

NEWS TODAY

U.S.-India Strategic Clean Energy Partnership (SCEP) Ministerial meeting convened in Washington, D.C

Joint Statement reviewed progress made under partnership to promote clean energy innovation and accelerate clean energy transitions.

- Both sides highlighted **joint efforts under five core pillars** i.e. Power and Energy Efficiency, Responsible Oil and Gas, Renewable Energy, Emerging Fuels and Technologies, and Sustainable Growth.

Key Initiatives highlighted at SCEP Ministerial

- **Renewable Energy Technology Action Platform:** Launched in 2023 for developing actionable roadmaps for hydrogen, long duration energy storage, offshore wind, etc. through incubation-investment-industry networks.
- Launch of **National Centre for Hydrogen Safety in India.**
- **Public-private Energy Storage Task Force** to address policy frameworks, safety, manufacturing and supply chains, etc.
 - ⊕ Launch Projects like technical feasibility **study of Battery Energy Storage System (BESS) in Assam** and BESS pilots in Haryana.
 - ⊕ Recognized **pumped storage** as a long-term energy storage option.
- **Engagement on Sustainable Aviation Fuels (SAF)** to support training, supply chain capacity building, fuel certification, etc.
- **New developments in smart grid under US-India Collaborative for Smart DiStribution System with Storage (UI-ASSIST) program** (funded by US Department of Energy & India's Department of Science & Technology).
 - ⊕ UI-ASSIST program bridges gap between smart grid, storage, and renewable energy research and it is under **U.S.-India Partnership to Advance Clean Energy-Research (PACE-R).**

About US- India SCEP

- Launched in **2021** to advance **energy security and innovation**, focussing on scaling up **clean energy technologies, electrification and decarbonization** etc.
- It is under **U.S.-India Climate and Clean Energy Agenda 2030 Partnership.**

Need for Clean Energy

- Enhances **energy security.**
- Shifting to cleaner renewable sources would help **reduce air pollutants and improve air quality.**
- Pivotal role in **achieving SDGs** like clean energy (SDG 7), climate action (SDG 13) etc.

Other initiatives promoting Clean Energy

- International Solar Alliance
- EU-India Clean Energy and Climate Partnership
- Clean Energy International Incubation Center (CEIIC) in 2018

Environmental Compensation Guidelines issued for Battery Waste Management

Guidelines, issued by the **Central Pollution Control Board (CPCB)** under the **Battery Waste Management Rules 2022**, aim to **promote proper battery waste management practices** and enhance **environmental sustainability** across the country.

What is Environmental Compensation (EC)?

- **2022 Rules** empower the CPCB to **impose and collect EC from producers and entities** involved in **refurbishment and recycling of waste battery**, in case of noncompliance of the rules.
- It can also be levied to entities carrying out **activities without registration, providing false information / wilful concealment of material facts** by the registered entities, etc., based on the **polluter pays principle.**
- It shall also be levied on **Producer operating with respect to non-fulfilment of their Extended Producer Responsibility (EPR) targets**, responsibilities and obligations set out in these rules.
 - ⊕ **EPR means responsibility of any Producer of Battery for Environmentally sound management of Waste Battery.**
- Payment of EC, however, **shall not absolve Producer of EPR obligation** set out under the rules. For instance, **unfulfilled EPR obligation for a particular year will be carried forward** to the next year.

Key Highlights of the Guidelines issued

- EC to be levied is divided in to **two regimes:**
 - ⊕ **EC Regime 1** – EC will be levied to the Producers for non-fulfilment of metal-wise (For Lead Acid Batteries and For Lithium-ion and Other Batteries) EPR Targets.
 - ⊕ **EC regime 2** – EC will be levied to any entity for non-compliances of BWM Rules, 2022 based on application fees.

Regional disparity among Indian States highlighted by a Working Paper by EAC-PM

A Working Paper titled 'Relative Economic Performance of Indian States: 1960-61 to 2023-24' by Economic Advisory Council to the PM (EAC-PM) recently highlighted regional disparities in terms of share in India's GDP and relative per capita income across different States, especially in **post-liberalization era**.

Key Observations of the Paper

- **Regional disparities:** While **western states** have **consistently performed well**, **southern states** have performed well **post-1991 economic liberalization (5 southern states account for 30% of GDP in 2023-24)**.
- **Maritime states:** They have clearly **outperformed** the other states, with the **exception of West Bengal**.
 - ⊕ **West Bengal's share of GDP has fallen** in 2023-24 (5.6%) in comparison to 1960-61 (10.5%).
- **Diverging growth trajectories of Punjab and Haryana:** However, post-1990s **Punjab's** contribution to GDP **declined** whereas Haryana's contribution has grown robustly. The paper questions this as a form of **Dutch disease**.
 - ⊕ **Dutch disease** in economics refers to **rapid growth of one sector (agriculture, natural resources)** leading to **decline in other sectors (industry, services, etc.)**

Reasons for regional disparities: Differences in levels of industrialization, '**resource curse**' (resource-rich states showing low economic growth) with certain states, geographical location (coastal and landlocked), environmental challenges such as vulnerability to disasters, etc.

