities that do not have access to electricity.

Rajasthan has the **world's largest solar plant** with a capacity of 2,245 MW in **Bhadla of the Jodhpur district** of the state.

In March this year the state government announced two new solar parks of 1,800 MW to be developed in the Jaisalmer and Bikaner districts of the state.

For the 800 MW project in Jaisalmer RVNUL was the developing agency while the 1,000 MW solar power project in Bikaner will be developed by Rajasthan Renewable Energy Corporation in the first phase.

Private solar project developer **Rays Experts** also announced in May this year that they will develop the **world's largest solar park in Rajasthan with a capacity of 3000 MW**. The project will be set up in Bikaner.

## **8. First Sanctuary for 'Slender Loris' to be set up in Tamil Nadu ( Oct. 12, 2022 )**

India's first sanctuary for the endangered species, **Slender Loris** was notified by the Tamil Nadu government on 12 October 2022. The first 'Kadavur Slender Loris Sanctuary' in will be set up in the Karur and Dindigul districts of the state, in about 11,806 hectares of land.

### **Slender Loris**

Slender Loris are small nocturnal mammals that are arboreal in nature as they spend most of their life on trees. These look like monkeys and are about 25 cm long and have long, thin arms. They weigh around 275 grams. They are mainly found in **India and Sri Lanka**.

Apart from insects they are also known to eat leaves, flowers, slugs and sometimes eggs of birds. The species acts as a biological predator of pests in agricultural crops and benefits farmers. The nocturnal mammal is listed as an endangered species as per the International Union for the Conservation of Nature (IUNC).

### **Sanctuary for Slender Loris**

A total of 11,806 hectares of forest areas in the Karur and Dindigul districts of Tamil Nadu have been identified as important habitats for Slender Loris. The Kadavur Slender Loris sanctuary will cover Vendasandur, Dindigul East, and Natham taluks in the Dindigul district and Kadavur taluk in the Karur district of Tamil Nadu.

## **9. NGT fines Delhi government Rs 900 crore for its failure in 'solid waste management' ( Oct. 12, 2022 )**

The [National Green Tribunal](#) (NGT) in an order passed on 12 October 2022 has ordered the Delhi government to pay **Rs 900 crore** as environmental compensation for improper management of solid municipal waste, stating that "citizens cannot be faced with an emergency situation due to lack of governance."

The NGT bench heard by **Justice Adarsh Goel** held the Delhi government responsible for not taking remedial steps to deal with the solid waste at the three landfills sites of Delhi- Ghazipur, Bhalswa, and Okhla .

The Bench said that there was continuous emission of methane and other harmful gasses along with groundwater contamination which posed a direct threat to the environment and people of Delhi.

The Bench directed the Delhi government to deposit the fine amount in a separate account which will be used by the Delhi Chief Secretary to for restoration of the environment by remediation of waste and other measures.

The NGT is monitoring compliance of Municipal Solid Waste Management Rules, 2016, and other environmental issues by states and Union territories.

### **National Green Tribunal**

- It deals with cases relating to the environment protection and conservation of forest.
- It was set up in 2010 under the National Green Tribunal Act 2010.
- The Tribunal is not bound by the procedure laid down under the **Code of Civil Procedure, 1908**, but is **guided by principles of natural justice**.
- **New Delhi** is the Principal Place of Sitting of the Tribunal and Bhopal, Pune, Kolkata and Chennai are other four places of sitting of the Tribunal.

**Chairperson : Justice Adarsh Kumar Goel**

## **10. Indian Railways plans to replace fossil fuel fleet with electric fleet by 2025 ( Oct. 12, 2022 )**

In a big boost to the Centre's ambitious plan to make India a 100% electric vehicle nation by **2030**, the [Indian Railways](#) has proposed to replace its entire fleet of vehicles that run on diesel, biofuels or even natural gas with electric vehicles by **December 2025**.

To achieve the ambitious target of 2030 the country needs to set up 46,000 EV charging stations by 2030 to match the global benchmark.

### **Phase wise target of Railways**

According to the timeline proposed by the railways, it aims to achieve the target of installing EV-charging stations and phasing out **20%** of its fleet by December 2023, **60%** by 2024 and **100%** by 2025.

The replacement of inspection vehicles in divisional offices and attached units would not be mandatory in the initial phase of three years since the vehicles would be required by officials for frequent visits to far-flung areas where adequate charging infrastructure may not be available.

The railways will also create an affordable and accessible charging infrastructure for users, including passengers, visitors and the general public, on its premises.