

NEWS TODAY

'Coal 2024: Analysis and Forecast to 2027' Report published by International Energy Agency (IEA)

The report presents **trends** and **forecasts** for coal demand, supply and trade by grade and by region.

Trajectory of Coal Usage

- **Coal Demand:** It is expected to **shrink in advanced economies** accompanied with **growth in few emerging economies** E.g. **India, China, Indonesia**.
 - ⊕ **India:** It is expected to see the **largest increase in coal demand** based on high power demand linked to economic growth.
- **Coal Production:** **Globally**, it is expected to reach an **all time high in 2024** and then **flatten through 2027**.
 - ⊕ **India** is expected to be the **largest contributor to global coal production growth**.
 - ⊕ Indian coal production increased by **10% (2023)**, exceeding **1 billion tonnes** for the first time.
 - ⊕ In 2024, coal production is expected to have grown by **8%**.

India's Initiatives for optimization of Coal Usage

- **Promotion of Renewable energy:** Schemes like **PM KUSUM, PM Surya Ghar Muft Bijli Yojana**
- **Mine Opening Permission module:** It accelerates approval process for opening coal mines
- **Reducing emissions** from thermal power plants: Using techniques like **Flue Gas Desulphurization (FGD), Electro Static Precipitator (ESP)** etc.

Reasons for persistent usage of coal:

- **Rising demand:** Linked to **power, industrial growth, and infrastructure development** to fulfill goals of **economic growth**.
- **Weather-related fluctuations:** Fluctuations in power generation by **renewable sources** like wind and solar are **offset by constant, reliable and affordable** coal power.
- **Electrification of services** previously provided by other fuels: E.g. **mobility and industrial heat, and emerging industries such as data centres and AI**.
- **Profitability of Coal Exporters:** It surged after **Covid-19 and the energy crisis of 2022**.

Supreme Court (SC) Issues Directions/Suggestions to Protect Sacred Groves

SC pronounced directions on an application for identification of sacred groves such as **Orans** by the Rajasthan Government in accordance with the **T.N. Godavarman judgment (1996)**.

Key Directives/Suggestions of the Supreme Court

- **Grant protection** under the **Wildlife Protection Act, 1972**, especially through **Section 36(c)** (declaration of community reserves).
- Active measures are required at the Governmental level to ensure that Models like **Piplantri village** are implemented/replicated in other parts of the country.
 - ⊕ **Piplantri model** is created in a small village in Rajasthan's Rajsamand district.
 - ⊕ It is a **community-driven conservation effort**, conservation effort where villagers plant 111 trees for every girl born.
- **The Ministry of Environment, Forest and Climate Change (MoEFCC)** shall create a comprehensive policy for governance and management sacred grooves.
 - ⊕ Under it, MoEFCC must also develop a **plan for a nationwide survey of sacred groves**.
- Suggested the Rajasthan government to identify and **empower traditional communities** as custodians under the **Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006**.
- **MoEFCC** and the Forest Department, Rajasthan shall constitute a committee to supervise the mapping and identification exercise.

Sacred Groves

- Sacred groves are **patches of forest or clusters of trees** that hold deep **cultural or spiritual significance** for the local communities that protect and sustain them.
- India has the **highest concentration of sacred groves** in the world (estimated to be over 100,000 sacred groves)
 - ⊕ They are known by different names Rajasthan (deora, malvan), Uttarakhand (Bugyal), etc.
- **Living Root Bridges (Jingkieng Jri)** of **Meghalaya** a sacred groove has been recognized as a **UNESCO World Heritage Site**.

Japan, India startups to study laser-equipped satellite to tackle space debris

It involves Tokyo-based Orbital Lasers and Indian robotics company Inspecity. It would study opportunities for services such as de-orbiting a defunct satellite and extending a spacecraft's life.

- Orbital Lasers is building a system that will use **laser energy to stop the rotation of space junk by vaporising small parts** of its surface, making it easier for a servicing spacecraft to make orbital maneuvers.

What is Space Debris?

- It is defined as **all non-functional, artificial objects, including fragments and elements** thereof, in **Earth orbit or re-entering** into Earth's atmosphere.
 - ⊕ **Out of 35,150 tracked objects in orbit, only about 25% are working satellites. (United Nations University)**

Concerns related to Space Debris

- **Threat to space exploration:** Debris collisions can disable an operational spacecraft and damage components like optics and solar panels. E.g. **collision with a 10-cm object would cause catastrophic fragmentation of a satellite.**
- **Kessler syndrome:** Uncontrolled growth of debris can lead to self-sustained **cascading collisions creating a chain of reactions.**
- **Risk to life on Earth:** Large space debris that reenter the atmosphere in an uncontrolled way can **create risks for the population** on the ground.