Measures taken to reduce Regional Disparities among States

- **Role of NITI Aayog:** Policy interventions like Aspirational Districts Programme (ADP), NITI Forum for North-East.
- **Role of Finance Commission:** Higher resource transfer from Centre to Backward states.
- **Diffusion of industrial activity:** Projects like Industrial Corridor Projects, Bharatmala Pariyojna, etc.

India's first CO₂-to-Methanol Pilot Plant proposed in Pune, Maharashtra

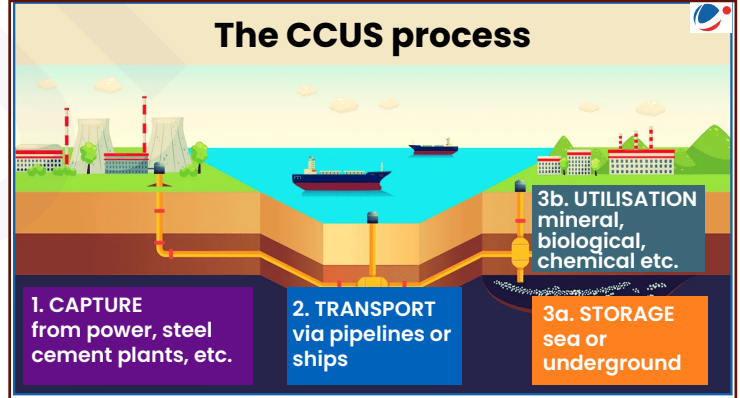
Plant with capacity of **1.4 tons per day** is being **implemented under Public-Private Partnership** with support from **Department of Science and Technology**.

About CO₂-to-Methanol Conversion

- Currently, **Carbon Utilization Technologies** like CO₂ to methanol are less developed compared to capture ones.
 - ⊕ CO₂-to-methanol involves **capturing carbon emissions before they enter atmosphere**, particularly from industrial sources like power plants or directly from air via direct air capture technologies.
 - ⊕ **Captured CO₂ is then hydrogenated** – reacted with hydrogen – to **produce methanol**.
- CO₂-to-methanol conversion has potential to **reduce greenhouse gas emissions and provide a sustainable fuel source**.
- CO₂-to-Methanol plant in Pune will advance **indigenous Carbon Capture and Utilisation (CCU) technologies**, marking significant step towards India's Panchamrit declaration.

About Carbon Capture, Utilization and Storage (CCUS)

- **Refers to Group of technologies** for **capturing** of CO₂ from large and stationary CO₂ emitting sources like fossil fuel based power plants and other industries. (International Energy Agency)
- It involves **transport of captured CO₂** (by pipeline or through shipping, rail or trucks) to sites for **utilization in different applications, injections into geological formations or depleted oil/gas fields for permanent storage** and trapping of CO₂.



Significance of CCUS

- **Decarbonisation of Hard to abate sectors:** Like cement, steel, etc., where technology involving use of fossil fuels are in a mature stage.
- **Propel Low carbon Hydrogen:** Coal gasification with CCUS.
- **Realization of Net Zero Targets:** With advancement in Direct Air Capture technology.

Issues with CCUS adoption in India

- **Variation in Carbon Capture Costs across sectors:** Depending upon source and concentration of CO₂.
- **Limited CO₂ storage Limit:** especially for saline aquifers and basaltic storage (geological data on pore space availability).
- **Absence of downstream CO₂ infrastructure** for transportation and storage.

Polaris Dawn Mission Successfully Completes World's First Private Spacewalk

Polaris Dawn Mission is a **privately funded and operated** mission planned by Jared Isaacman with SpaceX.

- Recently, Polaris Dawn has **travelled through Earth's regions of high radiation**, i.e., **South Atlantic Anomaly** and **Van Allen Radiation Belt**, to **study space radiation's impact on human health**.

Van Allen Radiation Belt (Discovered in 1958 by astrophysicist James Van Allen)

- Earth's **magnetosphere traps the high energy radiation particles and shields the Earth** from solar storms and solar winds that can damage technology as well as people living on Earth.
 - ⊖ These **trapped particles form two belts of radiation (inner and outer)**, known as **Van Allen Belts**, that surround the Earth.
 - ◆ **Inner belt** results from **interactions of cosmic rays with Earth's atmosphere** and **Outer belt** is made up of billions of **high-energy particles** that originate from Sun.
- Astronauts and **spacecraft must fly through Van Allen Belts to reach outer space**, so it is important to fly through this region quickly to **limit their radiation exposure**.
- NASA plans to use its upcoming **Artemis missions** to send astronauts beyond **Van Allen Radiation Belt** to land on **South Pole of Moon** by end of 2025, and eventually on to **Mars**.