Way Forward

- **Successful Passivation of Spacecrafts** limiting on-orbit breakups, **Adoption of effective disposal strategies** at the end of missions

Initiatives to tackle space debris

Global

- **RemoveDEBRIS Mission:** For active debris removal (ADR) technology demonstrations.
- **LignoSat:** A wooden satellite crafted from magnolia wood to combat space debris.
- **UN Liability Convention** (Convention on International Liability for Damage Caused by Space Object), 1972
- **UN Registration Convention** (Convention on Registration of Objects Launched into Outer Space), 1976

India

- **Project NETRA (Network for Space Objects Tracking and Analysis)**
- **Debris-Free Space Missions** by Indian space actors by 2030

4th edition of ILO Global Estimates on International Migrants in the labour force released

Key Finding

- International migrants reached 284.5 million, 255.7 million of them belong to the **global working-age population** (aged 15 and over).
 - ⊕ Women constituted 38.7 % of international migrants in the labour force, while 61.3 % were men.
 - ⊕ They accounted for 4.7 % of the global labour force in 2022.
- **Unemployment rate** for international migrants was **higher** than for non-migrants.

International Migrants

- International migrants are defined as persons who are part of the resident population of a country other than their country of birth (**foreign-born residents**).
 - ⊕ It also includes **refugees, asylum seekers**, and related groups.
- They are considered a key driver of **economic growth**.
 - ⊕ International remittances increased from 2000 to 2022, rising from USD 128 billion to USD 831 billion (**World Migration Report 2024**).
- **Key Challenges Faced by International Migrants**
 - ⊕ **Discrimination:** Migrants tend to earn 25% less than local workers
 - ⊕ **Rising Conflicts:** Ukraine-Russia, Middle-east crisis, etc.
 - ⊕ **Access to healthcare and social protection:** During **Covid 19**, Migrant workers reported being excluded from receiving basic medical assistance and income security in destination countries
 - ⊕ **Other:** xenophobia (hostility towards foreigners), etc.

Key Initiatives taken for International Migrants

- **International Organization for Migration (IOM)** established in 1951, is the leading inter-governmental organization in the field of migration.
- **ILO (International Labour Organization)** advocates for the rights of migrant workers and promotes fair labour migration practices through conventions.
- **International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families**, 1990 adopted by the UN General Assembly.
- **Global compact for safe, orderly and regular migration (2018)**, first intergovernmental agreement covering all dimensions of international migration.

India conducts first-ever Ganges River Dolphin Tagging in Assam

The tagging exercise has been conducted under **Project Dolphin**.

- Tagging involves attaching a device, marker, or tag to an animal for identification or tracking.

About the Tagging initiative

- **Objective:** It will help in understanding their **migratory patterns, range, distribution, and habitat utilization**, particularly in fragmented river systems.
- It was conducted by the **Ministry of Environment, Forest and Climate Change (MoEFCC)**, and implemented by the **Wildlife Institute of India (WII)** in collaboration with the Assam Forest Department.
 - ⊕ It was funded by the **National CAMPA Authority**.
 - ◆ **National CAMPA Authority**, established under the **Compensatory Afforestation Fund (CAF) Act, 2016**, manages the **National Compensatory Afforestation Fund (under the Public Account of India)**.

About Project Dolphin

- A MoEFCC-funded project launched in 2020 modelled after Project Tiger.
- It aims at conserving the Ganges River dolphins and the riverine ecosystem.

About Ganges River dolphin (*Platanista gangetica*)

- It is **India's National Aquatic Animal** and is **endemic** to the **Indian sub-continent**.
- **Habitat:** Restricted to **freshwater (Ganges-Brahmaputra-Meghna and Karnaphuli-Sangu river systems of Nepal, India, and Bangladesh)**
 - ⊕ Presently, **India** houses about **90%** of the global population of the dolphins.
- **IUCN Status:** Endangered

Key Features of Ganges River Dolphin

- **Essentially blind**, rely on **Echolocation** (determining the location of objects using reflected sound) for biological needs.
- Physical appearance includes long thin snout, rounded belly, stocky body, and large flippers.
 - ⊕ **Females are larger than males.**
- **Umbrella species**, known as the **"Tiger of the Ganges"**
- **Locally called 'Susu'** due to the unique noise it makes while breathing.

Achievements of Smart Cities Mission (SCM)

SCM completes 91% of projects to create smarter and more livable urban spaces.

About Smart Cities Mission

- **Launched in 2015.**
- **Aim:** Improve quality of life in **100 cities** by providing efficient services, robust infrastructure & sustainable solutions.
- **Two key approaches to implementation:-**
 - ⊕ **Area-Based Development (ABD):** Targeted development of specific city areas.
 - ⊕ **Pan-City Projects:** Technology-driven solutions to enhance city-wide infrastructure and services.
- **Other dimensions of Mission:** Establishment of **Special Purpose Vehicles (SPVs)** for program implementation, promotes **multiple sources of funding**, fosters **competitive federalism and citizen engagement** etc.

Key Achievements

- **Integrated Command and Control Centres (ICCC):** All 100 Smart Cities have operational ICCCs, which utilize data and technologies such as AI, IoT, and Data Analytics to enhance city operations.
 - **Public Safety:** >84,000 CCTV cameras have been installed to aid in crime monitoring and traffic enforcement
 - **Solid Waste Management:** 66 cities use tech to optimize waste collection, with RFID-enabled vehicles.
 - **Health:** 172 e-health centers and 152 health ATMs.
- Challenges:** Adapting to emerging needs such as COVID-19, inclusive access to public spaces, improving food hygiene in smart cities.

Strategies/ Suggestions

- **Area-Based Development:** via **redevelopment or greenfield projects.**
- **Pan-City Initiatives:** Implementing smart solutions across the entire city to ensure inclusivity and smart outcomes.

Innovative projects introduced under SCM

- **Cycles4Change and Streets4People:** Promotes open spaces for active living.
- **Transport4All:** Aimed at supporting public transport startups.
- **EatSmart Cities:** Focused on improving food hygiene and promoting sustainable food practices in smart cities.

Also In News



IRIS²

European Union recently launched **Infrastructure for Resilience, Interconnectivity and Security by Satellite (IRIS²)**, its third major space infrastructure project, following **Galileo navigation system** and **Copernicus**.

- **Copernicus and Galileo** are the world's largest Earth observation programme and the world's most accurate civilian satellite-navigation system, respectively

About IRIS²

- Developed with the support of the **European Space Agency** and other partners.
- **Objective:** To provide secure connectivity and high-speed broadband in zones where network connectivity is low or unavailable.
 - ⊕ It **supports government applications** like border surveillance, crisis management etc.
- Comprises **290 satellites in low and medium Earth orbits.**
- **Other such Projects:** Elon Musk's Starlink Project (comprises about 7000 satellites)



Joint Parliamentary Committee (JPC)

A **31-member Joint Parliamentary Committee (JPC)** formed to **review** the bills related to the **One Nation One Election**.

- It will comprise **21 Lok Sabha** members and **10 Rajya Sabha** members.
- The bills include the **Constitution (129th Amendment) Bill, 2024**, and **Union Territories Laws (Amendment) Bill, 2024**.

About JPC

- An **ad-hoc body** set up for a **specific object and duration**.
- Set up by a **motion** passed in **one house** of Parliament and **agreed** to by the **other**.
- The details regarding **membership and subjects** are also decided by **Parliament**.
- JPC recommendations are **not binding** on the Government.

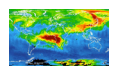


CCTNS

All 17,130 police stations in the country has been linked through Crime and Criminal Tracking Network & Systems (CCTNS).

About Crime and Criminal Tracking Network & Systems (CCTNS) project

- It is the flagship e-Governance program of the Ministry of Home Affairs (MHA), under the National e-Governance Plan (NeGP).
- Launched in 2009 with a budget as a 100% Centrally Sponsored Scheme.
- Aims at creating a comprehensive and integrated system for enhancing the efficiency and efficacy of policing at all levels
- **Implementing Agency:** National Crime Records Bureau (NCRB)
- It is a key pillar of the **Inter-Operable Criminal Justice System (ICJS)** which aims to integrate the main pillars of criminal justice.
 - ⊕ Its other pillars include, Courts (e-Courts), Jails (e-Prisons), Forensic Lab (e-Forensic) and Prosecution (e-Prosecution).