South Atlantic Anomaly

- It is a geographical region over **South Atlantic Ocean** where **inner Van Allen radiation belt** extends down particularly close to Earth.
- This leads to highly increased levels of **ionizing radiation** and related impacts on spacecraft in Low Earth Orbits, e.g., correspondingly **increased radiation exposure of astronauts** and **electronic components** on International Space Station.

Amazon and Walmart's Flipkart exclusive launch of products in breach of antitrust Laws: CCI

Recently, **antitrust investigations conducted by Competition Commission of India (CCI)** found that Amazon and Flipkart violated **local competition laws (anti-trust laws)** by offering exclusive launches, giving preference to select sellers, prioritising certain listings, etc.

Anti-trust framework concerning e-Commerce in India

- **Competition Act, 2002 (amended in 2023):** Aims at **fostering competition, protecting anti-competitive practices, abuse of dominant position, and regulates combinations** (mergers, amalgamations and acquisitions).
- **Consumer Protection (E-Commerce) Rules, 2020:** Places liabilities on e-Commerce entities to maintain a **level playing field, not to promote the sale of any produce, not use deceptive practices** to influence consumer decisions, etc.

Restrictions on operation of e-Commerce entities in India

- **Restrictions on exclusive selling:** No seller can sell its products exclusively on any marketplace platform and that all vendors on the e-Commerce platform should be provided services in a **"fair and non-discriminatory manner"**.
 - ⊖ Services include **fulfilment, logistics, warehousing, advertisement, payments, and financing** among others.
- **Restrictions on purchases by vendors:** Any vendor who purchases 25% or more of its inventory from an e-Commerce group company will be considered to be controlled by that e-commerce company, and thereby barred from selling on its portal.

Models for offering e-Commerce Services

- **Inventory Model:** Inventory of goods and services is **owned by e-Commerce entity** and **sold directly** to the customers.
 - ⊖ In India, **FDI is not permitted** in this model to **protect India's unorganized retail sector** not capable of offering big discounts.
- **Marketplace Model:** E-commerce entity provides a technology platform to act as a **facilitator** between buyer and seller (**100% FDI is permitted under Automatic Route**).

Also in News



India-Germany Platform for Investments in Renewable Energies Worldwide

India-Germany Platform for Investments in Renewable Energies Worldwide launched at 4th Global Renewable Energy Investor's Meet and Expo (RE-INVEST).

- RE-INVEST is organized by **Ministry of New and Renewable Energy**.

About India-Germany Platform

- Aims to develop concrete & sustainable solutions for accelerated **expansion of renewable energy** in India and Globally.
- It will serve as an **international forum** for stakeholders from across globe to develop solutions to **support India in attaining goal of 500 GW non-fossil energy capacity by 2030**.
- It is an initiative under **Green and Sustainable Development Partnership (GSDP)**, signed in 2022 between India & Germany.



Energy Trilemma

At the 52nd Gastech Exhibition & Conference, Union Minister of Petroleum & Natural Gas highlighted the **energy trilemma** faced by India as it is expected to contribute to **35% of global energy demand in the next two decades**.

About Energy Trilemma

- It consists of **three often conflicting challenges** related to energy which **need to be balanced** in the context of the **rapidly changing energy sector**.
- The **trilemma** comprises:
 - ⊖ **Energy Security:** Capacity to meet present and future energy demand reliably through robust supply chains.
 - ⊖ **Affordability:** Equitable access to energy.
 - ⊖ **Sustainability:** Transitioning towards mitigating environmental impact of energy use and climate change impacts.



Coelacanths

A recent study of fossils from Australia revealed the role of **tectonic activity** as the reason for evolution of **Coelacanths**.

About Coelacanths

- They are deep-sea fish that live **off the coasts of southern Africa and Indonesia**.
- They are evolutionary unique **lobe finned fish** (having robust bones in their fins similar to bones in our arms).
- **More closely related to tetrapods** (animals with backbones and 4 limbs like frogs) than to most other fishes.



UNESCO International Convention against Doping in Sport

India is hosting Formal Meetings of the **COP9 Bureau and Fund's Approval Committee** of the UNESCO International Convention against Doping in Sport in New Delhi.