Infrared (IR) radiation

A novel strategy has been developed to control and regulate infrared (IR) radiation using 2-dimensional nanosheets of a chemical called hexagonal boron nitride.

- It can be deployed as a radiative heat barrier, thermal camouflage and in thermal management applications.

About IR Radiation

- A region of the electromagnetic radiation spectrum where wavelengths range from about 780 nm to 1000 nm.
 - ⊕ Its wavelength lies between Visible and Microwaves.
- Constitutes about 50% of the Sun's radiation.
 - ⊕ It is absorbed by the Greenhouse Gases in Earth's atmosphere.
- **Applications:** Thermal Imaging, Astronomical observations etc.
- Excess exposure can lead to health disorders such as photocarcinogenesis.

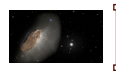


National Commission for Minority Educational Institutions (NCMEI)

The 20th Foundation Day of the NCMEI was celebrated.

About NCMEI

- **Genesis:** Formed by the National Commission for Minority Educational Institutions (NCMEI) Act, 2004.
- It is a quasi-judicial body with powers of the Civil Court.
- It aims to safeguard the educational rights of the minorities enshrined in Article 30(1) of the Constitution.
 - ⊕ Article 30(1) provides linguistic and religious minorities a fundamental right to establish and administer educational institutions of their choice.
- **Powers of NCMEI:**
 - ⊕ Deciding questions related to Minority Educational Institution (MEI) status including power to cancel the status.
 - ⊕ Appellate authority for disputes related to Minority Status.



Dark Comet

NASA researchers have discovered more dark Comets, Oumuamua-like (a messenger from afar arriving first) objects.

Dark Comets

- These celestial objects look like asteroids but act like comets and have less surface area for material to form tails.
- They deviate from expected orbit. The deviation couldn't be explained by the Yarkovsky effect.
 - ⊕ It is a phenomenon which changes the path of celestial objects due to asymmetric radiation of heat energy.
- They spin quite rapidly and disperse escaping gas and dust in all directions, making them less visible.
- Dark comets follow elongated, elliptical paths that bring them close to the Sun before sweeping back out to the farthest reaches of the Solar System.



Kailash Mansarovar

In Special Representatives meeting, India and China affirmed implementation of October 2024 disengagement border agreement.

- It also provided positive steps for resumption of Kailash Mansarovar Yatra and data sharing on trans-border rivers and border trade.

About Kailash Mansarovar

- It is a holy pilgrimage consisting of the Kailash mountain (highest peak in Kailash Ranges) and the sacred lake, Mansarovar, located in Tibet.
 - ⊕ Mansarovar lake is considered the world's highest fresh-water lake.
- Pilgrims from India can reach Mount Kailash through the Lipulekh pass in Kumaon.
- **Cultural significance:** It is considered holy in Hinduism, Buddhism, Jainism and for Tibetans as well.



Varmam Therapy

The National Institute of Siddha (NIS) has set a Guinness World Record for providing Varmam therapy to 567 individuals simultaneously.

About Varmam Therapy

- It is a unique and traditional healing modality within Siddha system of medicine.
- Varmam is one of the oldest South Indian Martial Arts which later evolved into a therapy. It is an art of unarmed fighting system targeting nerves, veins, joints and organs.
- **Process:** Involves therapeutic manipulation of Varmam points called Varma Adi (Varmam assault) wherein pranic energy remains concentrated.
- **Therapy** is a very unique, non-invasive, cost effective, non pharmacological form of treatment.
- **Benefits:** Neurological and musculoskeletal diseases treatment.

Place in News



Liberia (Capital: Monrovia)

India and Liberia hold first foreign office consultations to deepen and diversify bilateral ties.

Political Features

- Africa's oldest republic and never subjected to colonial rule.
- **Land boundaries:** Sierra Leone(Northwest), Guinea (North) & Côte d'Ivoire(East)
- **Maritime Boundary:** Atlantic Ocean (South And West)

Geographical Features

- **Location:** Coast of western Africa.
- **Highest Peak:** Mount Wuteve (also known as Wologizi Mountain)
- **Biodiversity:** Evergreen vegetation (red ironwood, teak, mahogany).
 - ⊕ Animals such as monkeys, chimpanzees, small antelopes, pygmy hippopotamuses, and anteaters etc.
- **Other:** Dusty and dry harmattan (desert winds) blows from Sahara bringing relief from high relative humidity.