About the Convention

- Adopted in **2005 at Paris, France**.
- **Objective:** To promote the prevention of and the **fight against doping in sport**, with a view to its **elimination**.
- It is the **only international treaty in this domain** and **harmonizes anti-doping legislation, regulations and rules internationally** to ensure a level playing field.
- It helps **protect public health and to safeguard the ethics, integrity, and universal values of sport**.



Battle of Saragarhi

Recently, **127th Anniversary** of Battle of Saragarhi was celebrated.

Battle of Saragarhi (12th September, 1897)

- Fought between **British Raj (21 soldiers of 36th Sikh Regiment)** and **over 8,000 Afridi and Orakzai tribal militants**.
- It was fought during **Tirah campaign at Saragarhi in North West Frontier Province**.
 - ⊕ **Saragarhi**, a quaint village on **Samana Range in Kohat, Pakistan** was a vital communication post.
- Sikh soldiers were led by **Havildar Ishar Singh**, who showed extraordinary **courage** and chose to **fight to death**.
- All 21 Sikhs were **posthumously** awarded **Indian Order of Merit**, highest British gallantry award then given to Indian troops.



Naga King Chilli or Raja Mircha

Seiyhama village in Nagaland celebrated the **Naga king chili festival**, exhibiting a vibrant example of **community farming**.

About Naga King Chilli (Capicum chinense Jackquin)

- One of the **world's hottest chillies**, certified by **Guinness World Records in 2006** for its intense heat, exceeding 1 million **Scoville Heat Units**.
- Also referred as **Bhoot Jolokia** and **Ghost pepper**.
- Received the **Geographical Indication (GI) tag in 2008**.
- Primarily cultivated in the states of **Nagaland, Assam, Manipur** and to a lesser extent in **Mizoram, Arunachal Pradesh, and Meghalaya**.
- Grown in **large bamboo groves** during the peak harvest months of **August-September**.

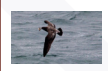


Karma Festival

Karma festival is celebrated in Jharkhand and other states of India.

About Karma Festival

- It is a **harvest festival** popular among **Munda, Ho, Oraon, Baiga, Kharia, and Santhal** people.
- It is traditionally **celebrated on eleventh day of lunar fortnight** in month of **Bhado/ Bhadra** (August-September in Gregorian calendar).
- **Karam tree**, traditionally seen as a **symbol of Karam Devta/ Karamsani**, is worshipped during festival. Karam tree **symbolizes fertility, prosperity, etc.**
 - ⊕ During festival, **branch of Karam tree is carried by Karma dancers**, accompanied by singing & dancing.



Kleptoparasitism

Some recent reports have highlighted that **Kleptoparasitism among birds are helping spread the avian influenza**.

About Kleptoparasitism or Cleptoparasitism

- It is a **form of feeding** where **one animal takes prey from another** that has caught, killed, or otherwise prepared, **including stored food**.
 - ⊕ **E.g., Sperm Whales, Western Gulls, Hyenas** etc.
- It can be **intraspecific**, where the parasite is the same species as the victim, or **interspecific**, where the parasite is a different species.

Personality in News



Periyar E V Ramasamy (1879 - 1973)

Eminent Social reformer and rationalist **Periyar Erode Venkatappa Ramasamy** was remembered on his **146th Birth anniversary (September 17)**.

About E V Ramasamy

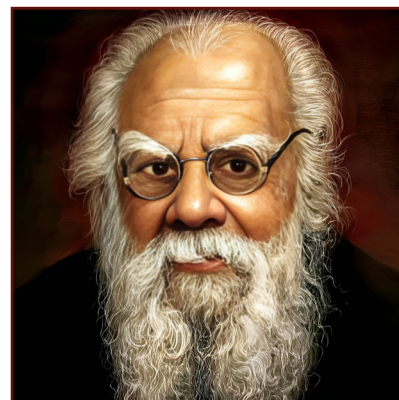
- Born at **Erode (Tamil Nadu)**.
- He is also known as the '**Father of the Dravidian movement**'.

Key Contributions

- He **rebelled against Brahminical dominance and gender and caste inequality** in Tamil Nadu.
- Participated in **Vaikom Satyagraha (1924)** which demanded the **right of lower castes** to use a public path in front of Vaikom temple.
- **Opposed the conservatism of the Indian National Congress and resigned from it in 1925**.
- Associated with the **Justice party** (formed in 1916 to oppose the political and economic power of Brahmins).
- Founded **Self Respect Movement in 1925** to free people from slavery and irrationality.

Ethical Values

- Self-Respect, Egalitarianism, Rationality, Courage of Conviction, etc.



AHMEDABAD



BENGALURU



BHOPAL



CHANDIGARH



DELHI



GUWAHATI



HYDERABAD



JAIPUR



JODHPUR



LUCKNOW



PRAYAGRAJ



PUNE



RANCHI